

**PROPOSED DEVELOPMENT AT
135 GUISBOROUGH ROAD,
NUNTHORPE**

**DEVELOPMENT IMPACT APPRAISAL
AMENDMENT NO: 1
PLANNING REF: M/FP/0770/07/P**

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DEVELOPMENT IMPACT APPRAISAL

Introduction

On 27 April 2007, Signet Planning and SMC Developments submitted their plan to demolish Red Cottage at 135 Guisborough Road, Nunthorpe, and to construct a block of 33 residential flats in its place. The following appraisal is an assessment of whether or not the proposal is in compliance with Planning Policy and associated design principles **in respect of highway and road safety issues**.

It is understood that the **Manual for Streets, (MfS)**, may be the current design guide that will be used in an assessment of this application. MfS supersedes 'Design Bulletin 32' and its companion guide 'Places, Streets and Movement'. It complements Planning Policy 3: Housing. MfS comprises technical guidance and does not set out any new policy or legal requirements.

MfS primarily 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's 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 and other major roads are set out in the '**Design Manual for Roads and Bridges**', (DMRB) and/or Middlesbrough Council's '**Highway Design Standards for Residential Developments: Design Guide and Specification**', (HDSRD).

In September/October 2006, prior to this application, Middlesbrough Council undertook a public consultation exercise in respect of Road Safety Proposals for Guisborough Road, Nunthorpe. The reasons for undertaking such a consultation and its outcome, have a direct bearing on any proposed assessment of the aforementioned application.

Executive Summary

- **It is concluded that the Developer's proposals in respect of highway and road safety issues are FUNDAMENTALLY FLAWED, as they are based on the wrong design guidelines, incorrect speeds, incorrect geometric parameters, and fail to address road safety issues, especially for pedestrians. The proposals FAIL to meet the appropriate standards for the following reasons.**
- Highway and technical considerations associated with the Developer's Proposals were discussed in detail in a document produced by Wardell Armstrong entitled 'Transport Statement'.
- The primary issues discussed centred on the access arrangements to the proposed development, namely, the required safe '**Stopping Sight Distance**' for vehicles travelling along Guisborough Road, and the required safe '**Visibility Sight Lines**' for vehicles accessing/egressing the development.
- In the case of the Stopping Sight Distance, Wardell Armstrong used the 'One Step Below Desirable Minimum Stopping Sight Distance' of 70m from the DMRB design standard, and accepted that the visibility at the existing site did not achieve this value. **However, they provided no justification for the use of this value and did not address the issue of what would be the actual stopping distance, should the development proceed.**
- The following assessment clearly demonstrates that a value of 90m and not 70m is the appropriate Stopping Sight Distance. An assessment 'on site' and an assessment of Wardell Armstrong's proposals indicate that, although the proposed access has been amended, the **forward visibility** of vehicles turning into or out of the proposed access, for drivers travelling from west to east, not only **falls beneath the 70m distance** advocated by Wardell Armstrong, but is also **beneath the desirable minimum distance of 90m required by DMRB and the HDSRD.**
- In the case of 'Visibility Sight Lines', Wardell Armstrong used the MfS design standard solely on the grounds that "A new set of Guidelines entitled Manual for Streets was published in March 2007". There is no other justification for the use of this design standard.
- A comprehensive assessment of the most appropriate design standards that should be used, concludes that the MfS is a totally inappropriate design standard for a proposed development of this nature.
- Notwithstanding the fact that MfS is an inappropriate design standard for visibility sight lines in this instance, Wardell Armstrong used an **incorrect 'speed'** to determine the 'x' and 'y' parameters, and chose the **non-recommended 'y'** value. No justification is provided for these decisions.
- The following detailed analysis shows that, notwithstanding the fact that the less stringent MfS is not considered to be the appropriate design standard, **the development proposal fails to achieve the MfS requirements.** This is because the proposal only achieves a sightline of $y = 41\text{m}$, which is below the standard required by MfS for both the speed limit in existence, and the 85th percentile speed of the road.
- The **HDSRD** design standard indicates that the access arrangements should be designed for a Category 1 (Local Distributor) road giving values of $x = 9\text{m}$, and $y = 90\text{m}$. **These values are not met.** Even the lower standard, but inappropriate, Category 4 (Residential) road requires $x = 4.5\text{m}$ and $y = 33\text{m}$, which again **is not met** by the proposal.
- The evidence presented in this document, suggests that the safety of all road users of Guisborough Road, particularly pedestrians, would be significantly compromised should the proposed development be allowed to proceed.

