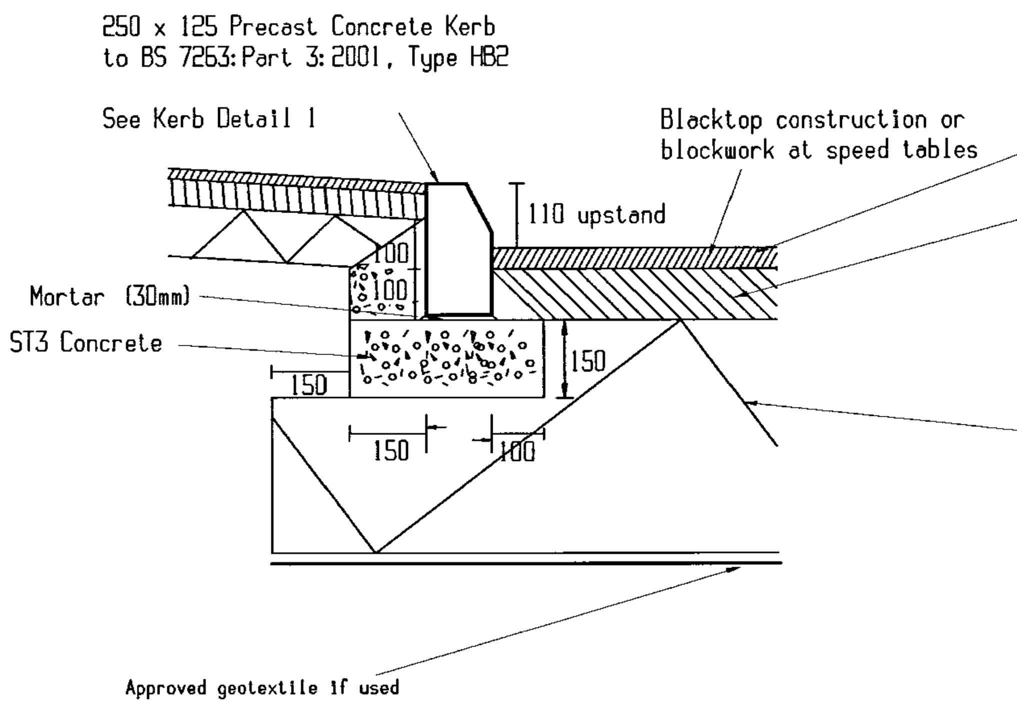


Carriageway and Kerb Detail- up to 5.5m (construction chart 1) (Blacktop Construction)

SURFACE COURSE
For Charts 1 the surface Course shall be 40mm of 0/10mm size close Graded Surface Course to Clause 7.3. It must be compacted in accordance with Clause 7.2 to a void content within the range 2%-10%.
The surface Course must be bonded to the Binder Course.

BINDER COURSE
For carriageways, Binder Course materials shall be 0/20mm size recipe mix Dense Binder Course to Clause 9.1 and shall be laid in a single layer or combination of layers not less than 50mm in thickness nor greater than 110mm in thickness. Compaction must be in accordance with Clause 7.2 to a void content within the range 2%-8% and all layers must be bonded together.

SUB BASE
Sub-base shall conform with clause 8.1 and shall be type 1. A minimum in-situ CBR value of 20% will be required on all roads except for Development Roads intended to serve heavier traffic categories (i.e. loading in excess of 0.25 m.s.a.) Where the in-situ CBR value should be at least 30%. CBR values shall be determined by Plate Bearing Tests in accordance with clause 8.2.

For carriageways and footways, not more than one in ten field dry density determination, as detailed in BS 1377: Part 9, (clause 2.2) shall be less than 90% of the maximum dry density for that particular sub-base as determined by the vibrating hammer test in BS EN 13286-3.

