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VERA AND SARAH JANE SMITH, TOP ACRE, CURSLEY LANE, MUSTOW
GREEN, KIDDERMINSTER

Highway Statement

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Transportation Planning, Highway Design and Environmental Assessment

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1 INTRODUCTION

1.1 My name is Jeremy Peter Hurlstone. I am the Managing Director of The Hurlstone Partnership, which provides specialist highway advice to developers and Local Authorities. I hold a BSc (Hons) in Civil Engineering Management. I am a Member of the Institution of Highways and Transportation (MIHT) and a Chartered Member of The Institute of Logistics and Transport (CMLLT). I have over 19 years experience in the transportation industry, during which time I have been involved in many projects for varying development types.

1.2 I worked for the multi-disciplinary consultancy Scott Wilson Kirkpatrick for approximately 11 years before moving to The Denis Wilson Partnership, a more specialised transportation company for a further 4 years, where I was employed as a Principle Transportation Planner. I continue to work for DWP on a consultancy basis in addition to servicing the expanding client base of The Hurlstone Partnership.

1.3 I have prepared and given evidence at numerous Public Inquiries and Hearings during my career for various types and scale of development, several of which were Gypsy sites.

1.4 I was instructed by the Community Law Partnership (CLP) to review the acceptability of the access arrangement serving the site for the purposes of residential occupation by Sarah Jane Smith and her three children, together with her Aunt, Vera Smith.

1.5 A retrospective planning application for the proposed use (Ref:WF/06/1062/FULL) for the siting of a Mobile Home for One Gypsy Family was refused by Wyre Forest District Council, and the decision notice was issued on 15 December 2006. Enforcement action was taken against the family which is subject to an appeal.

1.6 I have been specifically instructed to consider reason for refusal number 6 pertaining to Application No. WF/06/1062/FULL, which states:-

"The use of the existing agricultural access to serve the proposed residential development, involving the additional vehicle turning movements, from the access onto the Class III Cursley Lane C2014, where visibility is restricted in a northerly direction together with the conflict of vehicles egressing from the access, meeting vehicles from the carriageway of the adjoining road, would be contrary to the interests of highway safety. The proposal is therefore contrary to Policy TR.9 of the Adopted Wyre Forest District Local Plan."

1.7 Within this Statement I will report the findings of my review which included two visits to the site, consideration of the planning history, highway safety, empirical survey data and current highway design guidance.

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2 THE APPEAL SITE

2.1 Cursley Lane is a typical rural lane, which has a nominal width of approximately 5.1m near the site access. In the vicinity of the site there are no footways or street-lighting and the route is subject to the national speed limit of 60mph, although observations on site suggest that the design speed on the road is below that level. This was confirmed by speed surveys which will be considered later.

2.2 The site is accessed via an existing gateway to the south and an access track which runs parallel to Cursley Lane from which it is separated by a hedgerow. In addition to the appeal site, the access track and entrance from Cursley Lane also serves three fields to the south and a further field to the north, which also has stabling within it. It is understood that the provision of the stables within the field was granted planning permission, although I do not have specific details of that case.

2.3 The existing access was modified to its current form following a successful planning application made on 10th May 2006 (Ref 06/0515/FULL). The Planning Permission was dated 05 July and it approved the "Creation of two vehicular accesses (Access No.2 and Access No.3) and closure of existing access (Access No.1) LAND AT CURSLEY LANE, MUSTOW GREEN, KIDDERMINSTER". For clarification, Access No.3, which was approved under the application, is that which currently serves the appeal site. Access No.2 is the existing access to the north of the Appeal site which currently serves the stables and associated land known as "The Beeches". Access No.1, which was to be closed, is located approximately 450m to the north of the appeal site access. It should be noted that The Beeches provides additional stabling to that served by the appeal site access and The Beeches is accessed independently.

2.4 There were several conditions imposed on the permission which are relevant to this case, those being:-

Condition No.4

Notwithstanding condition No.2 above, before Access No.2 and Access No.3 hereby approved are brought into use, the construction of the accesses between the nearside edge of the adjoining carriageway and the setback access gates shall be carried out in accordance with a specification to be submitted to and approved in writing by the Local Planning Authority.

Reason: In the interests of highway safety and to comply with Policy T9 of the adopted Myre Forest District Local Plan.

Condition No.5

"Notwithstanding condition No.2 above the approved accesses shall not be brought into use until the existing hedges fronting the highway boundary, on each side of the approved vehicular accesses No.2 and No.3, for their full length shall be cut back prior to the use

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site, and thereafter maintained in order to provide maximum visibility for the drivers of vehicles from the accesses and those travelling along the carriageway.

Reason: In the interests of highway safety and to comply with Policy T9 of the adopted Wyre Forest District Local Plan.

Condition No.6

Prior to the approved entrances being brought into use those areas of the access that form part of the adopted highway shall be consolidated, surfaced, free from loose stone and otherwise constructed in accordance with details to be submitted and approved in writing by the Local Planning Authority.

Reason: To ensure the safe and free flow of traffic using the adjoining county highway.

Condition No.7

Prior to the use of the application site the recently altered existing vehicular access No.1 at the most northerly point of the site, onto the adjoining highway shall be permanently closed within three months. Details of the means of closure and reinstatement of this existing access shall be submitted to and approved in writing by the Local Planning Authority.

Reason: To ensure the safe and free flow of traffic using the adjoining county highway and to comply with Policy T9 of the adopted Wyre Forest District Local Plan.

