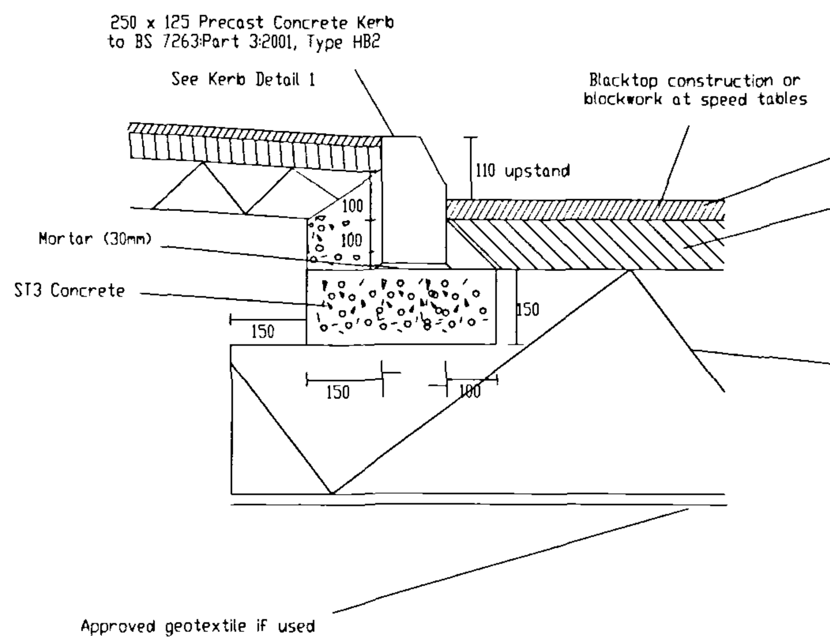


SURFACE COURSE
For Charts 1 the surface Course shall be 40mm of 0/10mm size close Graded Surface Course to Clause 7.3. It must be compacted in accordance with Clause 7.2 to a void content within the range 2%-10%.
The surface Course must be bonded to the Binder Course.

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 1NORMAL 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

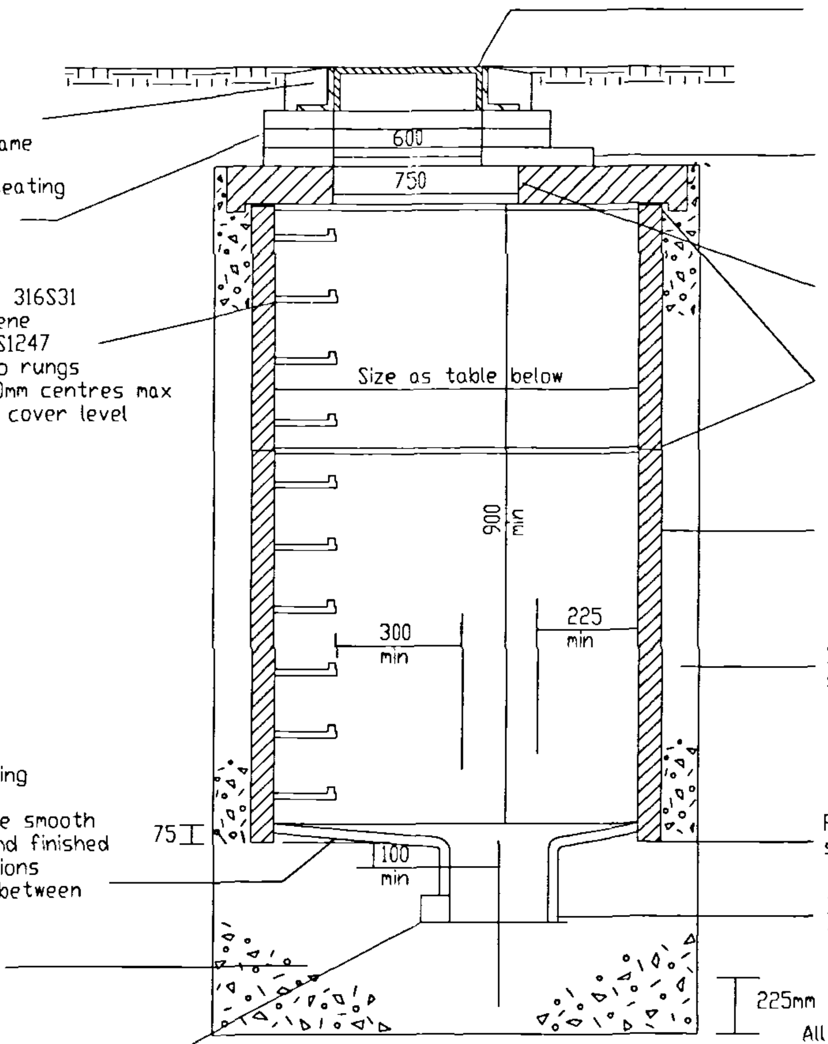
Note 1 See Clause 1.1.6 and 1.1.7
Note 2 See Clause 1.1.6 - Assumes no improvement is possible using either sub-soil drainage or soil strengthening technique. 710mm is 410mm of 6F5 Capping Layer Granular Fill to clause 6.8 and 300mm of Type 1 sub-base. The thickness of 710mm can be reduced to 620mm if 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.