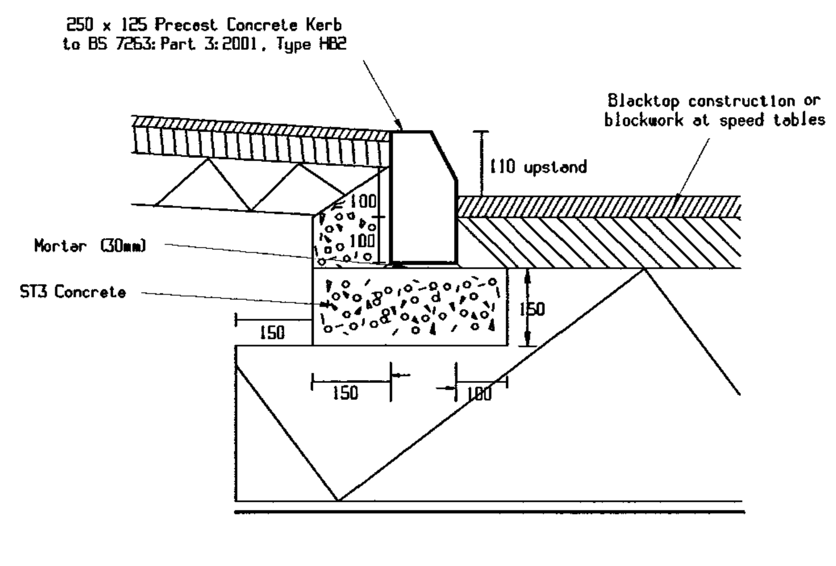
A note 'C.B.R.test results from a U.K.A.S. accredited laboratory & construction depths must be approved by the Highway Authority prior to commencement of any works on site'.

CONSTRUCTION CHART 1 NORMAL FLEXIBLE CONSTRUCTION (For roads up to 0.25 m.s.a.)

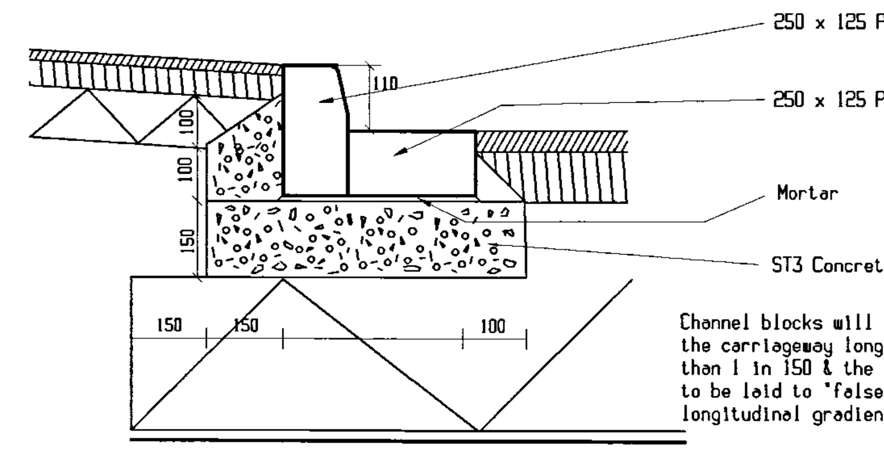
SUB-GRADE	SUB-BASE (mm)		SURFACING (mm)		TOTAL THICKNESS REQUIRED (mm)	
Bearing Capacity (CBR)	Without geosynthetic	With geosynthetic	Bindercourse Note 4&5	Surface Course	Without geosynthetic	With geosynthetic
Below 1.5% & soft spots	Not suitable	710 Note 2&3	110	40	Not suitable	860 Notes 2,3&6
1.5%	Not suitable	440	110	40	Not suitable	590 Note 6
2%	400	340	110	40	550 Note 6	490 Note 6
3%	310	300	110	40	460 Note 6	450 Note 6
4%	300	300 Note 7	110	40	450 Note 6	450 Note 6&7
5%	300	300 Note 7	110	40	450 Note 6	450 Note 6&7
6-15%	300	300 Note 7	110	40	450 Note 6	450 Note 6&7
Above 15%	300	300 Note 7	110	40	450 Note 6	450 Note 6&7

Note 1 See Clause 1.1.6 and 1.1.7
Note 2 See Clause 1.1.6 - Assumes no improvement is possible using either sub-soil drainage or soil strengthening technique. 710mm is 410mm of 6F5 Capping Layer Granular Fill to clause 6.8 and 300mm of Type 1 sub-base. The thickness of 710mm can be reduced to 620mm if all Type 1 sub-base is used
Note 3 For soft spots and sub-grades with a CBR of less than 1.5% the geosynthetic shall be an approved geogrid.
Note 4 May be laid in one layer.
Note 5 Initial Binder Course layer thickness 70mm if the alternative kerbing installation method (two stage construction - kerbing to be laid at a later stage) is used. Total Binder Course thickness becomes 130mm in these circumstances. See Clause 1.1.17.
Note 6 Total thickness to be increased by 20mm above these values if the alternative kerbing installation method is used. See Clause 1.1.17.
Note 7 The use of a geosynthetic with a sub-grade with this bearing capacity offers no advantage or economy.