2.5 Notes included on the Planning Permission dated 05 July 2006 state:-

A This planning permission does not authorise the applicant to carry out works within the publicly maintained highway and the Highways Partnership Manager, Worcestershire County Council, Campion House, Green Street, Kidderminster, Worcs. DY10 1JF (Telephone 01562 756800) shall be given at least 28 days notice of the applicant's intention to commence any works affecting the public highway so that the applicant can be provided with an approved specification for the works together with the County Council's approved contractor.

B The applicant's attention is drawn to the need to ensure that the provision of the visibility splays required by this consent is safeguarded in any sale of the application site or parts thereof.

2.6 The reason given for the approval on the Decision Notice is as follows:-

The proposed new access No.2 represents a significant benefit in highway safety when compared to Access No.3 which is to be stopped up. This significant improvement in highway safety is considered to outweigh any environmental harm arising from loss of hedgerow to improve visibility. For these reasons the proposal is considered to be in accordance with the following policies of the Adopted Wyre Forest District Local Plan (2004):

LA.1 (Landscape Character)

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GB.1 (*Control of Development in the Green Belt*)
GB.2 (*Development in the Green Belt*)
GB.6 (*Protection of Visual Amenity*)
TR.9 (*Impacts of Development on the Highway Network*)
D.1 (*Design Quality*)
D.3 (*Local Distinctiveness*)

2.7

When considering the reasons for approval against the conditions, it would appear that the LPA has transposed Access No.3 for Access No.1 in the former. I make this assumption on the basis that the Planning Permission specifically refers to the closure of Access No.1, the conditions consistently refer to Access No.2 and Access No.3 as if they will be retained, and Condition No.7 specifically refers to the closure of Access No.1 "at the most northerly point of the site". The plans submitted with the application reflect this numbering system and Access No.1 is located at the northern end of the site on a bend where visibility is restricted. As a result, there is a degree of logic to the decision and its reasoning if, within the Reason for Approval Access No.1 is substituted for Access No.3.

2.8

Notwithstanding the above, the description of the development on the Planning Permission appears to be misleading, as it suggests there would be two new accesses created. This conflicts with the planning application form, which states "New vehicular access" in the Description of Development box and the submitted plans which show existing accesses No.1 and No.3, and a new access No.2.

2.9

The covering letter submitted with the application also makes it clear that Access No.2 would be "a completely new access" whereas both accesses No.1 and No.3 are existing accesses, at which "the only alteration will be hanging a new 3.6m gate" at Access No.1 and "the only alteration will be hanging two new gates" at Access No.3.

2.10

At the time the application was made, the land to be served was divided into two lots. Lot 1 is the land to the north of the appeal site, and Lot 2 is the area to the south, which includes the appeal site. Lot 2 on the application drawings was indicated to be a single area, whereas now it has been subdivided into 4 areas of which the appeal site is one. Lot 1 has also been subdivided into two areas. The area of Lot 1 immediately to the north of the appeal site is served via the access track which also serves the appeal site. The northern area of Lot 1 is served via the newly created Access No.2.

2.11

On the consultation response from the Highway Authority to the LPA regarding the appeal site application (WF/06/1062/FULL), dated 8th December 2006, the officer dealing with the matter provided a note to the planning officer which states:-

The highways authority were previously required to comment in 2006 on a retrospective application where two accesses were modified and a third introduced on land associated with the application site (06/0515/FULL). It was considered that one access was grossly deficient in terms of visibility and manoeuvrability, and it was a condition of the planning permission that this access be closed. The remaining two accesses did not meet full national highway standards in terms of visibility, but there was a betterment to the previous arrangement, in view of the requirement for agricultural use.

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The current proposal looks to take one of the agricultural accesses and use it for residential purposes, which will create additional trips to and from the site, by vehicles with a lower visibility sight line that the higher agricultural machinery for which it was intended. Furthermore it is likely that the residential vehicles leaving the gated access from the application site will not be able to see vehicles turning off Cursley Lane, due to the acute angle travelling from a northerly direction.

It is with this in mind that the highways authority would ask that the application be refused.

Following a site visit the gated entrance that is to be closed as part of the previous Planning Permission is still to be implemented.

- 2.12 Having reviewed all of the foregoing information regarding the approved application for the new access and improvements to Access No.3 (the appeal site access) and the highway authorities response, I am surprised not only by the lack of detail contained within the planning conditions on the Permission, but also by the 'logic' adopted when assessing the appeal site.

- 2.13 It is clear from the conditions on the Planning Permission pertaining to application No. 06/0515/FULL that details of surfacing, works in the verge, the closure of the northern access and cutting back of the existing hedgerow over their full length was required.

- 2.14 Based on my site visits it is apparent that many of the conditions have not been satisfied. The surface of accesses is not a bound material; the hedgerow had not been trimmed back at all in the vicinity of Access No.3; and Access No.1 remains in place. As a result of this, and the obvious creation of Access No.2, the applicant (or subsequent owner) is clearly in breach of the Planning Permission.

- 2.15 The Planning Permission specifically drew the applicant's attention "*to the need to ensure that the provision of visibility splays required by this consent is safeguarded in any sale of the application site or parts thereof*".

