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Elliptical Pipes

Elliptical pipes are used for foul and surface water drainage applications, stream diversions, culverting and attenuation storage tanks.

The pipe's elliptical internal profile is hydraulically efficient and the external polygonal profile is structurally efficient. Together they provide a unique and highly cost-effective reinforced concrete drainage product.

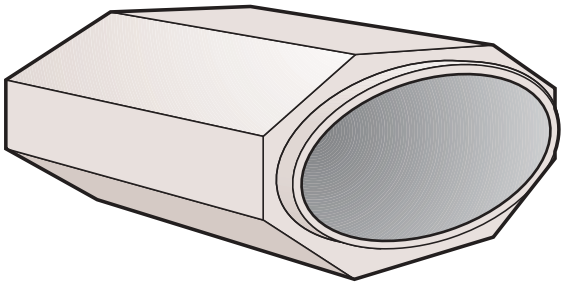
This system offers significant advantages over others, particularly box culverts, by providing superior hydraulic performance and a fully watertight elastomeric captive gasket joint. In addition, most sizes of standard pipes are held as stock items, helping to minimise delivery and installation times.

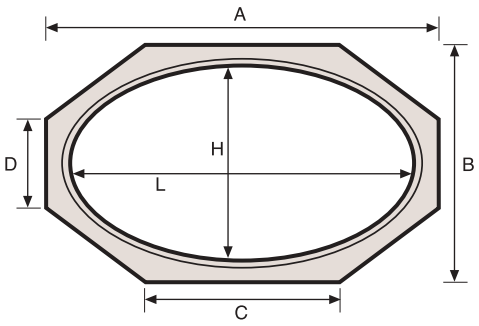
Specifier Benefits

- Where pipes are laid in either the vertical or horizontal plane, the elliptical profile permits self cleansing velocities at low flow rates. Consequently the risk of siltation is reduced compared to the equivalent box culvert.
- Improved flow rates mean pipes can be laid at shallower gradients thereby reducing trench excavation costs.
- In situ secondary inverting is not required for dry weather flows.
- Where ground levels and invert levels only permit minimal cover, pipes can be laid in the horizontal plane and still provide an excellent hydraulic capacity.
- Compaction is required only to prevent surface settlement, therefore special backfill materials are rarely required.
- Pipes can be designed to withstand full HA & HB45 wheel loadings.
- Where loadings permit, minimum cover depths of 200mm may be accommodated.

Contractor Benefits

- Pipes have a high performance elastomeric captive gasket for quick easy jointing and a fully watertight joint.
- Pipes are 2.4m long, therefore fewer joints are required than with box culverts.
- Installation costs are further reduced since joints do not require priming or sealing with a separate sealing compound.
- An in-wall joint and flat polygonal sides enable pipes to be laid on a flat bed without socket holes.
- Optional cast in lifting anchors enable safe and rapid handling.





Elliptical Pipes Data

Internal Dimensions 'L x H'	External Dimensions 'A x B'	End Face Lengths		Effective Length	Approx Product Weight
		'C'	'D'		
mm	mm	mm	mm	m	kg
1000 x 650	1250 x 900	520	370	2.40	2600
1150 x 750	1400 x 1000	600	430	2.40	3000
1650 x 1000	1930 x 1280	850	500	2.40	4600
1950 x 1150	2270 x 1470	1020	570	2.40	6300
2350 x 1350	2710 x 1710	1230	670	2.40	8600
2650 x 1500	3050 x 1900	1450	740	2.40	10800

All dimensions and weights are approximate, customers should ensure that lifting equipment has sufficient capacity to allow for variations.

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Elliptical Pipes

Fittings

A range of elliptical fittings can be manufactured to order including junctions, precast manhole access shafts, end walls and chambers.

Quality & Specification

Elliptical pipes are manufactured using modern computerised concrete batching equipment to achieve consistently high quality products with sharply defined joint profiles.

