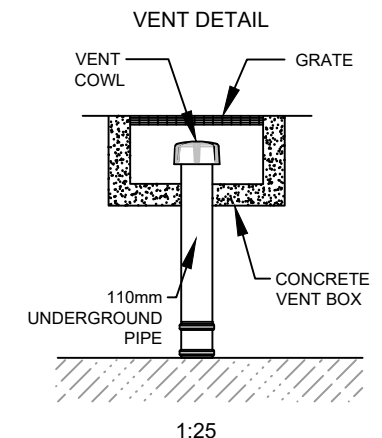
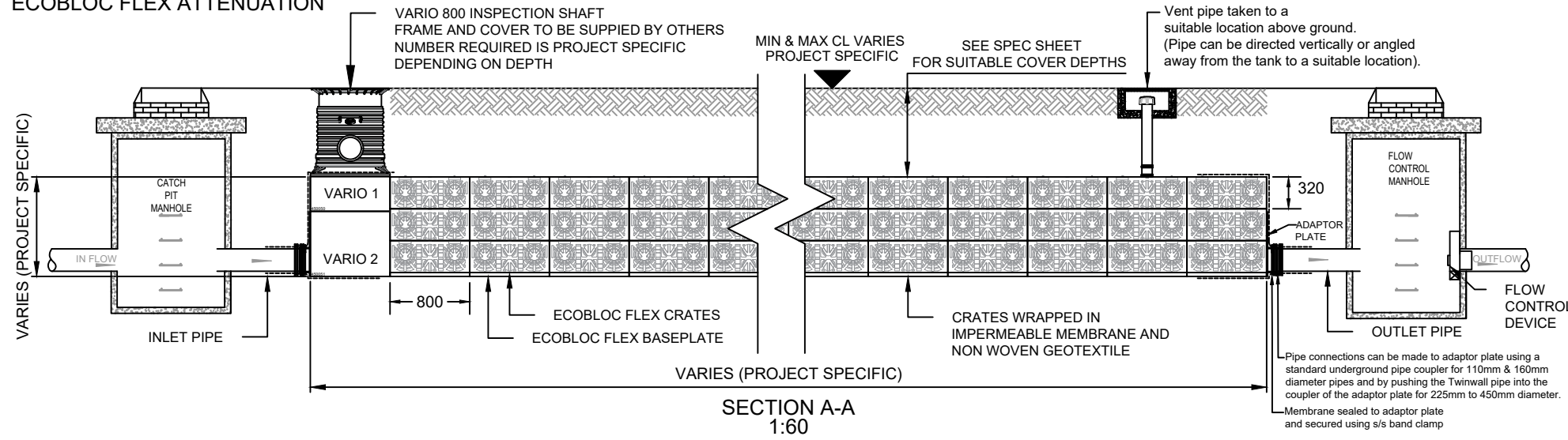