- 2.16 I have reviewed the Registered Title to the appeal site and note that there is no reference to trimming the hedgerow in order to maintain visibility splays contained therein. I am advised that the appellant believes that the limit of ownership extends to the fence to the east of the access track and that the hedgerow itself belongs to the Council. I am also advised that the length of hedgerow along the site frontage had historically been cut by what was believed to be a Council contractor, which would be consistent with the appellant's understanding. However, I am informed that the hedgerows to the north and south of the appeal site have recently been cut-back, although on this occasion the section of hedgerow pertinent to this appeal was omitted.

- 2.17 I have made enquiries to the highway authority to establish whether the hedgerow is within its ownership although this has not been categorically confirmed at the time of writing. The appellants have informed me that they were told that the hedge belonged to the Council. However the Highway Authority advised me it normally considers that the hedge belongs to the neighbouring landowner. However, irrespective of the Council's

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ownership, the highway authority retains rights under the Highways Act to cut back the hedgerow in any event.

- 2.18 Under Section 154 of the Highways Act 1980, the Highway Authority may serve notice on landowners requiring the pruning of vegetation which obstructs the passage of vehicles, the view of drivers, the light of a street lamp, visibility etc. Upon notification the work should be carried out within 14 days. In the event the landowner does not comply with the request, the Highway Authority is able to arrange for the work to be carried out.

- 2.19 Clearly, the hedgerow which fronts the highway is the key to providing a level of visibility which the Highway Authority has deemed to be acceptable. In terms of what this may be, due to the lack of detail contained on the application plans and within the planning conditions, there is no clear guidance available, although it is clear that the Highway Authority took a flexible approach as it considered the access to be acceptable even though the visibility splays did not meet full national standards.

- 2.20 The only information I have regarding the works required to the hedgerow are contained in condition 5 of the Planning Permission, which prevents the use of Access No.2 "*until the existing hedges fronting the highway boundary, on each side of the approved vehicular accesses No.2 and No.3, for their full length shall be cut back prior to the use site, and thereafter maintained in order to provide maximum visibility for the drivers of vehicles from the accesses and those travelling along the carriageway.*"

- 2.21 There is no detail regarding how much the hedgerow should be cut back, or to what height, which is unusual, as it is normal practice to specify the extent of visibility splays to be provided within a planning condition in terms of the appropriate X (setback) and Y (splay length) distances.

- 2.22 However, we do know that the cutting back of the hedgerow to maximise visibility was considered to be acceptable in terms of environmental and visual impact in the Green Belt as the application was deemed to be in accordance with the relevant planning policies of the Adopted Wyre Forest Local Plan (2004), as "*the significant improvement in highway safety is considered to outweigh any environmental harm arising from the loss of hedgerow to improve visibility.*"

- 2.23 It is clear from the granting of planning permission for the new and improved access No.2 and No.3 respectively, that the Highway Authority considered the achievable visibility to be satisfactory for agricultural use, subject to the trimming of the hedgerow. In terms of Access No.3, it is clear that the continued use of Access No.3 was also acceptable, as if this was not deemed to be the case, the closure of Access No.3 would also have been required in order to gain permission for Access No.2,

- 2.24 Had the continued use of Access No.3 been deemed unacceptable, it would have been possible to require all of the land to be served via the new Access No.2, as at the time of the application, the submitted plans and information suggested that Lots 1 and 2 were under the control of the then applicant.

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2.25 As previously stated, in its response to the appeal site application (Ref:WF/06/1062/FULL) for the siting of a Mobile Home for One Gypsy Family use, the highway authority gave the reasons for its objection to the proposal as follows:

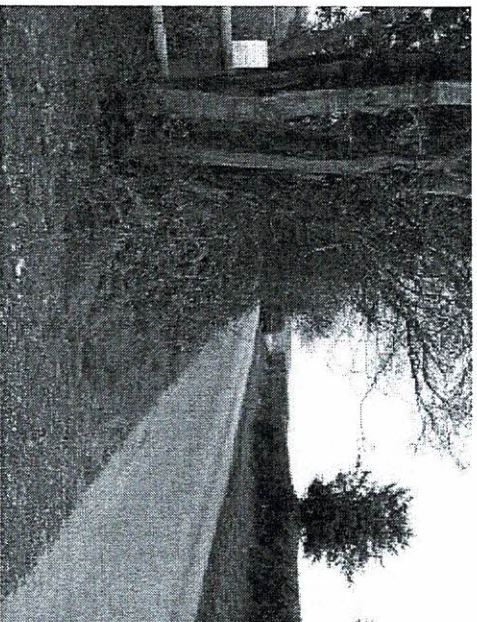
The current proposal looks to take one of the agricultural accesses and use it for residential purposes, which will create additional trips to and from the site, by vehicles with a lower visibility sight line that the higher agricultural machinery for which it was intended. Furthermore it is likely that the residential vehicles leaving the gated access from the application site will not be able to see vehicles turning off Cursley Lane, due to the acute angle travelling from a northerly direction

2.26 In my professional opinion, there is one overriding principle of objection, to this application, which is one of intensification of use. The rationale behind the objection based on the height of vehicles is flawed, as there is no specified height at which the hedgerow may be permitted to grow within the visibility envelope.

2.27 Whilst I accept that a driver of an agricultural vehicle would be in an elevated position relative to a car driver, this would only have a beneficial impact if the hedgerow was allowed to grow above the drivers eye height (1.05m based on current standards). Similarly, in the event that trees overhang the road, the elevated position of a driver in an agricultural vehicle can be a disadvantage.