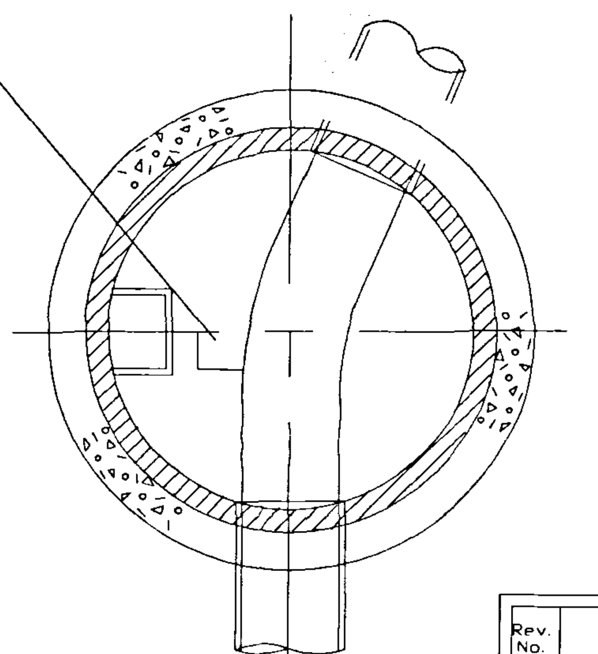
NOTE:
C.B.R.test results from a U.K.A.S. accredited laboratory & construction depths must be approved by the Highway Authority prior to commencement of any works on site.

Refer to preliminary site investigation report prepared by Sidebottom Richardson Cheng Ltd dated March 2005, ref 43104.

TYPICAL MANHOLE DETAIL
TYPE B

(Depth to soffit less than 3m)