ECOBLOC FLEX ATTENUATION



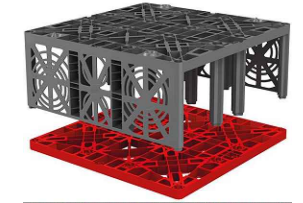
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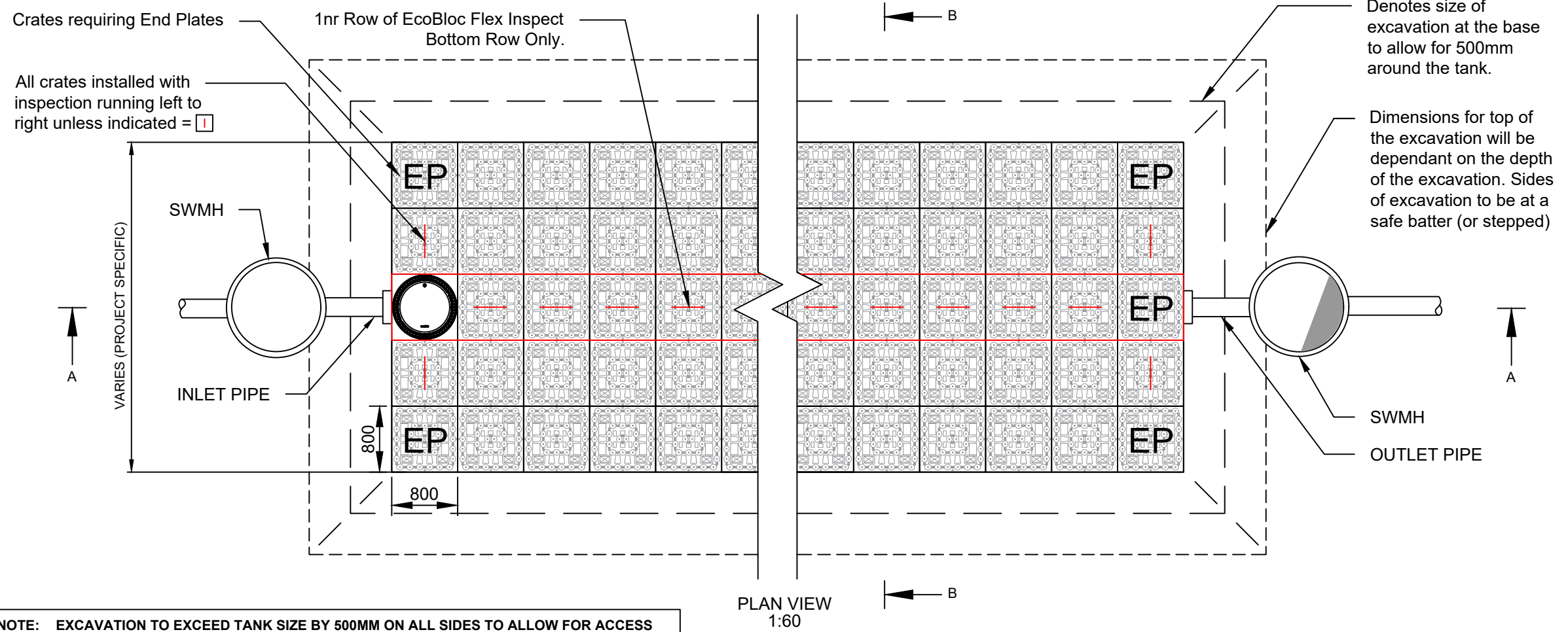
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ECOBLOC FLEX

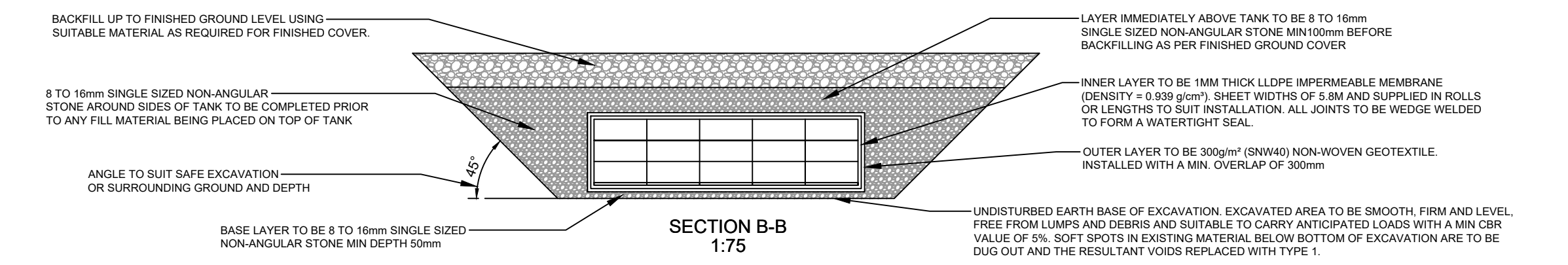


	Crate	Baseplate
Dimensions (mm)	800 x 800 x 320	800 x 800 x 40
Gross Volume (m3)	0.205m ³	0.025m ³
Net Volume (m3)	0.199m ³	0.020m ³
Material	Polypropylene	Polypropylene
Weight	8kg	4kg
Void Ratio	>96% depending on number of layers	
Inspectable	Yes	
*UCS Vertical	340 kN/m ²	
*UCS Lateral	82 kN/m ²	