Aims of Manual for Streets

MfS is to be used predominantly for the design, construction, adoption and maintenance of new residential streets, but it is also applicable to existing residential streets subject to re-design (Section 1.1.3). MfS Section 1.2.1 clearly shows that the document is directed to all those with a part to play in the planning, design, approval or adoption of new residential streets, and modifications to existing residential streets. This includes developers.

MfS states that “it is important that designers place a high priority on meeting the needs of pedestrians, cyclists etc”. MfS aims to assist in the creation of streets that “**are safe**”, and positively discourages streets that are unsafe and unwelcoming to pedestrians, (Section 1.1.5).

It is important for the various parts of local government to work together when giving input to a development proposal. There may be conflicting requirements for new developments if different parts of local government fail to coordinate their input. This is particularly problematic when one section of a local authority, for example the highway authority, become involved late on in the process and require significant changes to the design. A collaborative process is required from the outset.

In this instance, Middlesbrough Council had already undertaken a public consultation exercise in respect of Road Safety Proposals for Guisborough Road, prior to the planning application, and as a result, electronic vehicle-activated speed-warning indicators have been erected to encourage drivers to observe the 30 mph limit.

An assessment of the reasons for the road safety public consultation, would appear to suggest that the less stringent highway requirements of the MfS are in conflict with the highway design standards that are necessary to improve the safety of Guisborough Road.

Although MfS provides guidance on technical matters, local standards and design guidance are important tools for designing in accordance with the local context, (Section 1.4.5). In this particular instance, the ‘hierarchy’ of the local road system has to be given careful consideration.

Highway Design Standards

The design standards for highways are set by the relevant highway authority, (Section 1.4.1). The standard for trunk roads and other major roads is the **Design Manual for Roads and Bridges, (DMRB)** and/or Middlesbrough Council’s **‘Highway Design Standards for Residential Developments: Design Guide and Specification’, (.HDSRD)** These were the standards used by local authorities prior to the introduction of MfS.

Some major roads could be described as ‘streets’ within the definition given in MfS, but their strategic nature means that traffic movement is their primary function, (Section 1.4.3). **MfS does not apply to roads of a strategic nature.**

It is accepted that the DMRB is not an appropriate design standard for most streets, particularly those in lightly-trafficked residential and mixed-use area. However, although MfS provides guidance on technical matters, local standards and design guidance are important tools for designing in accordance with the local context (section 1.4.5). Therefore, whilst it is strongly recommended that local authorities review their standards and guidance to embrace the principals of MfS, **it is**

encumbent on them to ensure that the appropriate design standards reflect the situation obtaining, in the local context.

Guisborough Road, Nunthorpe

The public consultation document entitled "Guisborough Road Area – Road Safety Proposals", which was issued in September/October 2006 by Middlesbrough Council, clearly identified that the road safety measures proposed were designed to address the following issues on Guisborough Road:-

- Accident record – a high level of injury accidents, particularly at junctions along Guisborough Road.
- Speeding – evidence of excessive speeding on the route
- Through traffic – rat running through Nunthorpe
- School children – large numbers of school children using Guisborough Road to access Nunthorpe School.

Several proposals were put forward by the Council, but to date, only electronic, vehicle-activated speed warning messages have been introduced along Guisborough Road. The nature of the road has therefore not been changed to any significant degree.

Guisborough Road is bounded by the A172 Nunthorpe By Pass trunk road, which is a primary distributor road. The By-Pass is the strategic alternative route to Guisborough Road, but traffic from this strategic route which requires to gain access to a significant residential community, businesses, a railway station, library and a large secondary school, must do so via Guisborough Road.

In accordance with Middlesbrough Council's own **HDSRD**, Guisborough Road is classified, at the very least, as a **Local Distributor road (Category 1)**, although there is an argument that it could be considered as the higher classification of District Distributor, as it links with the primary road network at both ends. A local distributor is a 'through' road forming a link between a district distributor/primary network and access roads which distribute traffic within the residential districts. Design guidance advises that as in the case of other distributors, the function of a local distributor should be preserved by appropriate restrictions on frontage access and that **these roads should not give direct vehicular access to dwellings**.