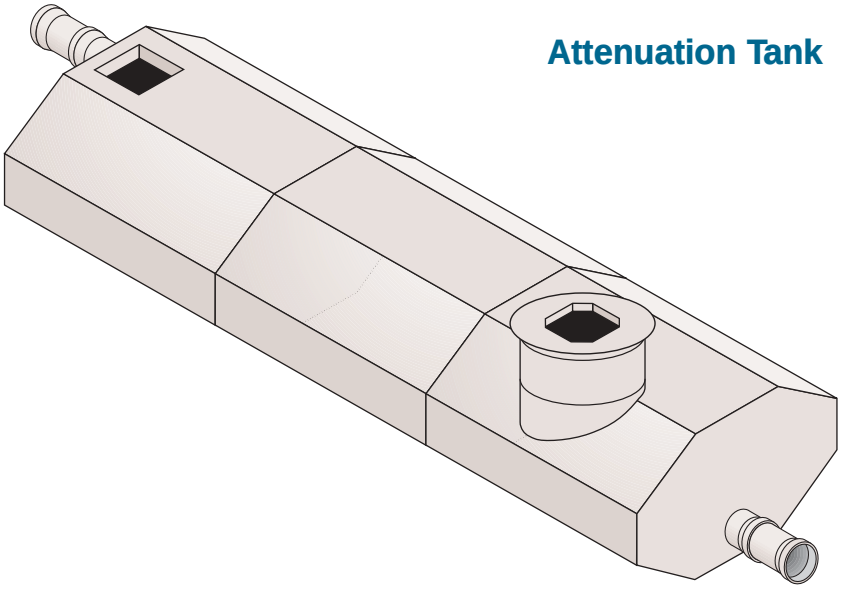
Elliptical pipes are supplied under a Quality System complying with BS ISO 9002 and the relevant parts of BS 5911 : Part 100 Precast concrete pipes, fittings and ancillary products.

Scheme Design

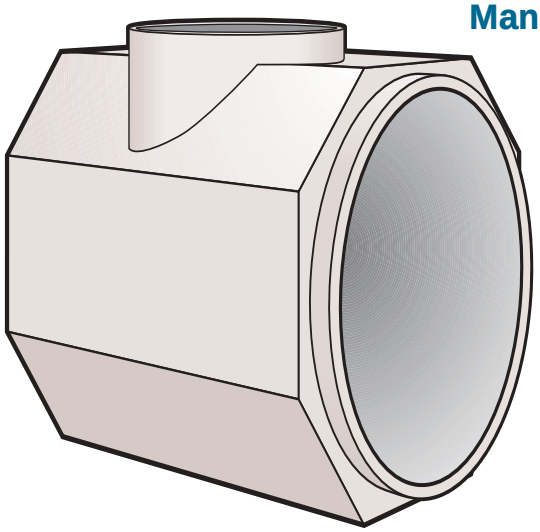
Stanton Bonna offer advice at all stages of scheme design and installation. When specifying and installing elliptical pipes please refer to the current version of Product Data Sheets:

- PD 25 – Hydraulic design charts for elliptical pipes.
- PD 26 – Structural design table for elliptical pipes.
- PD 28 – Specification for the manufacture of elliptical pipes.
- PD 29 – Installation of elliptical pipes.

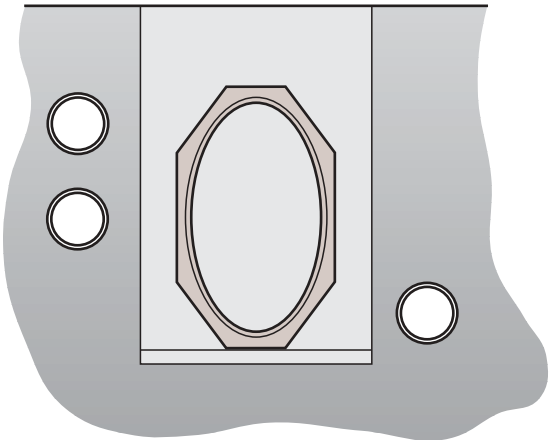
Attenuation Tank



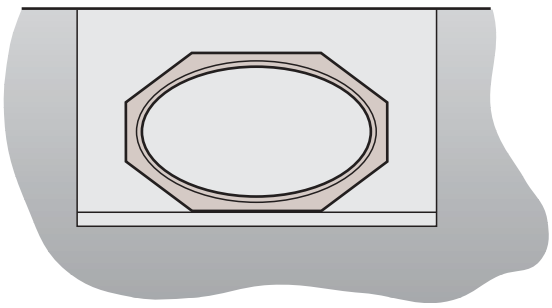
Manhole Access



Narrow Trench



Minimal Cover



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