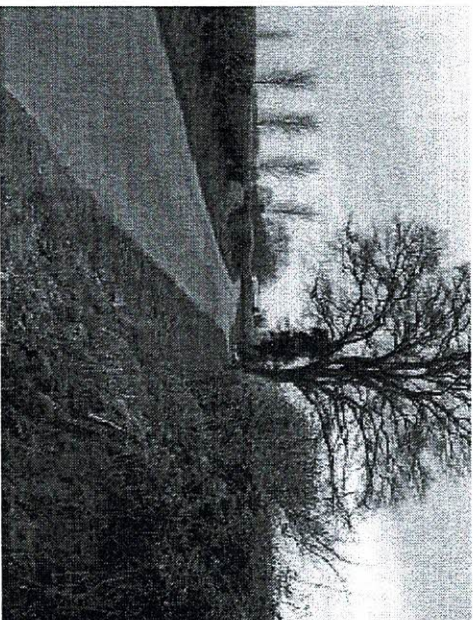
2.28 In this case, I believe the restriction on visibility imposed by the hedgerow is not specifically related to its height, but more to its position relative to the edge of the road.

2.29 When looking to the left (north) from the site access, the road bends around to the left. The hedgerow currently grows to the edge of the highway, as illustrated in the photograph below.



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- 2.30 This may be compared with the visibility to the right from the same position within the site access as illustrated below.



- 2.31 By comparing the two photographs above, and the verges on both sides of the road, the effects of the existing hedgerow growing close to the carriageway edge are clear to see. To the right of the site access and on the opposite side of the road, where the hedgerows have been maintained, there is a noticeable margin of grass verge between the carriageway edge and the face of the hedgerow, which is absent to the left of the appeal site access.

- 2.32 By cutting back the existing hedgerow to the left of the site access, in accordance with condition 5 of the extant permission, I consider a significant improvement in terms of the visibility provision would be realised, and can fully understand why such a condition was imposed on the Planning Permission for the new/improved accesses. In the interests of highway safety I consider the hedgerow should be cut back as soon as possible.

- 2.33 The argument that the residential vehicles leaving the gated access from the application site will not be able to see vehicles turning off Cursley Lane, due to the acute angle travelling from a northerly direction is also flawed. The vehicles typically associated with a residential use are generally smaller than agricultural vehicles and would therefore have a far greater opportunity to align themselves at an appropriate angle to join the highway than a larger item of agricultural machinery/plant.

- 2.34 The potential for conflict must also be considered in the context of the characteristics of the two types of vehicle. Agricultural vehicles are typically large and slow moving. Due to their mass, they tend to accelerate, decelerate and turn much slower than normal passenger vehicles associated with residential use. As a result, the time taken for an agricultural vehicle to turn to or from the highway would be greater than that for a car.

- 2.35 Even when towing a caravan, assuming the car towing the caravan is within the acceptable parameters for the specific caravan type, it would be expected to react and

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accelerate faster than say a tractor towing an agricultural trailer. For this reason, I consider the use by cars instead of agricultural vehicles to be potentially safer.

3 TRAFFIC FLOWS AND SPEEDS

3.1 To establish the volume and speed of traffic travelling along Cursley Lane in the vicinity of the access, I instructed Auto Surveys Ltd to install Automatic Traffic Counters (ATCs) on the route. Auto Surveys Ltd is a relatively young company, having only been recently established by Mr John Burton, formerly of Count On Us, who has undertaken ATC surveys at my request for many years, and has significant expertise in the installation of ATCs and the monitoring of traffic flows using this method.

3.2 I requested two ATCs be installed on Cursley Lane, one to the north of the access to record traffic as they negotiated the bend towards the existing access and also vehicle speeds in a northbound direction at the same point. The second ATC was installed approximately 100m to the north of the access serving the stables (Access No.2) to record speeds as they travelled south onto the straighter section of Cursley Lane. The second counter was installed to allow consideration to be given to an alternative access position.

3.3 The ATCs were installed to record data between Thursday 19th April and Wednesday 25th April 2007. The ATCs recorded traffic volumes, directions, class and speed throughout the survey period.

3.4 The results of the survey revealed that ATC 1 (which was located on the bend to the north of Access No.3 – the appeal site access) recorded a total of 8062 vehicles travelling northbound and 7299 southbound over the survey period, with weekday (Monday to Friday averages of 1310 vehicles northbound/1176 southbound over 24 hours. The seven day (Monday to Sunday) average flows were found to be 1152 northbound and 1043 southbound over 24 hours.

3.5 Over the seven day survey period, the 85th percentile speed was found to be 45.8 mph northbound and 45.4 mph southbound.

3.6 The results from ATC2 (which was located 100m to the north of the access serving the stables) revealed a total of 8058 vehicles were recorded travelling northbound and 7340 southbound over the survey period, with weekday (Monday to Friday averages of 1309 vehicles northbound/1181 southbound over 24 hours. The seven day (Monday to Sunday) average flows were found to be 1151 northbound and 1049 southbound over 24 hours.

3.7 Over the seven day survey period, the 85th percentile speed was found to be 48.1 mph northbound and 47.7 mph southbound.

3.8 The result are summarised in Appendix JPH-A.

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3.9 When taking the above results into account it is apparent that Cursley Lane carries approximately between 2200 and 2500 vehicles per day, depending upon whether the Monday to Friday or Monday to Sunday period is considered.

3.10 In terms of site traffic, in the event the appellants' residential occupancy was to cease, they could still justifiably use the land for the grazing of animals etc. In the event horses were grazed on the land, it would be normal for their owners to visit once or twice per day, and possibly more often depending on the animals concerned and feeding/watering requirements.