In absence of CBR values CBR<1/5% to be used

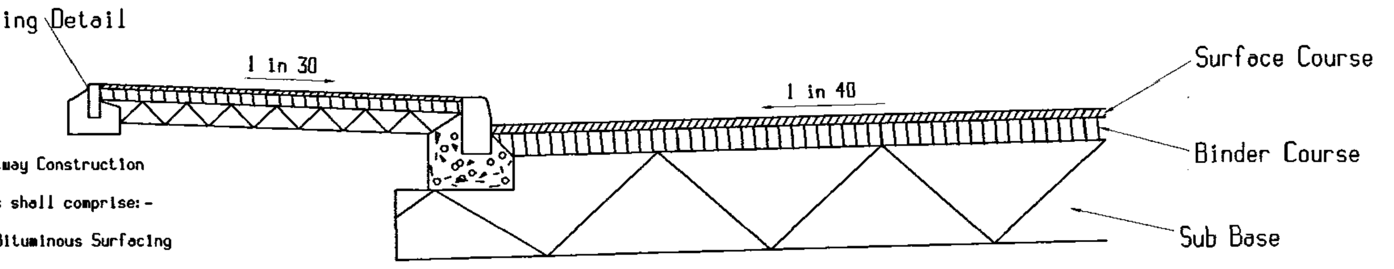


Kerb Detail 1



Channel blocks will be provided where the carriageway longitudinal gradient is less than 1 in 150 & the channel blocks will need to be laid to 'false falls' where the longitudinal gradient is less than 1 in 250

Channel Block Detail (required where gradient < 1 in 150)



Footway Construction

This shall comprise:-

a) Bituminous Surfacing

100mm of Type 1 sub-base to clause 1.2
50mm of 0/20mm size Dense Binder Course to Clause 9.1 compacted to a void content within the range 2%-10%.
25mm of 0/6mm size Dense Surface Course to Clause 9.4 compacted to a void content within the range 2%-10%.

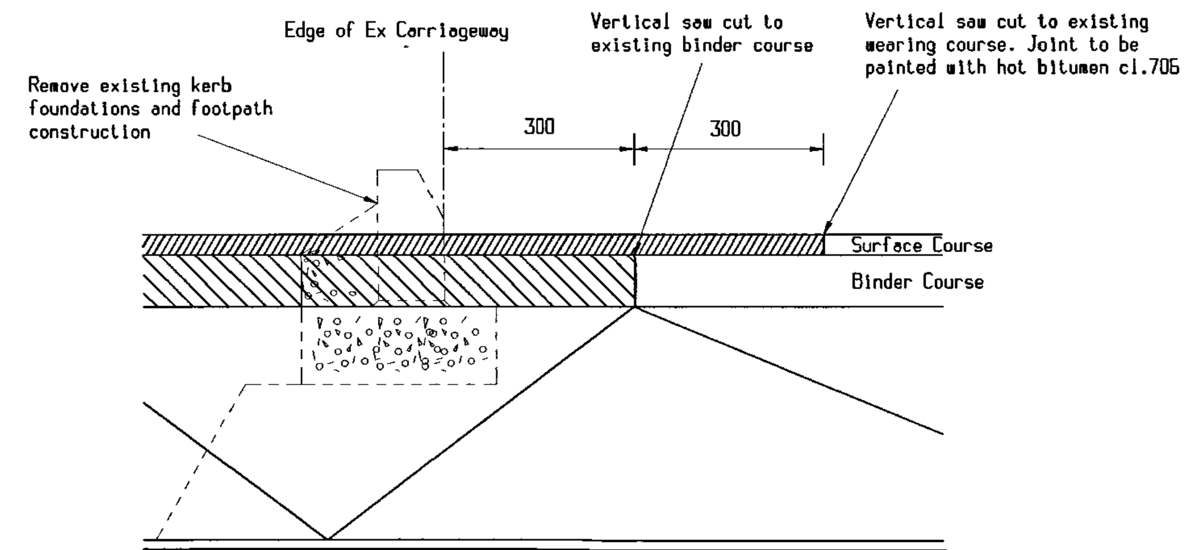
The Surface Course must be bonded to the Binder Course.