*Ultimate Compression Strength



NOTE: EXCAVATION TO EXCEED TANK SIZE BY 500MM ON ALL SIDES TO ALLOW FOR ACCESS



P3	UPDATED NOTES	AP	21.09.22
P2	LATEST REVISION	AP	05.03.21
REV.	DESCRIPTION	BY	DATE

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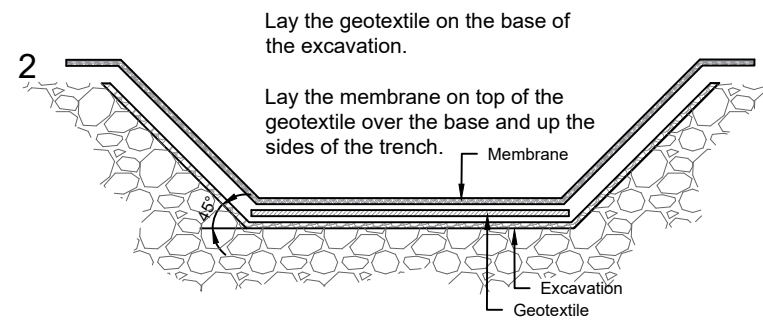
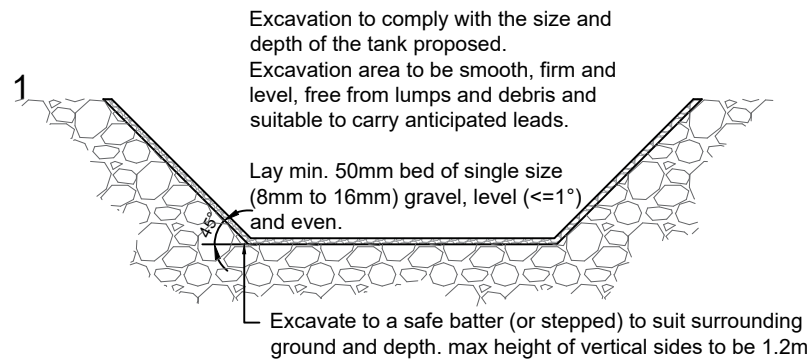
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DRAWN :	DB	DATE :	01.01.19
CHECKED :	MC	SCALE :	VARIOUS@A3

PROJECT
GRAF STANDARD DETAILS

DESCRIPTION
ATTENUATION TANK using GRAF ECOBLOC FLEX

DRAWING No.	STANDARD_DETAIL_FLEX_WITH_VARIO_SHAFT	REV.	P3 (Pg.1)
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Geomembrane:
1mm Thick LLDPE Geomembrane with a density of at least 0.939g/cm³

Geotextile:
300g/m² Non-woven, needle punched geotextile

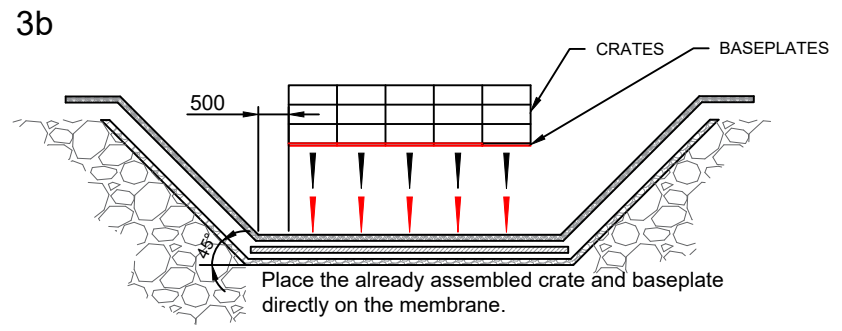
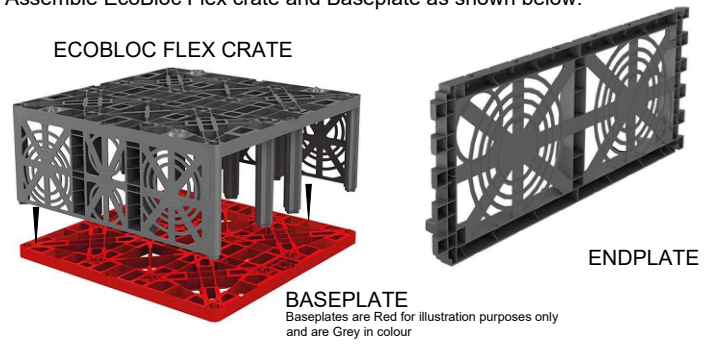
Geomembranes and Geotextiles with characteristics less than those specified are unlikely to be suitable and are therefore not recommended for use with Graf UK systems for this application

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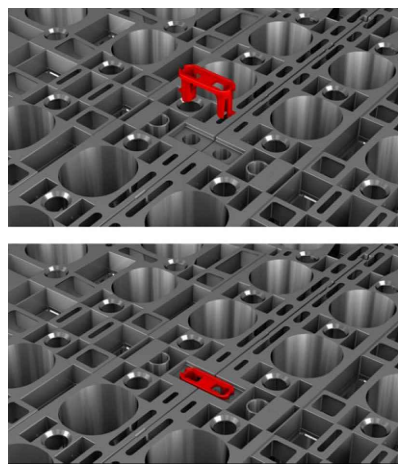
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3a Assemble EcoBloc Flex crate and Baseplate as shown below.