3.11 By way of comparison, I have spoken with the appellants regarding their typical daily activities. Sarah Jane Smith has a car and drives; her Aunt does not have a car. The movements to and from the site are typically limited to the school run, which is normally combined with a shopping trip when supplies are required, plus the occasional visit to/from friends. When taking this into account, the movements at the site are considered to be consistent with a normal house i.e in the region of 6 – 10 movements per day allowing for post deliveries etc.

3.12 I do not believe that the slight intensification in traffic movements associated with the residential occupancy when compared with the potential attractions of the site for agricultural purposes to be so significant that it highway safety is materially compromised, particularly when considering the dynamic characteristics of the vehicles described above. If an access provides a satisfactory standard of access for one vehicle, in the context of a rural lightly-trafficked environment I do not see that its use by an extra few movements per day would compromise safety to a significant degree.

3.13 This principle is reflected in Circular 01/2006 "Planning for Gypsy and Traveller Caravan Sites" at paragraph 64, which states at Paragraph 66:-

"Proposals should not be rejected if they would only give rise to modest additional daily vehicle movements and/or the impact on minor roads would not be significant."

4 VISIBILITY SPLAY GUIDANCE

4.1 When considering the safety of the access, it is necessary to consider the nature of the traffic using the route and the characteristics of the local road network. Visibility splays are provided to ensure that the use of accesses or junctions is safe by considering the speed differential between the driver emerging from the access or minor road, onto the priority route, Cursley Lane in this case.

4.2 When considering visibility splays, it is important to appreciate the rationale behind them and their basis. The desirable splays quoted in the majority of design guides are consistent with those identified in the Design Manual for Roads and Bridges. These splays are considered sufficient to "enable emerging drivers using the direct access to have adequate visibility in each direction to see oncoming traffic in sufficient time to make their manoeuvre safely without influencing the major road traffic speed." (Ref paragraph 2.17 of TD 4/1/95 Vehicular Access to All Purpose Trunk Roads).

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4.3 This basically means that a driver could emerge from the minor road and accelerate up to the design speed without requiring the oncoming driver to change speed by either lifting off the accelerator or braking. This can be considered important on Trunk Roads, as changing driver speed on the priority route in high flow conditions can both reduce the capacity of the link as the braking effect for following vehicles can intensify to the point where stationary traffic can result some distance back from the lead vehicle. This is often referred to as "the concertina effect". In such situations and under high flow conditions, there is an increase in the potential for shunt accidents to occur.

4.4 On routes which have a less strategic function than the Trunk Road network, and where capacity is not a major consideration, it can be acceptable for the vehicle on the priority route to decelerate in order to accommodate a driver emerging from a side road or access. It is a natural driver reaction to lift off the accelerator slightly when observing a vehicle pulling out of a side road ahead, which instantly affects the Y distance specified in the Trunk Road design standards.

4.5 Historically, Design Bulletin 32 "*Residential Roads and Footpaths*" and its companion guide Places, Streets and Movement quoted Y distances which matched those on the Trunk Road network. Although the text within the documents advocated a flexible approach to the guidance based on the circumstances of each case, it was common practice for highway authorities to insist on the full Y distance provision even in lightly trafficked circumstances where the need to maintain through-traffic speed was not crucial.

4.6 The different circumstances of a major route and minor access road were clearly defined in DB32, which is reproduced in part at Appendix JPH-B, and states at Paragraph 3.62:-

"Where the priority road is heavily trafficked however, such as on a local distributor, the objective will usually be to avoid the need for through traffic to change course, slow down or stop. In order to achieve this, drivers emerging from the non-priority road must be able to see far enough down the priority to road to be able to emerge without interrupting through traffic movement. Hence the y distance will need to be based on the time taken for vehicles to turn out from the non-priority road and the distance travelled during that time by vehicles on the priority road proceeding at a constant speed."

4.7 This reflects the principle for Trunk Roads identified above. It is therefore clear that the visibility splays are not specifically related to the ability for traffic travelling along the major road (Cursley Lane in this case) to slow down and stop safely, but are in fact to allow the driver emerging from the minor arm to do so and accelerate safely without influencing the speed of the approaching traffic.

Design Bulletin 32 also states at paragraph 3.61:-

"Within the residential road network, where traffic flows are low and where the need to avoid delay has a low priority, the y dimension may be based on the expected speed of the vehicle on the priority road and hence on the stopping distance required for it to slow down or stop in order to avoid a collision with vehicles emerging from the non priority road."

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- 4.8 This is a distinctly different prospect to avoiding influencing the speed of traffic on the major road.
- 4.9 DB32 and Places Streets and Movement were withdrawn at the end of March 2007 and replaced by Manual for Streets (MfS). The relevant extracts from MfS are reproduced in Appendix JPH-C
- 4.10 MfS states on page 5, "Status and application" that:-

"Manual for Streets (MfS) supersedes Design Bulletin 32 and its companion guide Places, Streets and Movement, which are now withdrawn in England and Wales."

MfS focuses on lightly-trafficked residential streets, but many of its key principles may be applicable to other types of street, for example high streets and lightly-trafficked lanes in rural areas. It is the responsibility of users of MfS to ensure that its application to the design of streets not specifically covered is appropriate.