b) Block Paved Footways

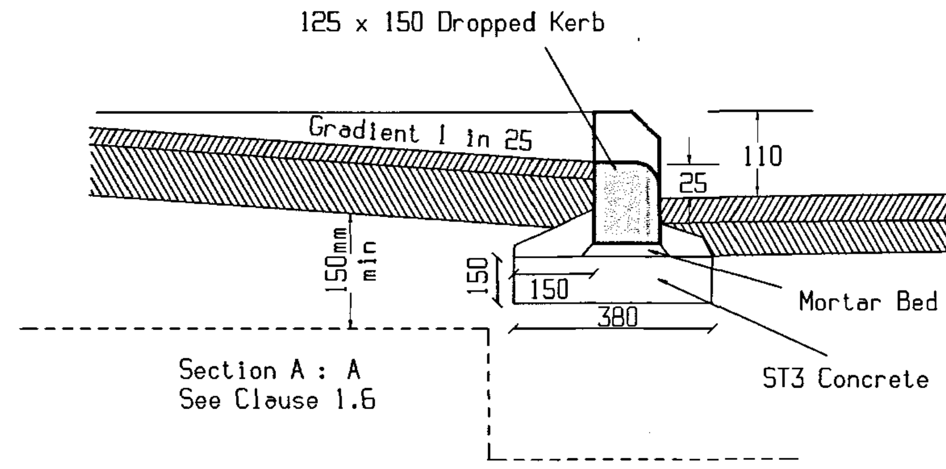
100mm of Type 1 sub-base to Clause 1.2
50mm of Bedding sand to Clause 10.4.
60mm small unit block pavers to Clause 10.2 or 10.3. Jointing sand shall be to Clause 10.4

Block paved footways are only permitted where the adjacent carriageway is constructed with block pavers to chart 3 or Chart 6.

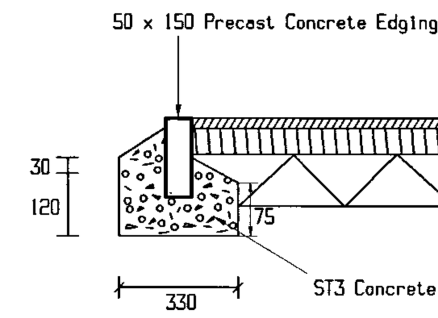
Typical Cross Section



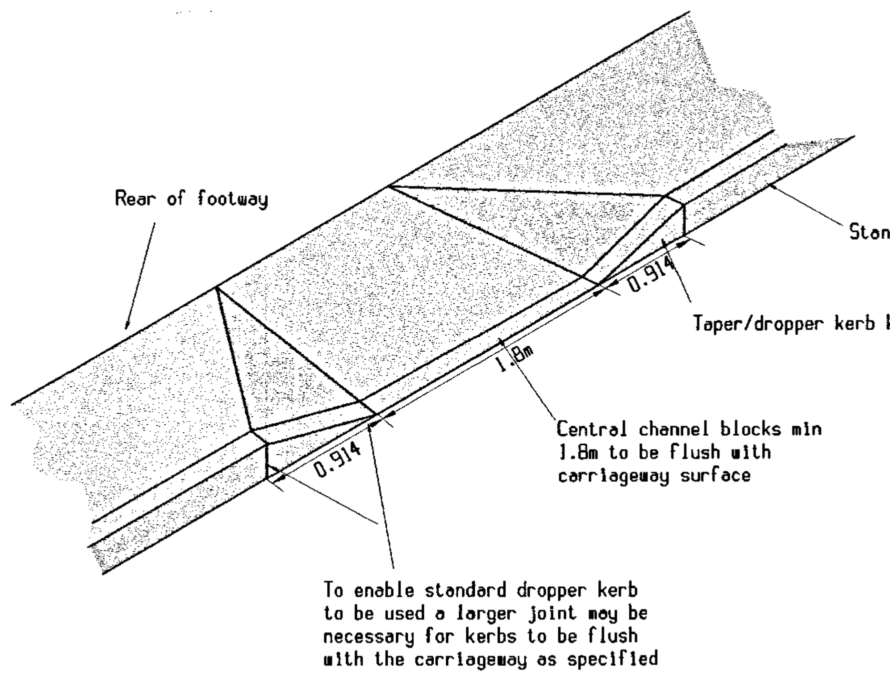
New Construction Adjacent Existing Construction