As stated previously, MfS focuses primarily on lightly trafficked residential streets and does not apply to roads of a strategic nature. Guisborough Road is a highly trafficked 'through' route giving access to a significant number of residential areas. Middlesbrough Council's concern regarding road safety aspects, particularly accidents at junctions, speeding and the safety of pedestrians (large numbers of school children) indicate that the **MfS is a totally inappropriate tool for the consideration of proposed developments with direct access to the road in question**.

The Council indicated that the road already had an accident record with a high level of injury accidents particularly at junctions. Details of these accidents were not made available and so undertaking an accident investigation assessment has not been possible. However, as the Council has highlighted the fact that accidents occurred at junctions, **it would appear imprudent to permit the creation of a further junction with Guisborough Road** without a full safety analysis being carried out. As the proposed development would provide for 33 residential flats and 50 car parking

spaces, the number of vehicle trips generated, especially at peak times, would be significant. Therefore, any proposed access to the development should be considered to be a minor junction and not merely an access, and designed accordingly.

The Council also indicated that speeding was an issue with evidence of excessive speeding on the route. Information obtained from the Council, shows that the 85th percentile speed along Guisborough Road, which is subject to a 30 mph limit, is 36 mph. Solutions are being sought by the Council to try and reduce the speed of traffic, but it is essential from a road safety point of view, that any new accesses on to the road, should be subject to a highway design speed appropriate for a Category 1 Road that is subject to a 30 mph speed limit, (see below).

Large numbers of school children use Guisborough Road to access Nunthorpe School (over 1400 parents and children). Section 3.6.8 of MfS clearly places 'Pedestrians' as the first to be considered in the prescribed 'User Hierarchy'. Bearing in mind the large number of pedestrians using the road, the significant potential pedestrian / vehicle conflict, and the fact that the proposed development is situated immediately adjacent to a major pedestrian footpath through to Moor Park, (see Photographs 6 & 7), **the safety of pedestrians may well be seriously compromised by the proposed development**, and failure to give priority weighting to this factor would be contradictory to the advice given in MfS.

Road Safety Audits (RSA's) are routinely carried out on highway schemes but are not mandatory for local highway authorities. Although no details of such have been given by the Council in respect of Guisborough Road, it would appear unusual, bearing in mind their recent public consultation exercise, if they had not undertaken such an audit.

Notwithstanding the above, MfS section 3.7.6 advises that where a design is carried out by a developer or his consultant (in this case the design of the access to the proposed development), these should be assessed independently by the local highway authority RSA team. **It is suggested that such an independent RSA should be carried out** as part of the assessment of the planning application.

Since August 2006, **Design and Access Statements (DAS's)** have been required for most planning applications for new developments. DAS's are documents that explain the design thinking behind a planning application and are therefore important documents. They normally include a written description and justification of the planning application.

Section 3.8.4 of MfS states that the local planning authority needs to ensure that the key features set out in Section 3.6.27 and any site specific issues of importance, are resolved before outline permission is granted. The design of access, spaces and parking is important.

It is assumed that the submission of a DAS with the planning application, by the developer, is a **minimum** requirement in this instance due to the serious highway and road safety issues involved. Any consideration of the application in question, without reference to a DAS, would seriously prejudice the validity of any decision made.

In view of the above, it is suggested that the most appropriate highway design standards which should be used for the consideration of this development are the DMRB and the HDSRD, and not the MfS.

Design Requirements for the Proposed Development

Guisborough Road is an urban road subject to a 30 mph speed limit where the physical restrictions on the alignment make it impracticable to achieve geometry relative to a higher design speed. Design speeds are selected with reference to existing or envisaged speeds, so as to permit a small margin for speeds in excess of the speed limit. In this instance, the 85th percentile speed is 36 mph.

Both the Council's HDSRD requirements for a Category 1 road (ie. Guisborough Road), and the DMRB requirements for a 30 mph speed limit area, propose a Design Speed of 40 mph (60 kph). MfS recommends a design speed of 20 mph which would appear totally inappropriate.

It is considered, on road safety grounds, that the most appropriate design speed is 40 mph (60kph).