MfS does not apply to the trunk road network. The design requirements for trunk roads are set out in the Design Manual for Roads and Bridges (DMRB)."
- 4.11 Paragraph 1.4.4 (page 13) states "*The DMRB is not an appropriate design standard for most streets, particularly those in lightly trafficked residential and mixed-use areas.*"
- 4.12 In terms of determining whether the MfS standards may be applied to this case, it is necessary to consider the volume of traffic travelling along the road. The results of the survey reveal that the average daily flow ranges from approximately 2200 to 2500 vehicles per day.
- 4.13 MfS provides reference to traffic flows where it considers the provision of direct frontage access at paragraph 7.9.3 and confirms "*In the past, a relatively low limit on traffic flow (300 vehicles per hour or some 3,000 vehicles per day) has generally been used when deciding whether direct access was appropriate.*" Paragraph 7.9.5 of MfS advises "*It is recommended that the limit for providing direct access on roads with a 30 mph speed restriction is raised to at least 10,000 vehicles per day (see box)*"
- 4.14 The box referred to in paragraph 7.9.5 details the studies used to determine the recommended threshold and confirms "*Traffic flows at the sites varied from 600 vehicles per day to some 23,000 vehicles per day, with an average traffic flow of some 4,000 vehicles per day. It was found that very few accidents occurred involving vehicles turning into and out of driveways, even on heavily-trafficked roads.*"
- 4.15 When taken in the context of the daily flows on Cursley Lane, I consider the route to be lightly trafficked as the traffic volumes are below those described to be "relatively low (3,000 vehicles per day) and significantly below the 10,000 vehicle threshold recommended and the 23,000 vehicle flow described as heavily-trafficked."

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- 4.16 Cursley Lane is without doubt a rural lane and therefore, based on the application of MfS on *lightly-trafficked lanes in rural areas*, I consider its principles to be appropriate in this case.
- 4.17 MfS provides guidance on visibility splays and Stopping Sight Distances (SSDs) in Chapter 7. It states at paragraph 7.5.1 that *"This section provides guidance on stopping sight distances (SSDs) for streets where the 85th percentile speeds are up to 60 km/h. At speeds above this, the recommended SSDs in the Design Manual for Roads and Bridges may be more appropriate."*

- 4.18 The guidance in MfS does not preclude its use at speeds above 60 kph (37.28 mph) and is not prescriptive in its application. As stated on page 5 of the document MfS focuses on *lightly-trafficked residential streets*, but many of its key principles may be applicable to other types of street, for example high streets and *lightly-trafficked lanes in rural areas*. It is the responsibility of users of MfS to ensure that its application to the design of streets not specifically covered is appropriate."

- 4.19 The reference to lightly trafficked lanes in rural areas specifically infers that the document is not limited to areas where speeds are below 60 kph, as most rural lanes are subject to the national speed limit of 60 mph (96.56 kph) and it is therefore reasonable to assume that speeds above the 60 kph (37.28 mph) level will prevail in some circumstances. As stated in the last sentence of the above reference, the responsibility of the appropriate application of MfS lies with its users.

- 4.20 The appropriate visibility splay is based on the design speed of a road. The design speed is the 85th percentile speed of traffic in wet weather conditions for existing streets, as detailed in MfS at paragraph 7.5.2.

- 4.21 TA 22/81 "Vehicle Speed Measurement on All Purpose Roads" states at paragraph 3.4, which is reproduced at Appendix JPH-D "To get from the dry weather spot speed of vehicles to the wet weather journey speed used in design one of the following correction factors should be used –

*For AP Dual carriageways...deduct 8kph
For AP Single carriageways...deduct 4 kph"*

- 4.22 As a result of the exceptionally good weather during April 2007, the speeds registered by the ATCs were recorded in dry weather conditions. Therefore, as a single carriageway route it is appropriate to deduct 4kph from the observed speeds to obtain the 85th percentile design speed.

- 4.23 Based on the results of the ATC surveys and allowing for the above corrections, the appropriate design speeds are calculated to be:-

Site 1 (north of appeal site access)
Northbound = 45.8 mph x 1.6093 = 73.71 kph – 4 kph = 69.71 kph
Southbound = 45.4 mph x 1.6093 = 73.06 kph – 4 kph = 69.06 kph

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Site 2 (north of stables)

Northbound = $48.1 \text{ mph} \times 1.6093 = 77.41 \text{ kph} - 4 \text{ kph} = 73.41 \text{ kph}$

Southbound = $47.7 \text{ mph} \times 1.6093 = 76.76 \text{ kph} - 4 \text{ kph} = 72.76 \text{ kph}$

- 4.24 Paragraph 7.5.4 of MfS confirms that the visibility splays of DB32, Places, Streets and Movement and DMRB are based on a perception/reaction time of 2 seconds and a deceleration rate of $0.25 \times$ the rate of gravity ($0.25g$).

- 4.25 Paragraph 7.5.5 of MfS states "Drivers are normally able to stop much more quickly than this in response to an emergency. The stopping distances given in the Highway Code assume a driver reaction time of 0.67 seconds and a deceleration rate of 6.57 m/s^2 ."

- 4.26 Paragraph 7.5.6 of MfS continues "While it is not appropriate to design street geometry based on braking in an emergency, there is scope to use lower SSDs than those used in Design Bulletin 32. This is based upon the following:

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- a review of practice in other countries has shown that Design Bulletin 32 values are much more conservative than those used elsewhere;
- research which shows that the 90th percentile reaction time for drivers confronted with a side-road hazard in a driving simulator is 0.9 seconds (see TfL Report 332);
- carriageway surfaces are normally able to develop a skidding resistance of at least $0.45g$ in wet weather conditions. Deceleration rates of $0.25g$ (the previously assumed value) are more typically associated with snow-covered roads; and
- of the sites studied in the preparation of this manual, no relationship was found between SSDs and casualties, regardless of whether the sites complied with Design Bulletin 32 or not.