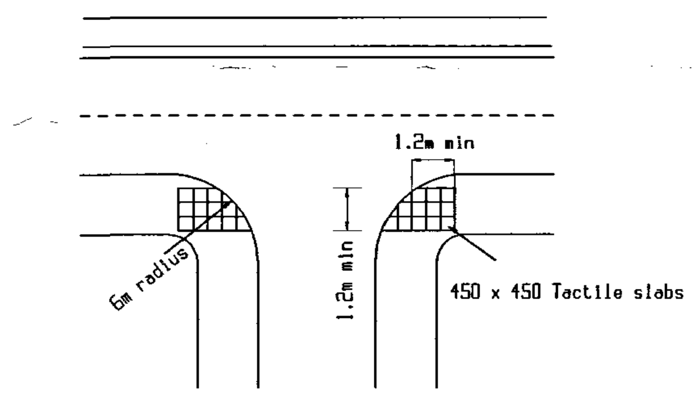


Kerb Detail 2

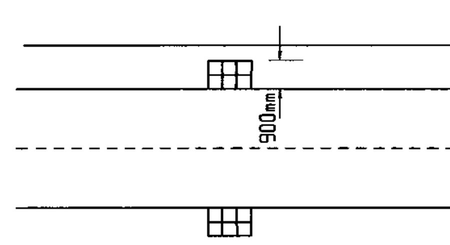


Edging Detail

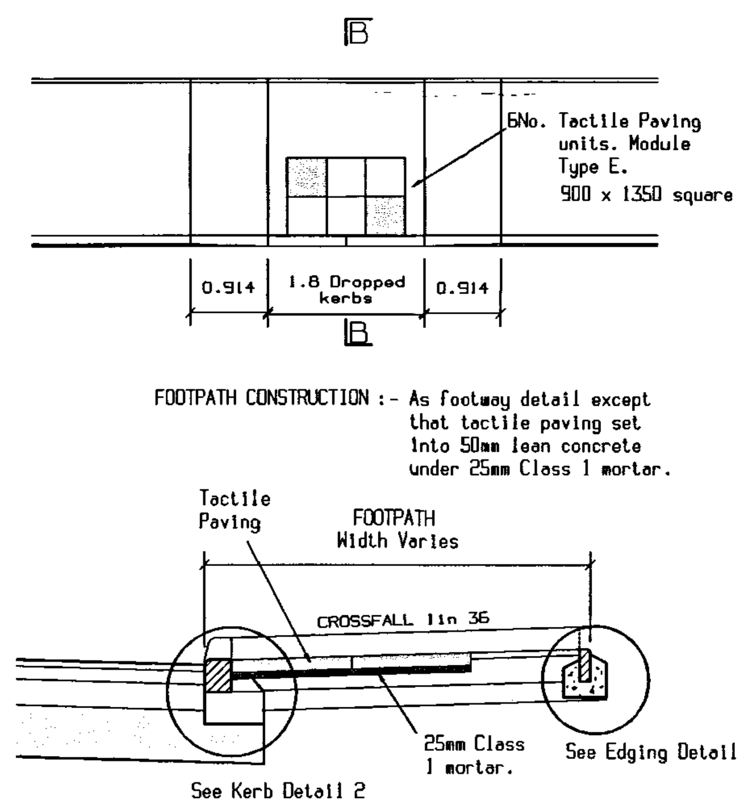




Uncontrolled Crossing At Junction



Uncontrolled Crossing Away from Junction

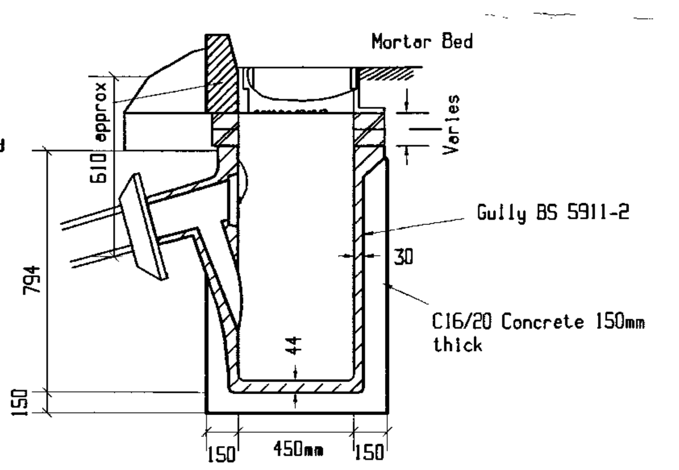


Section B-B

Notes:-

1/ Cover and frame uncoated iron to clause 5.9.4.
2/ Mortar bed and benching to clause 15.
3/ Bricks to be Class B engineering bricks to BS3921 (single course where necessary to obtain satisfactory fall. Corbelled if required. Frames to be bricked on all four sides.
4/ All in Situ concrete to be C16/20 with sulphate resisting cement unless agreed otherwise
5/ Position of outlet pipe varies in plan.
6/ In situ C16/30 concrete 150mm thick Surround to outlet pipe for first one metre under Verge or total length if under carriageway
7/ Where grating is to be trafficked or laid against within 24 hours of frame being placed in posistion, the a suitable Ultra rapid hardening mortar and concrete (Monoset 241 or similar) shall be used to bed cover and frame.

Concrete protection to specification clause 5.13.4 to outlet pipe for first 100mm under verge or total length if under carriageway.