- INSTALLATION METHOD:-**
- Excavate the trench with a safe batter (or stepped) ensuring the footprint allows for sufficient space between tank and the sides. (minimum 500mm around all sides of the tank).
 - Mark out the position of the tank including inlets and outlets.
 - Lay min. 50mm of single sized non angular stone (8 to 16mm) as a base for the tank. This can be laid to a maximum fall of 1°.
 - Lay the Geotextile over the base the excavation, overlapping any joins by a minimum of 300mm
 - Lay the Membrane on top of the Geotextile over the base and up the sides of the trench.
 - Membrane must be joined by thermal fusion heated wedge welding. It is recommended that the Dual Seam method is used as this generates an unwelded channel which can be pressured with air to check the integrity of the weld.
 - The membrane and geotextile used must meet the specification stated on the drawing.
 - Assemble EcoBloc Flex Crate and Baseplate, position leg ends into corresponding holes in the Baseplate. The crate will only fit in the correct orientation. Push down firmly to ensure Crate is located correctly. Assemble the row of EcoBloc Flex Crate with baseplates where inspection run is required. If a Vario shaft is to be included within the tank make sure the Vario Shaft base is in position located (Vario Shaft bases do not not require a crate baseplates).
 - Install already assembled Crates and Baseplates onto the membrane until the first layer is complete. Insert retaining clips into each adjacent Crate.
 - Check and make sure the Row of EcoBloc Flex Crates are in the correct located position where inspection run is required.
 - To install the next layer of Crates remove from the stack and turn 90° and position directly above the Crate below. Push down firmly to ensure Crate is located correctly.
 - Continue until all Crates have been installed, ensuring clips are used to secure each Crate.
 - Fit Endplates to the sides of each Crate by positioning the bottom in place then pushing firmly on the top section to locate into place.
 - Fix adaptor plates to the sides of the crates in the required position for the inlet and outlet pipes.
 - Cut a hole in the Membrane and pull up over the adaptor plate sealing the membrane around the spigot of the adaptor plate.
 - Pull Membrane up around the sides and fully wrap the crates, securing the lid in place by heated wedge welding to the side panels.
 - Cover top and sides with the Geotextile covering the entire tank to protect the Membrane.
 - Install vent pipe connection into the top of the tank at a suitable location.
 - Backfill around the tank and for 100mm above with non-angular stone. Backfill to finished ground level with suitable material in layers.
 - Connect inlet/outlet pipes using appropriate bandseals.
 - In order to prevent silt from entering the tank it is recommended that silt traps or catchpit manholes are installed upstream of any inlet. These should be regularly maintained to avoid the buildup of any silt.

Remove a crate from the stack and place on top of the previously placed crate ensuring the connector clips are clipped locking the crates together.



