DERBYSHIRE County Council

# Specification

## Design Criteria for the Formation of Vehicle Accesses (Dropped Kerbs)

### 1 Width

Accesses should be at least 2.5 m.

### 2 Alignment

Accesses should emerge onto the highway at 90° or as close as possible to this angle.

### 3 Gradient

Driveways should be no steeper than 1 in 10 (10%)

### 4 Turning Space

On busier roads or where driver's vision is limited, the applicant should endeavour to provide on site turning space for vehicles.

### 5 Driver Visibility

When emerging from an access, the driver of a car is located about 2 m back from the nearside carriageway edge and their eye level is about 1 m above the surface. From this point, the driver needs to be able to see as far as possible along the road in both directions. Depending upon the speed limit and location, the following distances should be achieved in either direction, measured along the nearside carriageway edge:-

| | |
|---|---|
| 30 mph | 45 m |
| 40 mph | 120 m |
| 50 mph | 160 m |
| 60 mph | 215 m |

Where these distances cannot be achieved, the applicant should clear their site frontage of all obstructions over 1 m in height (600 mm in the case of vegetation) for as far as possible in either direction from the access and ask the advice of this Authority.

## 6 Pedestrian Visibility

Where the access will cross a footway, a 2 m x 2 m x 45° splayed area should be provided on either side of the access at the back of the footway. These triangular areas should be kept clear of any object greater than 1 m in height.

## 7 Parking Spaces

Vehicles must be parked completely off the highway and at approximately right angles to the carriageway unless turning space is available within the site. The minimum depth of parking space shall be 5 metre and have a width of 2.5 metres.

## 8 Surfacing/Paving

Within the property curtilage, the driveway should be surfaced with a porous, bound material or block paving having porous joints and not loose chippings, to avoid loose material from being carried out onto the highway. Where a non-porous surface is provided then any surface water run-off shall be collected and then discharged to a soakaway within the curtilage of the property.

## 9 Surface Water

Where a driveway slopes down towards the road, measures should be taken to avoid surface water run-off from discharging onto the adjacent footway or carriageway. This can take the form of a dish channel or gully laid across the access, emptying into a sewer, drain or soakaway within the property.

Applicants should be aware that they may be required to carry out appropriate works at their expense to prevent surface water from running onto or damaging the highway. Any such required works shall be satisfactorily commenced before work takes place on the vehicle crossing, otherwise the application may be refused or rendered invalid.

## 10 Future maintenance

Provided that the access is constructed in accordance with the County Council's specification included in this pack, the access becomes part of the highway and is maintained by the County Council as Highway Authority, following the initial 2 year maintenance guarantee period.

# Specification Continued
## (Suitable for Private Car Traffic Only)

1 **General**

1.1 Kerbing

1.1.1 Kerbs are to be British Standard precast concrete, hydraulically pressed or approved lightweight kerbs, laid to a true line and level on a 150 mm thick bed, 350 mm wide and backed with 150 mm concrete Class ST2.

1.1.2 Kerbs to the crossing are to be 125 mm x 150 mm drop kerbs with a single taper kerb (250 mm to 150 mm high) each side. The general minimum requirement for a single access is 4no. dropped kerbs and 2no. taper kerbs; for a double access 7no. dropped kerbs with 2no. taper kerbs.

1.1.3 All existing kerbs together with the concrete backing are to be taken up and removed to a licensed disposal point.

1.1.4 If existing kerbing is natural stone and cannot be re-used, new crossing is to be constructed using natural stone kerbing or of similarly approved material.

1.2 Conservation Areas

1.2.1 In Conservation Areas, the applicant must inform the Local Planning Authority of the proposal.

1.2.2 In Conversation Areas, natural materials may be requested to match existing, eg sandstone kerbs should be replaced by sandstone kerbs and not concrete or granite kerbs. Where natural materials exist the applicant must contact the County Council for further information.

1.3 Edging

1.3.1 Precast concrete edgings (50 mm x 150 mm high) are to be provided to separate the vehicular crossing from the verge, if appropriate. The edging to be laid on a 50 mm bed, 350 mm wide and backed with 100 mm of concrete Class ST2. Edgings will also be required along the highway boundary if the private drive is to be constructed of a non-bituminous material.