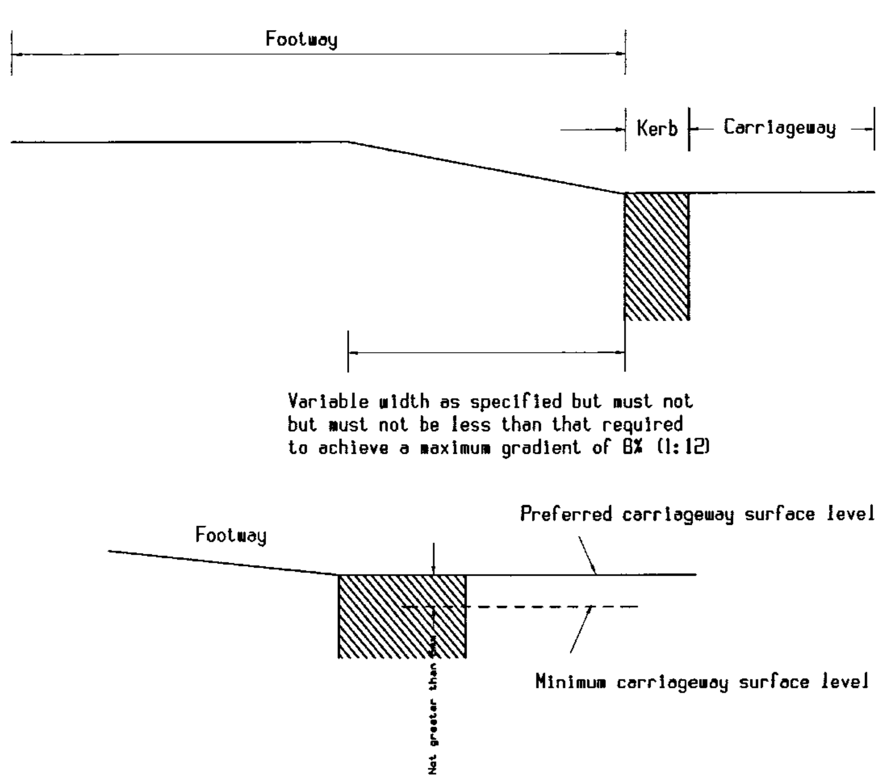


TYPE G5 TRAPPED ROAD GULLEY

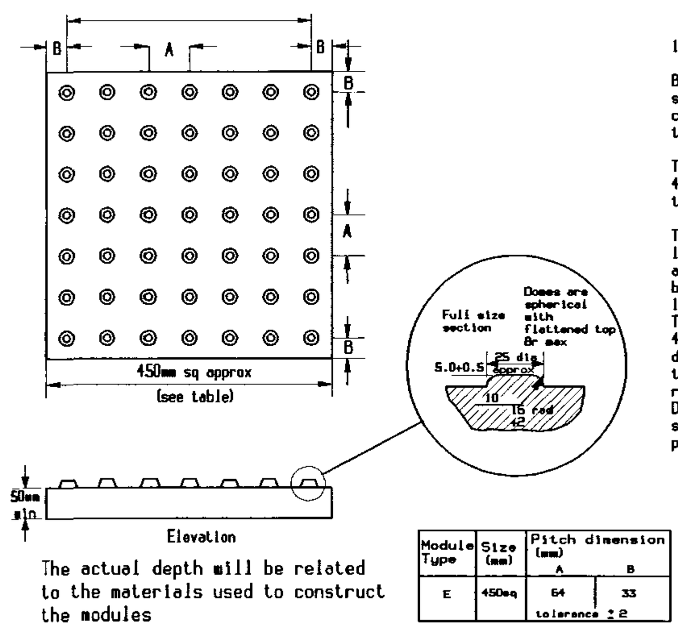
TYPICAL CHANNEL GULLY DETAILS

NOTE FOR ALL WORKS:

The Specification shall be in all respects the County Council's 'Development Road Specification and Construction 2005', published by Lincolnshire County Council.



DROPPED KERB DETAIL PRIOR TO INSTALLATION OF BLISTER SURFACE



1.8 TACTILE PAVING CROSSING FOR PEDESTRIANS

Blister tactile paving crossing points shall be provided at all junctions, crossing at link footways and at kerb to kerb flat top road crossings.

Tactile paving to be 'Dimple' blocks, 450mm x 450mm x 50mm. Surface colour to be buff.

