

**DRAIN TYPE D5
ALL PIPES**

More than 900 cover
Bedding Factor 2.2

**DRAIN TYPE D6
PLASTIC**

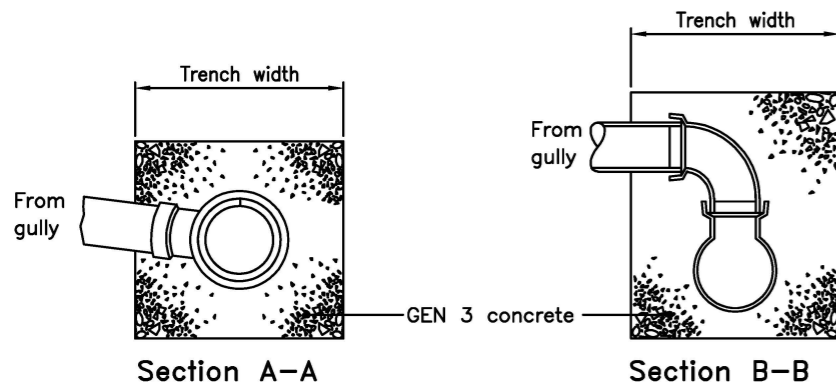
Less than 900 cover

**DRAIN TYPE D7
CONCRETE, CLAY AND
ALTERNATIVE FOR PLASTIC**

Less than 900 cover
Bedding Factor 2.6

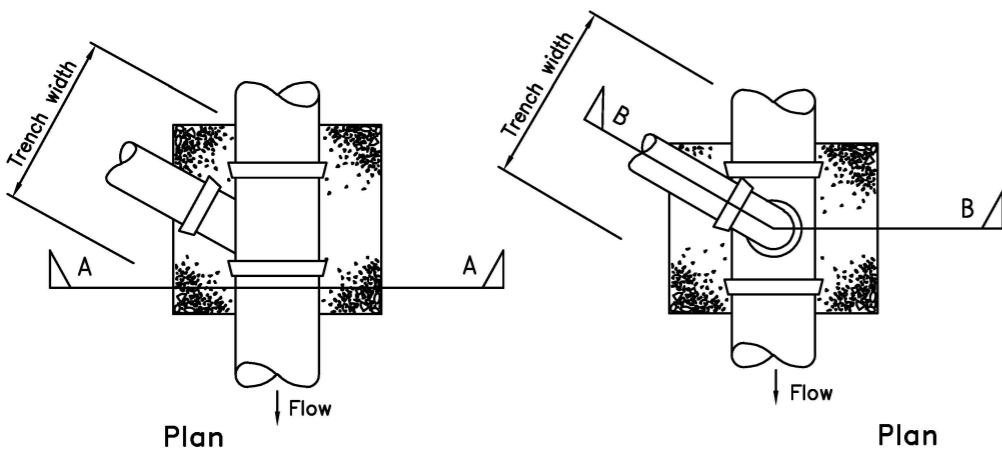
DRAIN TYPE D8

Filter drain
Bedding Factor 2.2



Section A-A

Section B-B



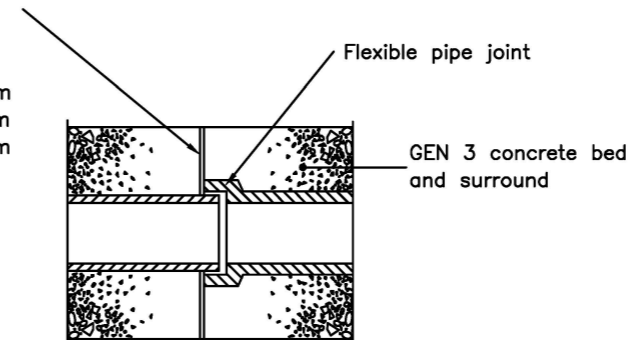
Plan

Plan

GULLY CONNECTION DETAILS

Compressible board or joint filler for full thickness of surround

less than 450	18mm
450 - 1200	36mm
over 1200	54mm



**FLEXIBLE JOINT FOR CONCRETE SURROUND
(Reinforced slab similar)**

Safe supporting strength of pipe $W_s = \frac{W_t F_m}{F_s}$

Where

W_t = Crushing strength - see British Standards

F_m = Bedding Factor

F_s = Factor of Safety = 1.25

Notes

- All dimensions are in millimetres.
 - Water Authorities Association guide Sewers for Adoption and Specification for Highway Works (SHW) applies except where modified by this drawing.
 - Pipes shall be :
Vitrified clay pipes to BS 65 and BS EN 295
Concrete pipes to BS EN 1916
PVCU Structured wall pipe to MCHW Clause 518
SDR (highway drainage) 34 min
SDR (land drainage) 41 min
Concrete to accord with:
BS EN 206-1
BS 8500-1 & 2
BS 8000
 - Minimum cover without concrete protection is 900
Concrete protection to terminate at suitable pipe joint.
 - Flexible joints must be provided in concrete bed and surround or reinforced slab.
- CONCRETE AND CLAY PIPES**
- Determination of pipe and bedding combinations shall be in accordance with DTp advice Note HA 40/01.
 - If maximum trench width is exceeded it may be necessary to increase the strength of the pipe.
- PVCU PIPES**
- PVCU Pipes must be laid in accordance with BS 5955 PART 6.
 - RC 30 concrete slab with BS 4483: 2005 A193 mesh reinforcement (or equivalent) may be used as an alternative to concrete surround. Design to be approved by the Engineer.
- ALL PIPES**
- Pipe and bedding must be adequate for the worst conditions and materials must not be changed between chambers.
 - Minimum pipe diameter to be 225 for carrier drains.
 - Saddle connections may only be used with the approval of the Engineer.
 - Slotted pipes to be laid with slots upwards unless otherwise directed.
 - Filter drain trenches may only be covered by topsoil where approved by the Engineer.
 - Filter material must be separated from surrounding soil by a geotextile filter membrane.
 - Narrow filter drains or fin drains must be used to drain the sub-base where necessary. They must be installed in accordance with the DTp requirements.

C	APR 19	Updated title block	NR
B	Jun 13	Concrete grade revised	KPT
A	Mar 11	Various BS & EN amendments	KPT
Rev	Date		Checked

Do not scale this drawing

Project

STANDARD DRAWINGS

Drawing No.

SD/500/2C

Title

PIPES AND FILTER DRAINS UNDER VERGES

Scale NOT TO SCALE

Date MAY 04



Department of Place,
Planning & Regeneration