1.4 Dimensions

1.4.1 The dimensions of the crossing will vary according to the width of the existing footway and shall be as indicated on the construction drawing.

## 2 New Construction

2.1 The existing materials are to be replaced with materials to the following specifications:-

2.1.1 Well graded Granular sub-base Type 1 to BS EN13285:2003 laid and rolled to a consolidated thickness of 225 mm.

2.1.2 0/20 mm size dense binder course with paving grade bitumen 160/220 to BS EN 13108-1:2006 laid and rolled to a minimum consolidated thickness of 50 mm.

2.1.3 0/6 mm size dense surface course with paving grade bitumen 160/220, to BS EN13108-1:2006 (limestone aggregate must not be used), laid and rolled to a consolidated minimum thickness of 20 mm.

2.2 Workmanship

2.2.1 In all three construction layers the materials shall be spread and rolled to the required contours and levels to give a regular finish. Maximum depressions under a 3 metre (maximum) long straight edge on the finished surface are:-

| | |
|---|---|
| Binder course | = 6 mm |
| Surface course | = 3 mm |

2.2.2 Each layer shall be compacted with a static roller of 2.5 tonnes dead weight or vibrating roller of 750 kg dead weight to the required thickness immediately after they are laid.

2.2.3 A tack or bond coat must be applied to the binder course prior to the application of the surface course.

## 3 General Conditions

3.1 Damage to Highway

3.1.1 When the construction is carried out by a Contractor any damage to the highway shall be rectified to the satisfaction of, and at no expense to the County Council.

3.2 Crossing over Open Ditches

3.2.1 Any ditch under the new crossing shall be piped with approved pipes of a suitable size and to approved levels and surrounded with 150 mm of Class ST1 concrete. End of pipes must be incorporated into suitably constructed headwalls.

3.3 Highway Drainage

3.3.1 When the construction is carried out by a contractor any damage to the highway drainage shall be rectified to the satisfaction of, and at no extra expense to the County Council. The contractor shall also carry out such drainage works that are necessary to prevent surface water being discharged from the private driveway onto the highway.

3.3.2 Where the crossing is being removed, the crossfall of the new footway should be 1 in 40 (2.5%). Under no circumstances should the newly laid footway backfall towards private property.

3.4 Safety Precautions

3.4.1 During construction safety precautions shall be taken in accordance with Chapter 8 of the Traffic Signs Manual, the Health and Safety at Work Act 1974 and all other Health and Safety Legislation and Codes of Practice. The County Council shall be indemnified against all claims or accidents that may arise during the progress of works, whether from a third party or otherwise.

# Specification

## 4 Alternative Specification Using Concrete Block Paving for Domestic Vehicular Crossings

4.1 Where a private drive is to be laid in block paving and there is no footway in the verge, the County Council **may** allow vehicular crossing to be constructed in **concrete** block paving in accordance with the following:-

### 4.2 General

4.2.1 All the general requirements of vehicular crossings shall apply except where superseded by this section. All vehicular accesses shall be kerbed at the edge of the carriageway.

### 4.3 Sub-base and Laying Course Material

4.3.1 The sub-base shall be laid to a thickness of 225 mm and comprise of Granular sub-base Type 1 to BS EN 13285:2003.

4.3.2 The sand laying course shall consist of washed sharp sand containing not more than 3% of silt and clay and conforming to the following grading:-

| BS Sieve Size | Percentage Passing |
|---|---|
| 5 mm | 90-100 |
| 2.36 mm | 75-100 |
| 1.28 mm | 55-90 |
| 600 um | 35-65 |
| 300 um | 10-45 |
| 150 um | 0-10 |
| 75 um | 0-1.5 |

4.3.3 Sand shall have a natural moisture before screeding of not less than 4% or more than 8%.

## 4.4 Paving Blocks

4.4.1 Concrete paving blocks shall comply with BS EN1338:2003 and shall have a nominal thickness of 60 mm. Blocks shall be of a rectangular shape and laid in a herring bone pattern and be of a colour that complements the surroundings.

## 4.5 Edge Restraints

4.5.1 Edge restraint to the blocks shall be provided in advance of laying the blocks. This edge restraint shall be within a concrete kerb or edging bedded in concrete, two courses of blocks laid in concrete or a propriety edge restraint fixed in concrete.

