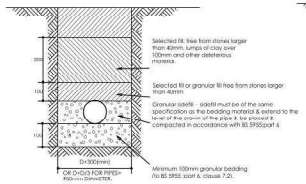
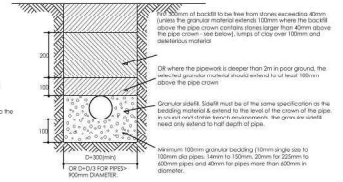


W.C. DIRECT TO DRAIN

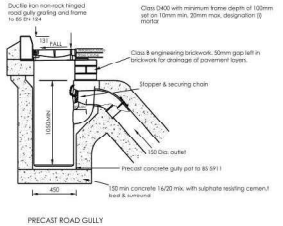
EXTERNAL R.W.P. TO DRAIN



BEDDING DETAIL FOR uPVC PIPES



CLASS B : BEDDING FACTOR 1.9
FOR USE WITH CONCRETE & CLAY PIPES



PRECAST ROAD GULLY

TABLE 11 MIN. DIMENSIONS FOR ACCESS FITTINGS AND INSPECTION CHAMBERS

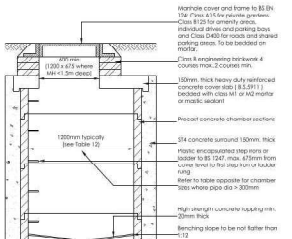
TYPE	DEPTH TO INVERT OR COVER LEVEL (m)	INTERNAL SIZES		COVER SIZES	
		RECTANGULAR LENGTH AND WIDTH	CIRCULAR DIAMETER	RECTANGULAR LENGTH AND WIDTH	CIRCULAR DIAMETER
Rodding eye		As drain but min 100			Same size as pipework (i)
Access fittings small (eg 150x100 large 225x100	0.6 or less, except where situated in a chamber	150x100	150	150x100 (i)	Same size as access fitting
		225x100	225	225x100 (i)	
Inspection Chamber shallow	0.6 or less	225x100	190 (i)	-	190 (i)
Deep	1.2 or less	450x450	450	4in 430x430	430
	>1.2 but <3.0	450x450	450	max 300x300 (i)	Access restricted to max 350 (i)

Notes:
(1) The clear opening may be reduced by 20mm in order to provide proper support for the cover and frame.
(2) Drains upto 150mm.
(3) A larger clear opening may be used in conjunction with a restricted access. The size is restricted for health and safety reasons to deter entry.

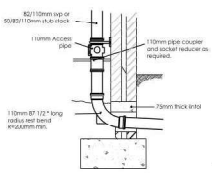
TABLE 12 MINIMUM DIMENSIONS FOR MANHOLES

TYPE	SIZE OF LARGEST PIPE (DN)	MIN. INTERNAL DIMENSIONS (1) RECTANGULAR LENGTH AND WIDTH	CIRCULAR DIAMETER	MIN. CLEAR OPENING SIZE (1) RECTANGULAR LENGTH AND WIDTH	CIRCULAR DIAMETER
MANHOLE <1.5m down to soffit	<= 150	750 x 675 (7)	1000 (7)	750 x 675 (7)	nos (3)
	225	1200 x 675	1200	1200 x 675 (2)	
	300	1200 x 750	1200		
	>300	1800 x (DN+450)	The larger of 1800 or (DN+450)		
>1.5m down to soffit	<= 225	1200 x 1000	1200	600 x 600	600
	300	1200 x 1075	1200		
	375,450	1350 x 1225	1350		
	>450	1800 x (DN+775)	The larger of 1800 or (DN+775)		
MANHOLE SHAFT (4)	Steps (5)	1050 x 800	1050	600 x 600	600
>3.0m deep to soffit of pipe	Ladder (5)	1200 x 800	1200		
	Winch (6)	900 x 800	900	600 x 600	600

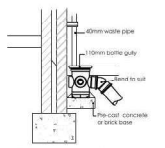
Notes:
(1) Larger sizes may be required for manholes on bends or where there are junctions.
(2) May be reduced to 450 by 600 where required by highway loading considerations, subject to a safe system of work being specified.
(3) Not applicable due to working space needed.
(4) Minimum dimension of cut number in shaft of not more than 2m from bend/leg to underside of retaining slab.
(5) Min clear space between ladder or steps and the opposite face of the shaft should be approximately 900mm.
(6) Winch only - no steps of ladders, permanent or semi-rotary.
(7) The minimum size of any manhole serving a sewer (i.e. any drain serving more than one property) should be 1200mm x 675mm on longitudinal or 1200mm diameter.
(8) All drainage products to be to be approved by the Client
(9) All private drainage works to be constructed in accordance with the latest edition of the Building Regulations Part H (Drainage & Waste Disposal) and to BS EN752 (Building Drainage).
(10) All pipes running through walls to have at least 50mm clearance all round and the opening masked with rigid sheet material.