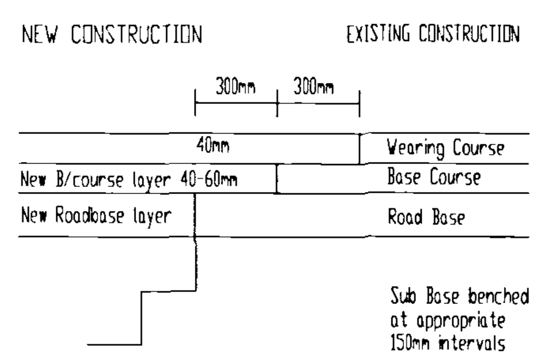
SHAFT DIAMETERS

DIA OF LARGEST PIPE IN MH (mm)	INT. DIA OF MH (mm)
LESS THAN 375	1200
375 TO 450	1350
500 TO 700	1500
750 TO 900	1800

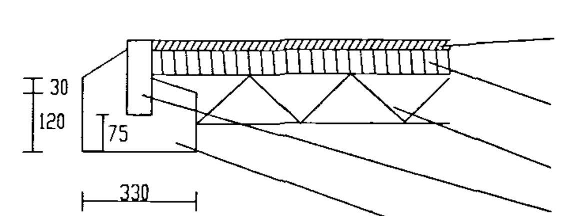
ROCKER PIPES

SEWER DIAMETER (mm)	EFFECTIVE LENGTH (mm)
150 TO 600	600
675 TO 750	1000
825 AND OVER	1250

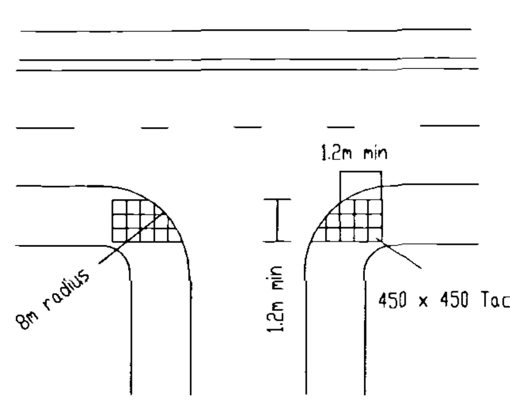
Chambers with outgoing pipes greater than 600mm dia shall be fitted with removable stainless steel (Grade 316) safety chains or polypropylene rope



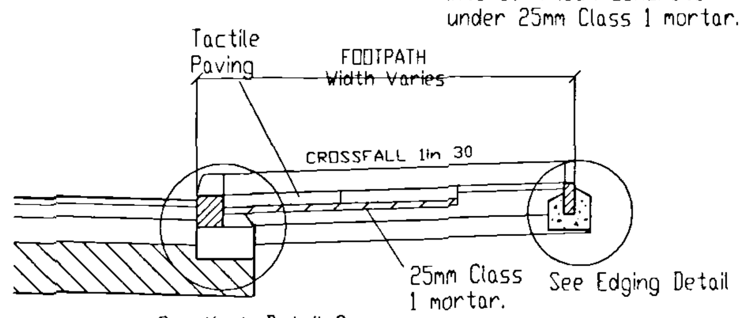
This to be checked on Site by coring and exact tie in detail to be agreed with Lincs CC inspector



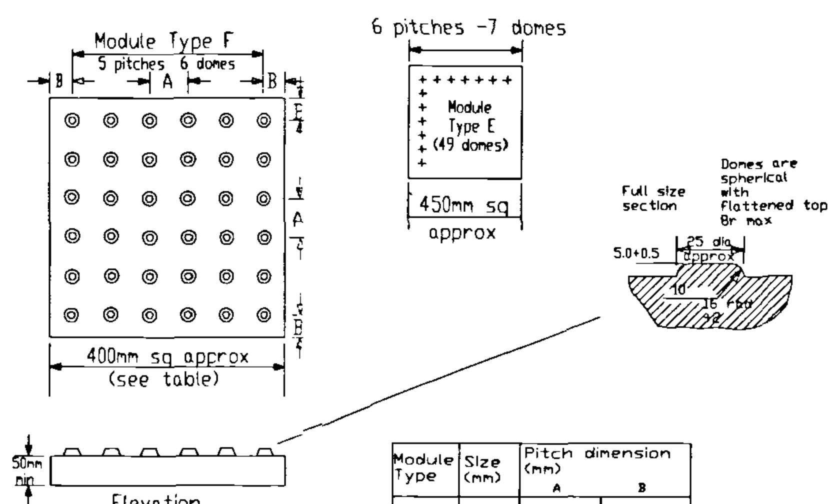
WEARING COURSE-25mm dense bitumen macadam 6mm nominal size to Clause 9.4
BASE COURSE-5[illegible]mm dense bitumen macadam 20mm nominal size to Clause 9.1
SUB BASE-100mm type 1 aggregate to Clause 1.2 to BS 7263 Part 1
50 x 150mm concrete footway edging,type EF to BS 7263 Part 3: 2001
ST3 concrete bed and haunch



FOOTPATH CONSTRUCTION :- As footway detail except that tactile paving set into 50mm lean concrete under 25mm Class 1 mortar.