Stopping Sight Distances

To enable drivers to see a potential hazard in time to slow down or stop comfortably before reaching it, it is necessary to consider the driver's line of vision, in both the vertical and horizontal planes, and the stopping distance of the vehicle. The **Stopping Sight Distance** is an extremely important parameter in respect of the road safety for all road users. It is the horizontal distance over which unobstructed visibility should be maintained. DMRB requires a **Desirable Minimum Stopping Sight Distance of 90m**, and a **One Step Below Desirable Minimum Stopping Sight Distance of 70m**, for the 60 kph design speed Guisborough Road.

The Council's HDSRD advocates a **Minimum Stopping Distance of 90m**.

Before determining the parameters to be used by the designers, both design documents require due consideration to be given to other local factors that may have a bearing on the potential for additional hazards.

The proposed development is situated on a bend of limited visibility, (see Photograph 5), especially when travelling from west to east, and the existing entrance is situated approximately 90m from a major junction to the west, (see Photograph 1). When travelling from west to east, the forward visibility for drivers is severely restricted within the immediate vicinity of the proposed development. In addition, there is a major pedestrian footpath through to Moor Park at the point of most limited forward visibility, which would appear to be a major safety hazard.

The layout and nature of Guisborough Road adjacent to the proposed development, the presence of a major junction, restricted visibility for drivers and the significant potential for vehicle/pedestrian conflict, (see Photograph 6), would all suggest that a **minimum stopping distance of 90m is the desirable requirement when any proposed development is considered.**

Wardell Armstrong's 'Transport Statement' submitted with the Planning Application, concluded that Guisborough Road is subject to a 30mph speed restriction and that the visibility at the existing site access is considered to be below the **desirable minimum standard of 70 metres**, namely, the One Step Below Desirable Minimum Stopping Sight Distance.

However, Wardell Armstrong did not address the issue of what would be the actual stopping distance, should the development proceed.

An assessment 'on site' and an assessment of Wardell Armstrong's proposals indicate that, although the proposed access has been amended, the **forward visibility** of vehicles turning into or out of the access, for drivers travelling from west to east, **falls beneath the 70m distance** advocated by Wardell Armstrong, (see attached sketch), and beneath the desirable minimum distance of **90m** required by DMRB and the HDSRD.

Visibility Sight Lines

In addition to the above, careful consideration must be given to any proposed development access with respect to the sight lines required at access points. To enable drivers emerging from the non-priority road/access to see and be seen by drivers proceeding along the priority road, unobstructed visibility is required. The parameters used to define these safe visibility 'splays' are known as the 'x' distance and the 'y' distance.

The x distance is measured along the centre line of a side road from the nearside kerbline of the major road. The y distance is measured in both directions along the nearside kerbline of the major road from the intersection of the kerbline and the centre line of the side road.

Middlesbrough Council's own HDSRD, gives clear requirements for the sightlines to be achieved for various categories of roads. These are set out below in Table 1 and on the attached sketch, and demonstrate that the **Developer's proposed sightlines are sub-standard, incorrect and contrary to the safety of both vehicles and pedestrians.**

Road Category	x Distance	y Distance
Category 1 Road – Local Distributor	9 m	90 m
Category 2 Road – Primary Accesses	9 m	70 m
Category 3 Road – Secondary Accesses	4.5 m	45 m
Category 4 Road - Residential	4.5 m	33 m

Table 1 – Middlesbrough Council's Design Guide and Specification

The Council's HDSRD requires **Visibility Splays of X = 9m and Y = 90m for a local distributor category 1 road.**

However, Wardell Armstrong, in their Transport Statement, chose to base their design on the MfS. It should be re-iterated that this document clearly demonstrates that the less stringent highway requirements of the MfS are in conflict with the highway design standards required to improve the safety of Guisborough Road.

Nevertheless, set out below in Table 2 are the requirements of MfS in respect of visibility requirements.

Road Category	x Distance	y Distance	Y Distance adjusted for bonnet length as recommended
20 mph Speed	2.4 m	22 m	25 m
30 mph Speed	2.4 m	40 m	43 m
37 mph Speed	2.4 m	56 m	59 m

Table 2 – Manual for Streets, Derived Visibility Requirements

Wardell Armstrong's Statement quoted that the new standards required sightlines of $x = 2.4\text{m}$ and $y = 22\text{m}$. **These values are misleading and incorrect for the situation obtaining** (see Table 2).