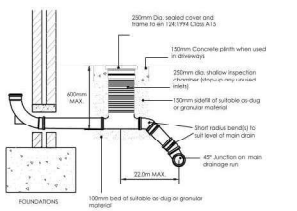
TYPICAL PRECAST CONCRETE MANHOLE DETAIL



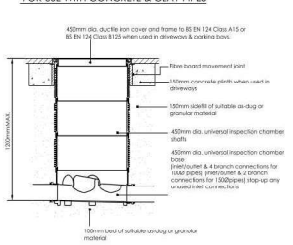
SOIL AND VENT PIPE CONNECTION
AND STUB STACK CONNECTION



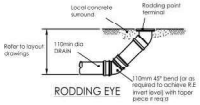
EXTERNAL WASTE PIPE TO BACK INLET GULLY



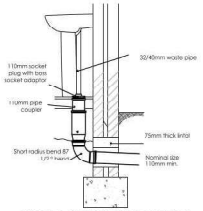
SHALLOW INSPECTION CHAMBER
For use in soft areas & driveways only



1.2m MAX. UNIVERSAL INSPECTION CHAMBER
for use in soft areas, driveways and parking bays only



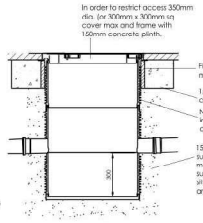
RODDING EYE



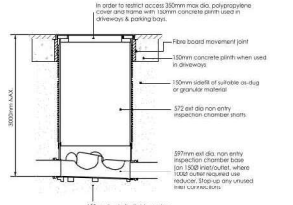
INTERNAL WASTE PIPE CONNECTION



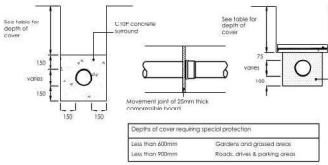
'ACO' DRAINAGE DETAIL



Catchpit

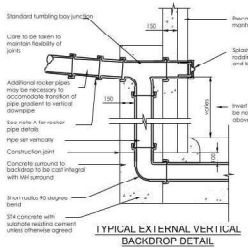


1.2m - 3.0m DEEP NON ENTRY INSPECTION CHAMBER
for use in soft areas, driveways and parking bays only

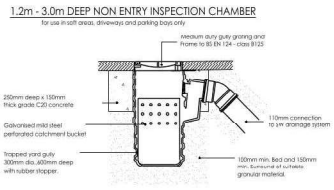


Depths of cover requiring special protection	
Less than 600mm	Gardens and grassed areas
Less than 900mm	Roads, drives & parking areas

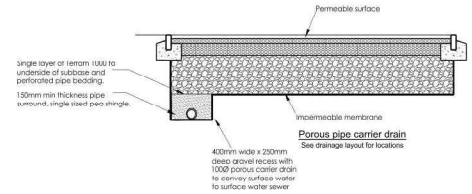
SPECIAL PROTECTION-GROUND LOADS (H1, DIAG's 11 & 12)

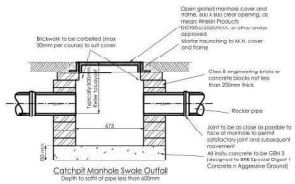


TYPICAL EXTERNAL VERTICAL
BACKDROP DETAIL

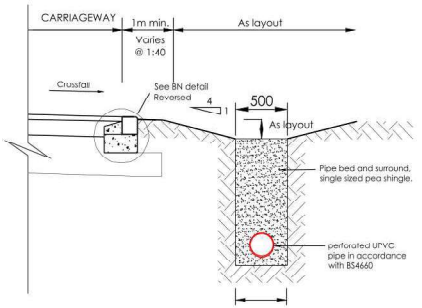


TRAPPED YARD GULLY
WHERE NOTE 'YG' ON LAYOUTS
(Prior to yard gully it is similar to 100m2 min drainage area)





Catchpit Manhole Swale Outfall
Depth to soffit of pipe less than 600mm



Components in accordance with the following standards will generally be acceptable:
BS 65 'Specification for vitrified clay pipes, fittings and ducts, also flexible mechanical joints for use solely with surface water pipes and fittings'.
BS 437 'Specification for cast iron drain pipes, fittings and their joints for sockelled and socketless systems'.
BS 4660 'Thermoplastics ancillary fittings of nominal sizes 110 and 160 for below ground gravity drainage and sewerage'.
BS 4962 'Specification for plastics pipes and fittings for use as subsoil field drains'.
BS 5911 'Precast concrete pipes, fittings and ancillary products'.
BS EN 124 'Gully tops and manhole tops for vehicular and pedestrian areas'.
BS EN 295 'Vitrified clay pipe systems for drains and sewers'.
BS EN 588 'Fibre cement pipes for sewers and drains'.
BS EN 877 'Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings.
Requirements, test methods and quality assurance'.
BS EN 1401 1 'Plastics piping systems for non-pressure underground drainage and sewerage - Unplasticised poly (vinyl chloride) (PVC-U)'.
BS EN 1916 'Concrete pipes and fittings, unreinforced, steel fibre and reinforced'.
BS EN 13101 'Steps for underground man entry chambers. Requirements, marking, testing and evaluation of conformity'.
BS EN 13598-1 'Plastics piping systems for non-pressure underground drainage and sewerage. Unplasticised poly (vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE). Specifications for ancillary fittings including shallow inspection chambers'.
BS EN 13242 Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction

Bellway Homes Limited (Eastern Counties)
3 Percy Road
Huntingdon
Cambridgeshire
PE29 6SZ

REV	DESCRIPTION	DATE

STATUS:

SCALE : NTS
DATE : May 2021
DRAWN : IDL

TITLE :
Private Drainage Details

PROJECT :
Wardentree Lane, Pinchbeck

DRG. No: 1044-07-05

INFRASTRUCTURE DESIGN LIMITED
33 The Point
Market Harborough
Leicestershire LE16 7QU
Tel: 01858 411570 Fax: 01858 411571