Tactile paving shall be installed in the line of travel, along the full length of a minimum of 1.8m flush dropped channel blocks. Flush kerbs to comprise 152mm x 152mm precast concrete channel blocks. The depth of the paving will be 1.8m or 450mm depending on its location (see drawing to the left). The back edge of the tactile paving surface shall be at right angles to the direction of crossing. Developers shall take care not to locate service boxes (e.g. BT) where tactile paving is required.

The actual depth will be related to the materials used to construct the modules

Module Type	Size (mm)	Pitch dimension (mm) A	B
E	450mm	64	33
		tolerance ± 2	

PRAM CROSSING DETAILS

1.6

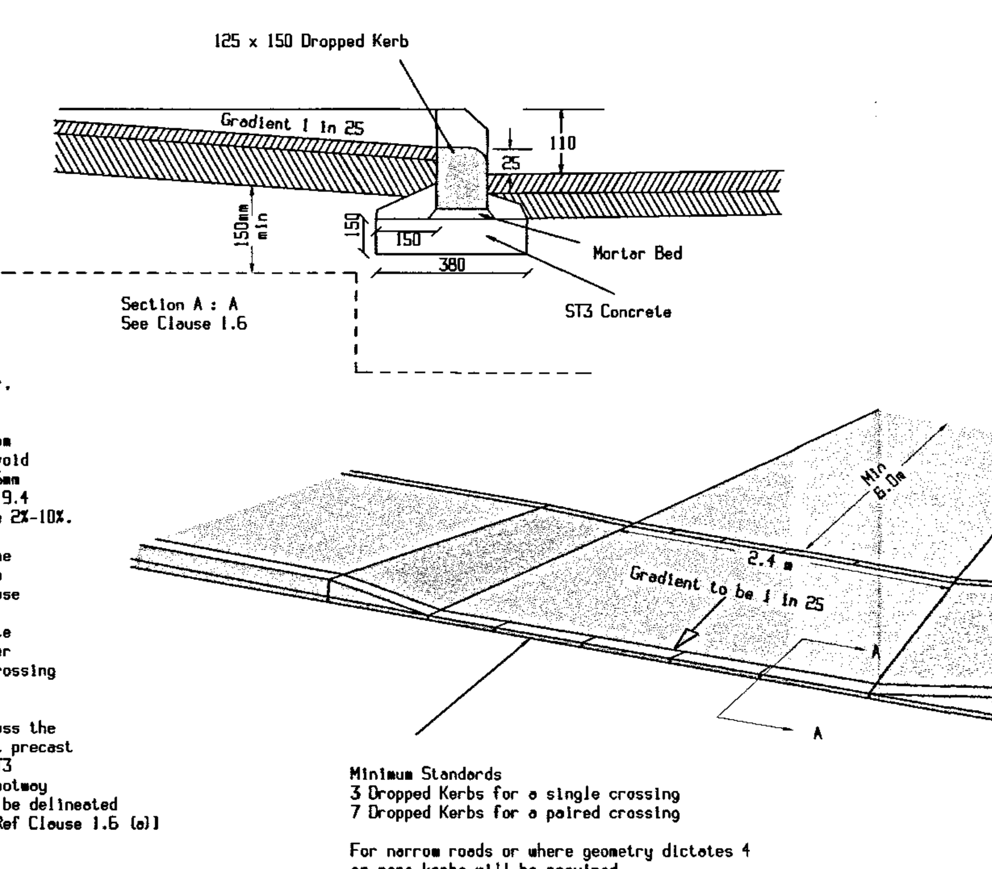
(A) Light Duty (Domestic) crossings.