It is IMPORTANT that geometric parameters should not be quoted in isolation, but a full explanation given for their proposed use which puts all matters in context. It should be noted that whilst Wardell Armstrong use MfS for visibility standards, they use DMRB for minimum stopping distances and the HDSRD for on-site road infrastructure parameters, without any justification for their use.

Table 7.1 in MfS, as reproduced in Table 2 above, indicates a sightline of $x = 2.4\text{m}$ for all road speeds between 10 mph and 37mph. However, the value of 2.4m is not prescriptive and depends on specific circumstances.

As can be seen from Table 2 above, MfS indicates a sightline of $y = 22\text{m}$ or **25m** for a speed of **20 mph**, $y = 40\text{m}$ or **43m** for a speed of **30 mph**, and $y = 56\text{m}$ or **59m** for a speed of **37 mph**.

The higher 'y' distances are Stopping Sight Distances (SSD) **adjusted for bonnet length and are the recommended lengths as per MfS Section 7.6.4.**

The speed limit on Guisborough Road is 30 mph and not 20 mph, requiring a **minimum y distance of 43m.**

The 85th percentile speed on Guisborough Road is 36 mph requiring a **minimum y distance of 59m.**

Notwithstanding the fact that the less stringent MfS is not considered to be the appropriate design standard, **the Development proposal only achieves a sightline of $y = 41\text{m}$, which is below the standard required by MfS for both the speed limit in existence, and the 85th percentile speed of the road.**

It is considered essential, on road safety grounds, that the sightline parameters to be used in the consideration of any proposed development access should be $X = 9\text{m}$, and $Y = 90\text{m}$.

Conclusions

- An assessment of the reasons for the Council's recent road safety public consultation, would appear to suggest that the less stringent highway requirements of the MfS are in conflict with the highway design standards that are necessary to improve the safety of Guisborough Road.
- Design guidance advises that as in the case of other distributors, the function of a local distributor, such as Guisborough Road, should be preserved by appropriate restrictions on frontage access, and that **these roads should not give direct vehicular access to dwellings.**
- Bearing in mind the large number of pedestrians using the road, the significant potential pedestrian / vehicle conflict, and the fact that the proposed development is situated immediately adjacent to a major pedestrian footpath through to Moor Park, the safety of pedestrians may well be seriously compromised by the proposed development.
- It is advisable that an independent Road Safety Audit be undertaken of the developer's proposals by the highway authority.
- Any consideration of the application in question, without reference to a Design and Access Statement submitted by the developer with the planning application, would seriously prejudice the validity of any decision made.
- Bearing in mind all of the information presented above, but in particular taking cognisance of the Council's own concerns regarding the safety issues obtaining on Guisborough Road, it is clear that the most appropriate highway design standards which should be used for the consideration of this development are the DMRB and the HDSRD, and not the MfS. This would require the following parameters to be used in any assessment of the application.
 - The layout and nature of Guisborough Road adjacent to the proposed development, the presence of a major junction, restricted visibility for drivers and the significant potential for vehicle/pedestrian conflict, would all suggest that a minimum stopping distance of 90m should be the requirement when any proposed development is considered.
 - An assessment 'on site' and an assessment of the Developer's proposals indicate that, although the proposed access has been amended, the **forward visibility** of vehicles turning into or out of the access, for drivers travelling from west to east, **falls beneath the 70m distance** advocated by the Developer and **beneath the desirable minimum distance of 90m** required by DMRB and the HDSRD.
 - It is considered essential, on road safety grounds, that the sightline parameters to be used in the consideration of any proposed development access should be **X = 9m**, and **Y = 90m**.
 - Notwithstanding the fact that the less stringent MfS is not considered to the appropriate design standard, **the Development proposal only achieves sightlines of x = 2.4m and y = 41m, which is below the standard required by MfS for both the speed limit in existence, and the 85th percentile speed of the road.**
- It would appear that the Transport Statement of Wardell Armstrong, submitted with the Planning Application, **fails** to provide the validity of, and the substantiation for, their proposals.
- The evidence presented above, suggests that the safety of all road users of Guisborough Road, particularly pedestrians, would be significantly compromised should the proposed development be allowed to proceed.



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