- 4.27 As a highway engineer, I found this to be quite surprising, as what this tells us is the old SSDs, and those still referred to in DMRB, take a design speed established on the basis of wet-weather road conditions, then calculate the SSD assuming vehicles are travelling on snow covered roads. I find it rather curious that when the old SSDs were established, and those currently used in DMRB, there was no allowance made for the fact that nearly all drivers would naturally travel more slowly on a snowy road than simply a wet road, and therefore the design speed under such conditions would be comparably lower, resulting in a reduced SSD in any event. This would undoubtedly be the case at this site due to the fact that there is a bend in the road in the vicinity of the appeal site access and therefore drivers would be expected to more cautious when negotiating the route in snowy conditions, thereby reducing the required stopping distance below the SSDs traditionally used.

- 4.28 On this basis, the findings of the last bullet point above are unsurprising. The statement above provides clear confirmation that reducing visibility splays below the levels of DB32 (and therefore DMRB) does not increase the likelihood of casualties.

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4.29 "The SSD values used in MfS are based on a perception-reaction time of 1.5 seconds and a deceleration rate of 0.45g (4.41 m/s²). " – paragraph 7.5.7 of MfS

4.30 The formula for calculating SSDs is provided at paragraph 7.5.3. The formula allows the user to undertake calculations based on varying speeds, perception/reaction time and deceleration rates.

4.31 Based on the southbound design speed at ATC1 (69.06 kph) the velocity of traffic is calculated to be 19.183 metres per second.

4.32 By applying this speed to the formula in MfS, together with the various perception-reaction times and rates of deceleration, the following SSDs are calculated:-

DMRB/DB32	113.359m
MfS	70.436m
Highway Code	40.847m

4.33 Based on the foregoing, it is clear that there is a significant difference between the DMRB standard for Trunk Roads and the actual emergency stopping distance. The MfS level is considered to reflect the modern approach to SSDs to be adopted on non Trunk Roads and in itself incorporates a conservative approach in that it takes the normal minimum level of deceleration (0.45g on a wet surface) and a perception-reaction time of some 66.7% greater than the 90th percentile time for drivers (1.5 seconds as opposed to 0.9 seconds). Based on the difference in the perception-reaction time alone, based on the observed design speed this equates to some 11.51m (19.183 m/s x 0.6s). I therefore consider that even when applying the guidance of MfS, a degree of flexibility may be acceptable, as suggested within the document.

4.34 We are advised that "MfS does not set out new policy or introduce new additional burdens on local authorities, highway authorities, or developers. Rather it presents guidance on how to do things differently within the existing policy, technical and legal framework" (Preface page 7). "A good design will represent a balance of views with any conflict resolved through compromise and creativity." (paragraph 1.2.3 page 12).

4.35 It is therefore apparent that MfS is not intended to provide a set of rules and regulations that must be adhered to, but provides guidance and a basis on which to assess developments with a degree of flexibility and pragmatism.

5 VISIBILITY ON SITE

5.1 I measured the existing visibility on site during my initial site visit and found the splay to the left to extend to just 15m to the near edge of the carriageway, due to the restriction imposed by the existing hedgerow to the north of the appeal site access.

5.2 Whilst it is difficult to determine exactly what level of visibility would be achievable to the north of the access following the cutting back of the hedgerow, in accordance with the requirements of providing Access No.2, which is in use, I believe it would be possible to achieve approximately 73m to the centreline of the road.

5.3 By undertaking the works required under condition 5 of the permission for the new access i.e. *"until the existing hedges fronting the highway boundary, on each side of the approved vehicular accesses No.2 and No.3, for their full length shall be cut back prior to the use site, and thereafter maintained in order to provide maximum visibility for the drivers of vehicles from the accesses and those travelling along the carriageway"*, when taking into account the design speed and guidance in MfS, I believe an appropriate level of visibility could be achieved.

5.4 I obtained Ordnance Survey mapping data of the site to establish where the boundary may lie and what impact the cutting back may have on the hedgerow. Based on the desktop exercise, it appeared that the visibility splay may cut across the access track to the rear of the hedge, which would therefore require its complete removal. I therefore re-visited the site to establish an approximate position of the boundary fence closest to Cursley Lane. By measuring an offset from the centreline of the access and an offset from the fence to the road edge, I established the approximate position of the 'pinch point' between the fence and Cursley Lane. I then plotted this on the OS base data and superimposed the visibility splay based on the MfS stopping distance + 2.4m for bonnet length in accordance with paragraph 7.6.4, giving a total distance of approximately 73m.

5.5 The visibility splay is illustrated on Figure JPH-1 and has been drawn to the centreline of the road. Whilst it is common practice to draw visibility splays to the near edge of the carriageway, this is to allow for a situation where it may be necessary to see a driver who is overtaking, i.e. effectively on the wrong side of the road. In this case, due to the limited highway width and the alignment of Cursley Lane, which limits forward visibility, I believe it highly unlikely that a driver travelling southbound around the bend would be overtaking another vehicle at that point.