Connector clips are Red for illustration purposes only and are Grey in colour

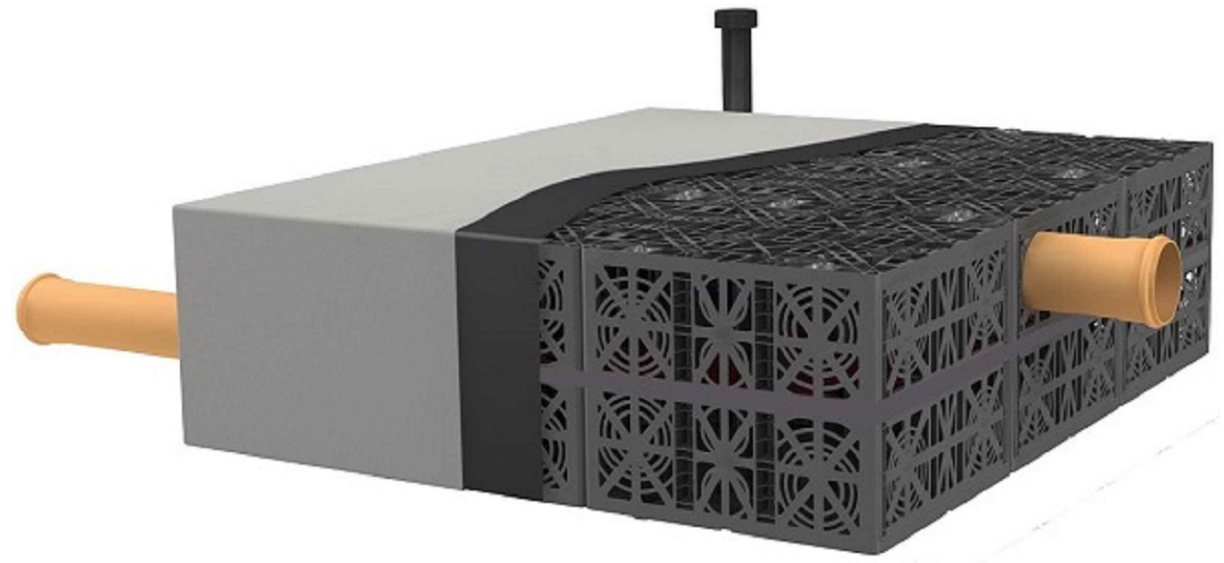


Attenuation Tank with Vario Shaft



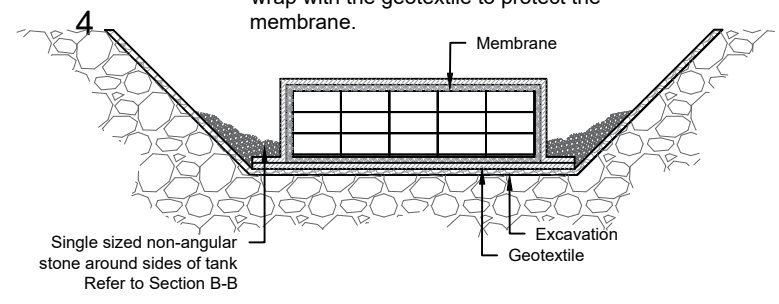
N.B. Installation method may vary depending on depth of the tank and is project specific. For more information or technical questions please contact our Technical Department at Graf UK.

P3	UPDATED NOTES	AP	21.09.22
P2	LATEST REVISION	AP	05.03.21
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Endplates are then clipped to the tank where required.

Wrap the crates with the geomembrane ensuring it is heat welded/sealed then wrap with the geotextile to protect the membrane.



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PROJECT
GRAF STANDARD DETAILS

DESCRIPTION
ATTENUATION TANK using GRAF ECOBLOC FLEX

DRAWING No. **STANDARD DETAIL.FLEX** REV. **P3**
(Pg.2)

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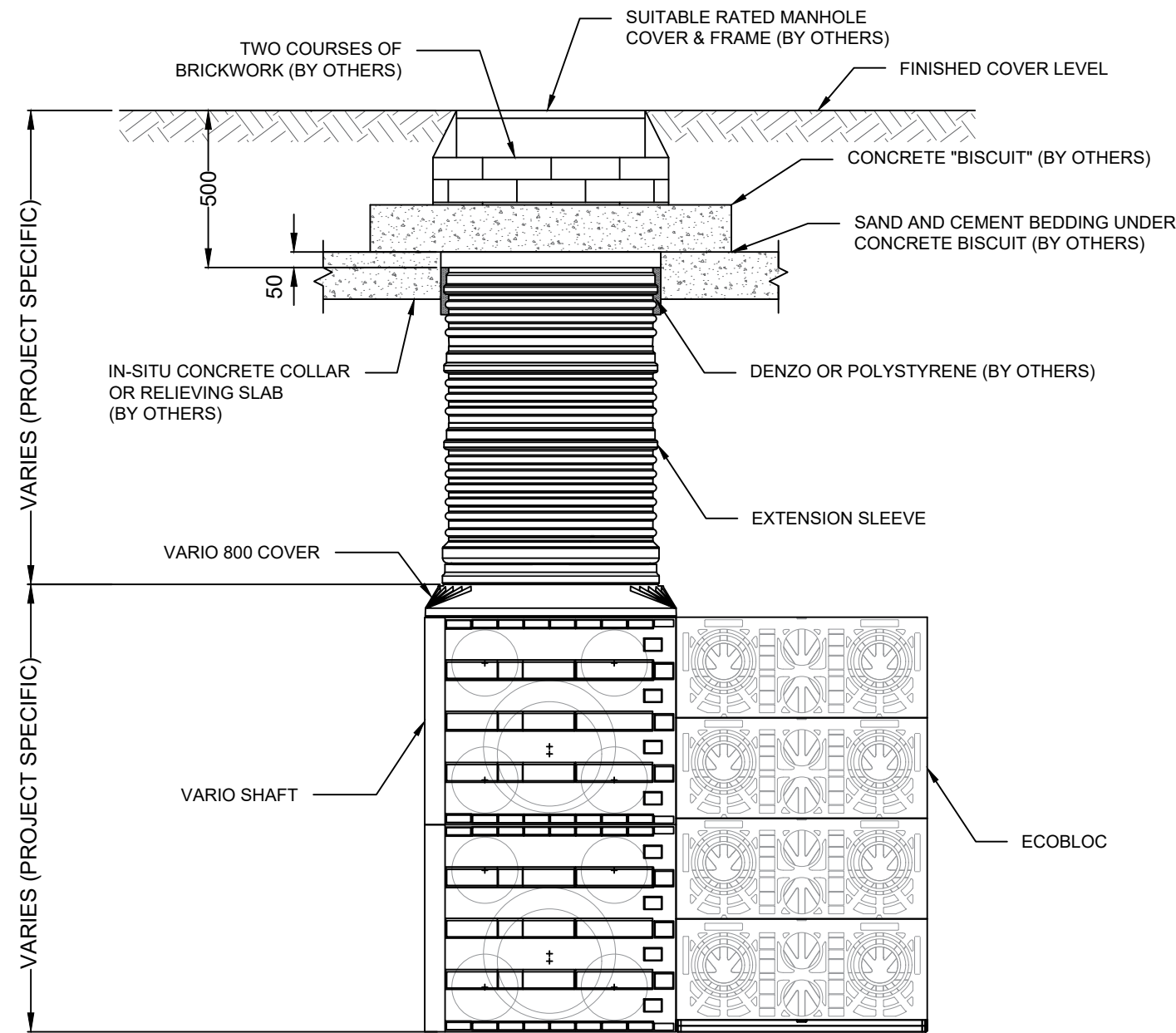
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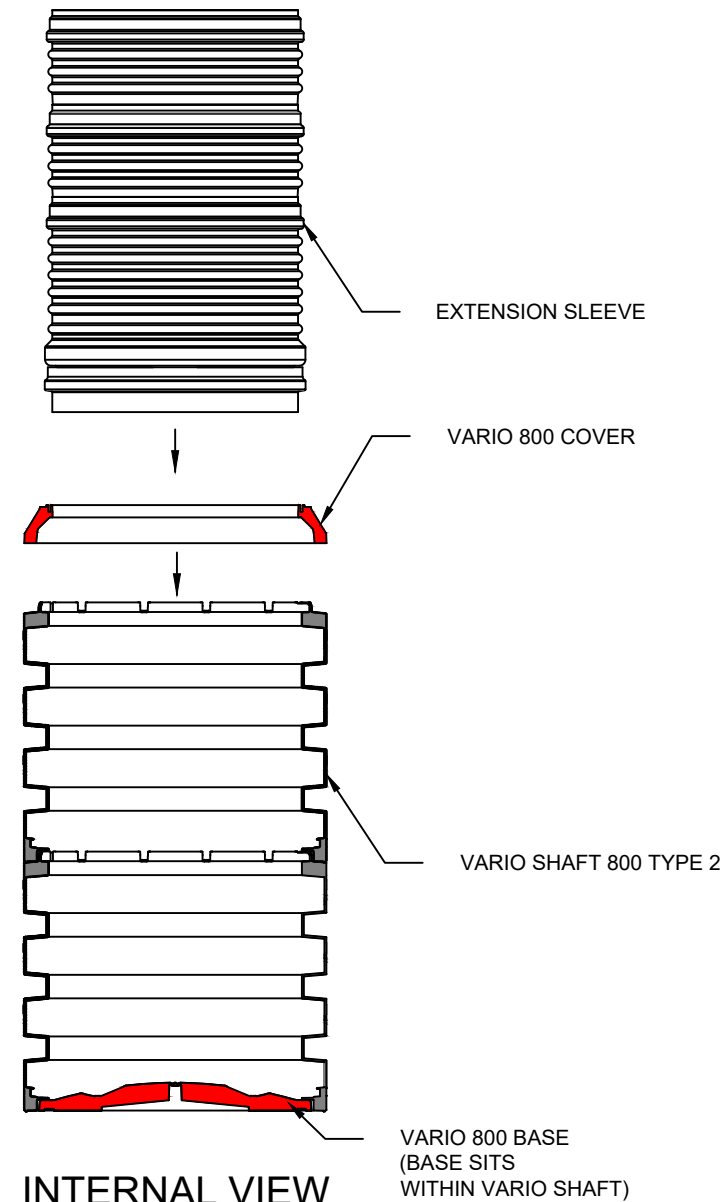
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EXTERNAL VIEW



INTERNAL VIEW

VARIO 800 TYPE 1

Dimensions (mm) 800 x 800 x 355
Weight 14kg
Volume 230 (litres)

VARIO 800 TYPE 2

Dimensions (mm) 800 x 800 x 660
Weight 24kg
Volume 420 (litres)

VARIO 800 BASE/COVER SET

Dimensions (mm) 800 x 800 x 100
Weight 11kg

P3	UPDATED NOTES	AP	21.09.22
P2	LATEST REVISION	AP	15.03.21
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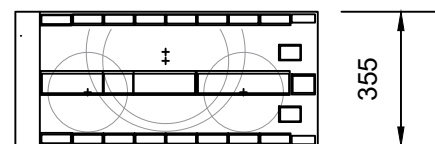
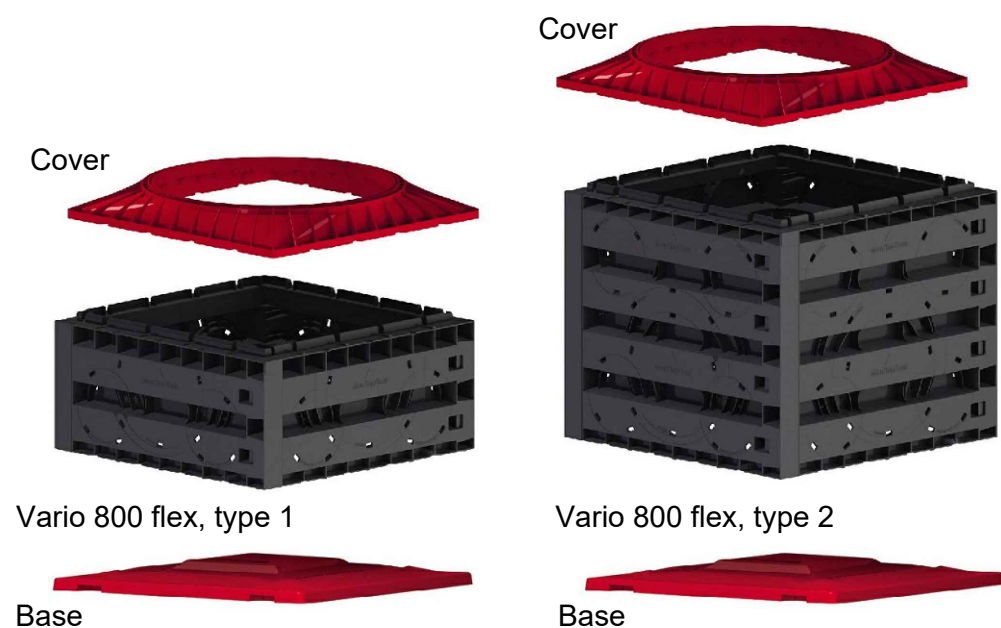
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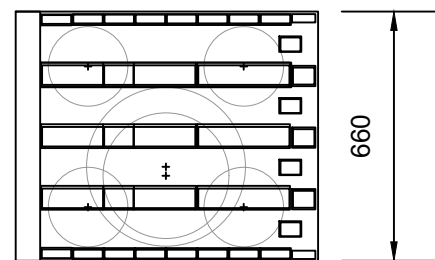
PROJECT	GRAF STANDARD DETAILS
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DESCRIPTION	GRAF
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DRAWING No.	VARIO SHAFT	REV.	P2 (Pg.3)
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Vario 800 flex, type 1



Vario 800 flex, type 2



Vario 800 are modular and are easily assembled in a push fit manner.