## 4.6 Preparation of Laying Course

4.6.1 The sand shall be struck off to a level that when the blocks have been vibrated, the upper face of the blocks shall be true to the finished level and the levels of any two adjacent blocks shall not differ by more than 2 mm. Before the blocks are laid, the laying course shall not be subjected to any form of trafficking, including pedestrian trafficking before, after or during screeding.

4.6.2 Prior to any substantial areas of blocks being laid, vibration of a trial area of blocks shall be completed as soon as possible to ensure that the sand surcharge is correct to provide a compacted thickness of 50 mm and, if not, alterations made. Such trials shall be undertaken for any change in the delivery source of the sand or for any change occurring in moisture content of the sand to that previously laid.

## 4.7 Installation of Paving Blocks

4.7.1 The blocks shall be placed firmly together without disturbance to the laying course and the order of placing the blocks shall ensure this. At edges or obstructions such as gully gratings or manholes, blocks shall generally be cut to fit. Cutting may be carried out with a hydraulic splitter, a hammer and bolster, or by sawing. Where it is not possible to cut blocks to fit neatly to an obstruction, the obstruction shall be surrounded with concrete in advance of paving and the blocks cut to fit at the edges of the concrete.

4.7.2 After laying, the blocks shall be subject to compaction by passes of a vibrating-plate compactor which shall have a centrifugal force of approximately 16-20 kN with a frequency of approximately 75-100 Hz and a plate area of between 0.35-0.5 m squared. Sufficient passes shall be made to compact the laying course and produce an even surface. After the initial vibration, dry sand shall be brushed into the joints and further passes of the vibrating-plate compactor made to fill the joints, more sand being spread over the surface if required.

4.7.3 Vibration shall not be carried out within one metre of an unrestrained edge.

4.7.4 Small gaps left at the edges of block paving, including against obstructions with a paved area, shall be filled and compacted in to the full depth of the paving block with a sand-cement mortar.

# Specification (Materials)

1 **Granular Sub-Base Material**

1.1 Type 1 granular material shall be crushed rock, crushed slag, crushed concrete or recycled aggregates and shall comply with BS EN 13285:2003.

1.2 The material passing the 600 um BS sieve shall be non-plastic as defined by BS1377-2:1990 and tested in compliance therewith.

1.3 The material shall be transported, laid, and compacted without drying out or segregation.

1.4 Where recycled coarse aggregate or recycled concrete aggregate is used it shall be classified by hand-sorting the coarse aggregate particles in accordance with BS EN 933-11:2009. Recycled coarse aggregate or recycled concrete aggregate shall also comply with the additional requirements:

| Components<br>Maximum Permitted Content | (Percentage by Mass) |
|---|---|
| Asphalt (Class Ra) | 50 |
| Glass (Class Rs) | 25 |
| Other Materials (eg wood, | |
| Plastic, metal) | 1 |

1.5 All material used with 450 mm of the surface of the road shall be frost resistant as defined by the standard test specified in Road Research Laboratory Report LR90.

DERBYSHIRE
County Council

# To All Persons Planning to Work Within the Highway

## Construction of Vehicular Access and Similar Works within the Highway
## Section 184: Highways Act 1980
## Section 86: New Roads and Street Works Act 1991

Section 184 of the Highways Act allows the Highway Authority (ie Derbyshire County Council) to give permission for works to be undertaken by a person other than the Highway Authority. This permission under Section 184(9) places all the responsibilities of the Highway Authority on the person. This not only means that the works must be insured, maintained in a safe condition and adequately signed and guarded but the contractor must also comply with all the requirements of the New Roads and Street Works Act (NRSWA).

It is the applicant's responsibility to make enquiries of all the Statutory Undertakers to determine the position of their apparatus and determine the need and cost of any diversion/protection works. For small domestic vehicular crossings, it is often not necessary for Statutory Undertakers apparatus, eg electricity, telephone and cable TV, to be diverted or protected but for larger works it may be necessary. Applicants must tell the Statutory Undertakers that they will be working in the highway by virtue of permission given under Section 184(9) of the Highways Act 1980.