5.6 MfS considers the Y distance at section 7.7. The documents states at paragraph 7.7.3 *"The Y distance represents the distance that a driver who is about to exit from the minor arm can see to his left and right along the main alignment. For simplicity it is measured along the nearside kerb line of the main arm, although vehicles will normally be travelling a distance from the kerb line."* In my view this is a statement of practice with an inference to apply a degree of common sense and flexibility to the circumstances of the case. In so doing, I do not believe that providing a visibility splay to the centreline of the road would

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constitute a significant reduction in highway safety in this case, particularly when taking into account the conservative parameters on which the SSDs contained in MfS are based.

5.7 Notwithstanding this, it would be possible to achieve almost the full MfS splay over the full carriageway width, although this would result in the loss of more of the existing hedgerow.

5.8 The loss of the hedgerow was previously considered by the Local Planning Authority in 2006 and it was determined that *"This significant improvement in highway safety is considered to outweigh any environmental harm arising from loss of hedgerow to improve visibility"* when it approved the new access No.2 and improvements to the appeal site access.

5.9 In addition to the appeal site access, I also reviewed the road frontage to establish whether an alternative access position may be preferable, which would have a reduced impact on the hedgerow. However, having considered the constraints imposed by the alignment of the highway, taking into account the observed design speeds and vegetation, I consider that an alternative position would have equal if not greater impact on the hedgerow than the appeal site access. As the creation of a wholly new access would also have other planning considerations with no significant benefit in terms of highway safety, I consider the use of the appeal site access, subject to the cutting back of the hedgerow in accordance with the previously approved proposals to be acceptable.

5.10 Notwithstanding this, although Access Nos. 3 and 2 provide standard visibility at present, following a review of Personal Injury Accident (PIA) data obtained from the Highway Authority covering the period 01/03/2002 to 28/02/2007 (the most recent five year period available), it was apparent that there have been no recorded PIAs at either access, or at any other site/development access along Cursley Lane during this period.

5.11 In terms of the appeal site access and Access No.2, I believe this is due to the fact that forward visibility for drivers travelling along Cursley Lane is sufficient to enable them to see the front of an emerging vehicle in sufficient time for them to react in order to slow down until such time that either the emerging driver has seen the approaching car, or alternatively the oncoming driver may effectively give way to the minor arm traffic by allowing exiting traffic to join Cursley Lane ahead of them. This common driver behaviour, combined with the limited flows both along Cursley Lane and to/from the accesses in question, demonstrably prevent collisions from occurring at this location.

5.12 Having considered the foregoing I can only conclude that the continued use of the site as proposed, subject to the identified improvements, would not result in compromised highway safety when compared with the fall-back position. The Highway Authority has deemed the appeal site access to be satisfactory to accommodate slow-moving agricultural traffic subject to cutting back the hedgerow, which was in itself also deemed appropriate by the Local Planning Authority.

5.13 Whilst the access appears to operate satisfactorily at present, I would recommend the hedgerow be cut-back to improve the existing margins for potential conflict to occur.

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6 SUMMARY

6.1 My name is Jeremy Peter Hurlstone; I hold a BSc (Hons) in Civil Engineering Management, am a Member of the Institution of Highways and Transportation and a Chartered Member of The Institute of Logistics and Transport. I have over 19 years experience in the Transportation industry, during which time I have been involved in many projects for varying development types.

6.2 I have prepared and presented evidence at numerous Public Inquiries and Hearings during my career for various types and scale of development.

6.3 I have been instructed to review reasons for refusal number 6 which relates to highway matters associated with the appeal at Top Acre, Cursley Lane, Mustow Green.

6.4 I have reviewed the characteristics of the local road network, taking into account recent planning history at the site regarding the access and the fall-back position.

6.5 The Council considers that the visibility splay to the north at the site access is inadequate, and therefore its use would be detrimental to highway safety, contrary to its adopted policies.

6.6 I have reviewed the situation on site; technical highway guidance which forms the basis of the visibility splay requirements, and the advice contained therein regarding the flexibility advocated in their application, together with current highway design guidelines.

6.7 As part of my review I have also considered speed survey data and traffic flow data, together with Personal Injury Accident data provided by Worcestershire County Council.

6.8 I have compared the existing access arrangement at the appeal site to that which was approved and found that certain works which should have been undertake historically have not, notably the cutting back of the hedgerow along the site frontage to maximise visibility.

6.9 Should these previously approved works be undertaken, I have demonstrated that an appropriate level of visibility could be achieved at the site access.

6.10 Having considered the findings of my investigations and assessment of the highway issues pertinent to this appeal, I conclude that if any increase in traffic associated with the development would be sufficiently slight to not conflict with current planning guidance in terms of principle.

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- 6.11 I consider the nature of traffic associated with the residential use of the appeal site would not materially increase risk when compared to the approved use, particularly when taking into account the relative performance and characteristics of domestic and agricultural vehicles.
- 6.12 I consider the proposed development satisfies the tests of Circular 01/2006, which specifically relates to Gypsy sites, in terms of highway matters.
- 6.13 Whilst Accident data suggests that the existing access arrangement operates without causing collisions, I would recommend the hedgerow be cut-back in accordance with the previous permissions to improve the existing visibility and reduce the potential for conflict in the interests of highway safety.
- 6.14 Having considered the foregoing, I can only conclude that the reason for refusal given by the Council is inappropriate and that this appeal should be allowed.
- 6.15 I trust, having considered my evidence, the Inspector agrees with my conclusion and therefore determines this appeal accordingly.