Tactile Surface Pattern for use at Pram Crossings

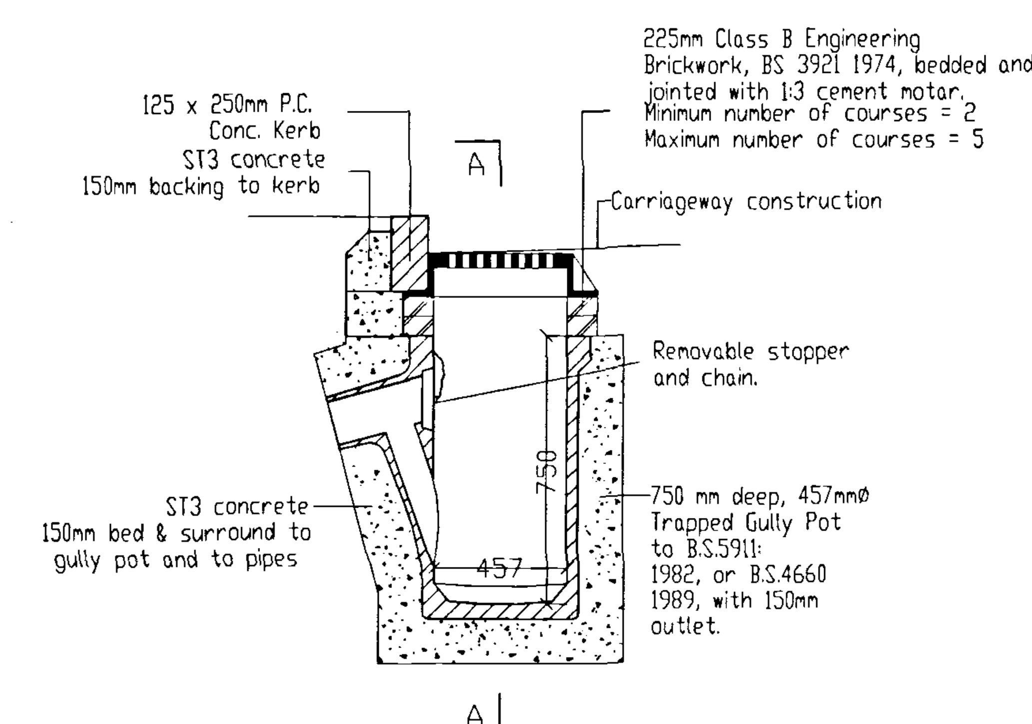


The actual depth will be related to the materials used to construct the modules

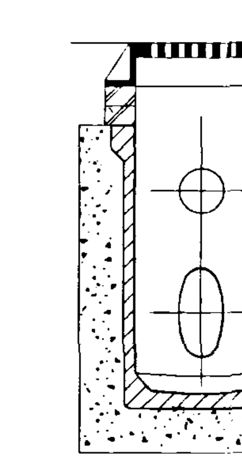
Module Type	Size (mm)	Pitch dimension (mm) A	B
E	450sq	64	33
F	400ss	66.8	33
		tolerance ± 2	

NOTES:

1) Colour Buff.
2) Layout indicative only. Tactile paving shall be set out and laid in accordance with DETR 'Guidance on the use of Tactile Paving Surfaces' November 1998.
3) Paving shall be cut as necessary to kerb radius if required.



?Trapped Channel?
?Gully?



Notes:
1. All gully pots to B.S.5911 or 4660
2. All grates and frames to be to EN 124 CLASS D 400 GROUP 4 DUCTILE IRON 450mm x 450mm opening min. waterway area 900 sq cm. Hinged non removeable

?Section A-A.?

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.

Civil Engineering Consultants
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Biggleswade, Beds SG18 8AX, U.K.
Tel 01767 317244
Fax 315434

Project

SHDC Planning & Development
14 OCT 2005
Ref: 1413/05

Drawing Description

Client
Fieldview Homes Ltd
St Helena Cottage
146 Pinchbeck Road
Spalding
Lincs
PE11 1QN

Architect
10 OCT 2005

Drawing Number
E1723/4

Drawn By TJW
Date 11.4.05

Scale

Checked By AJMB
Date 8.8.05

REGISTERED COMPANY ISO 9001:1994 CERT NO 99 QUALITY MANAGEMENT 022