150mm of Type 1 sub-base to clause 1.2 (NB Where the CBR value of the sub-grade is below 2% an approved geosynthetic layer to clause 6.7 will be required to be placed on the sub-grade). On certain sites the depth of top soil may exceed 275mm. On such sites topsoil containing organic matter, roots etc. shall be removed and

100mm of 0/20mm size recipe mix Dense Macadam Binder Course to Clause 9.1 compacted to a void content within the range 2%-10%. 25mm of 0/6mm size Dense Macadam Surface Course to Clause 9.4 compacted to a void content within the range 2%-10%.

The joint between the access crossing and the carriageway shall be formed with 125 x 150mm precast concrete kerbs on a 150mm x 380mm base of ST3 (15N/mm²) concrete (approx. 1 cement:2 sand:4 aggregate by volume mix). A 125mm x 150mm x 225mm taper kerb will be required on each side of the crossing along the carriageway edge.

The highway boundry shall be delineated across the access crossing with 50mm x 150mm square cut precast concrete edging on a 75mm x 330mm base of ST3 (15N/mm²) concrete, and where there is no footway the edges of the access crossing shall also be delineated with the same edging and base (see Drawing Ref Clause 1.6 (a))



Minimum Standards
3 Dropped Kerbs for a single crossing
7 Dropped Kerbs for a paired crossing

For narrow roads or where geometry dictates 4 or more kerbs will be required.

DOMESTIC VEHICLE CROSSING (REF. CLAUSE 1.6 (A))

DETERMINED PLAN

1035/05

Rev. No.	REVISION	Date	Drawn By	Checked By

Written dimensions to be taken. Do not scale off the drawing.
Any discrepancies, written or scaled, should be brought to the attention of the engineer immediately.
This drawing to be read in conjunction with the relevant Bills of Quantities and Local Authority Specification.
CDM NOTE: The design has been undertaken as far as possible to avoid risks to health and safety or to reduce and control the effects of any unavoidable risks.
All relevant information identifying the unavoidable risks has been passed to the planning supervisor for inclusion in the Health & Safety plan.
The Health & Safety plan will be issued by the planning supervisor with these drawings.

WORMALD, BURROWS PARTNERSHIP
Civil Engineering Consultants
12a & 14a Hitchin Street, Tel 01767 317244
Biggleswade, Beds SG18 8AX, U.K. Fax 315434

Project
Proposed Deveolpment at:
Wygate Park - 9A, Spalding, Lincolnshire

Drawing Description
Standard Road Construction Details

Client
Allison Homes Eastern Ltd
Holland Place
Wardentree Park
Pinchbeck
Spalding
Lincolnshire PE11 3ZN

Drawing Number: E1482/7
Drawn By: GL
Date: 14.4.05
Scale: N.T.S.
Checked By:
Date: