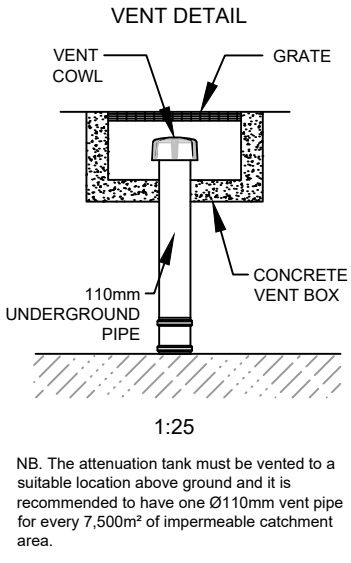
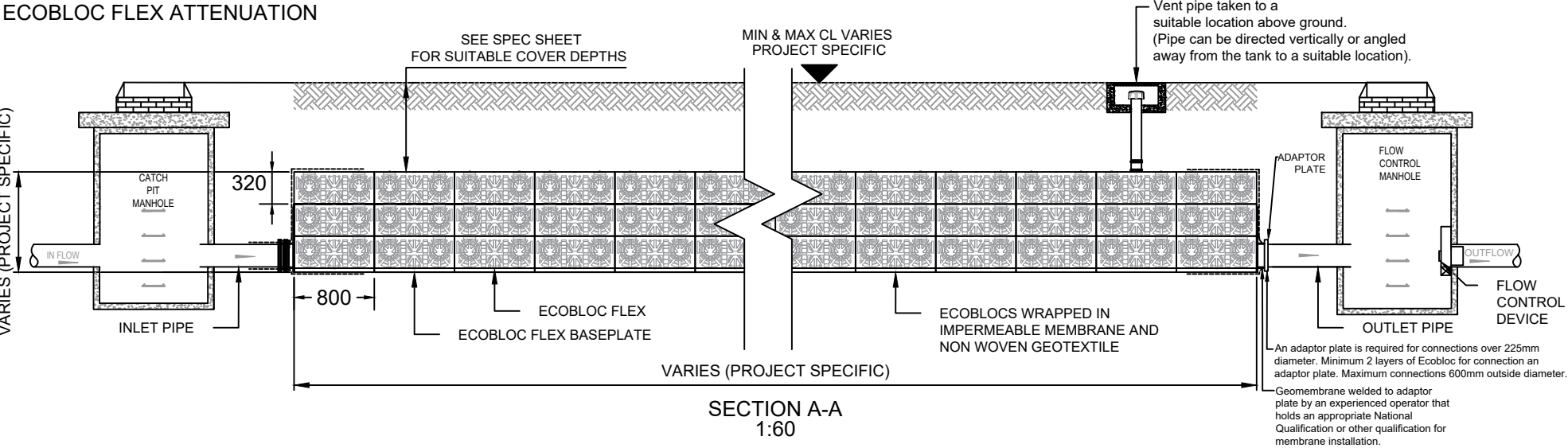


ECOBLOC FLEX ATTENUATION



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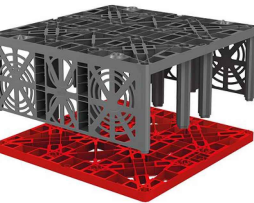
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Notice: This drawing is issued only as a guideline and is an estimate of the materials required to construct the drainage system, it should not be used for construction purposes.

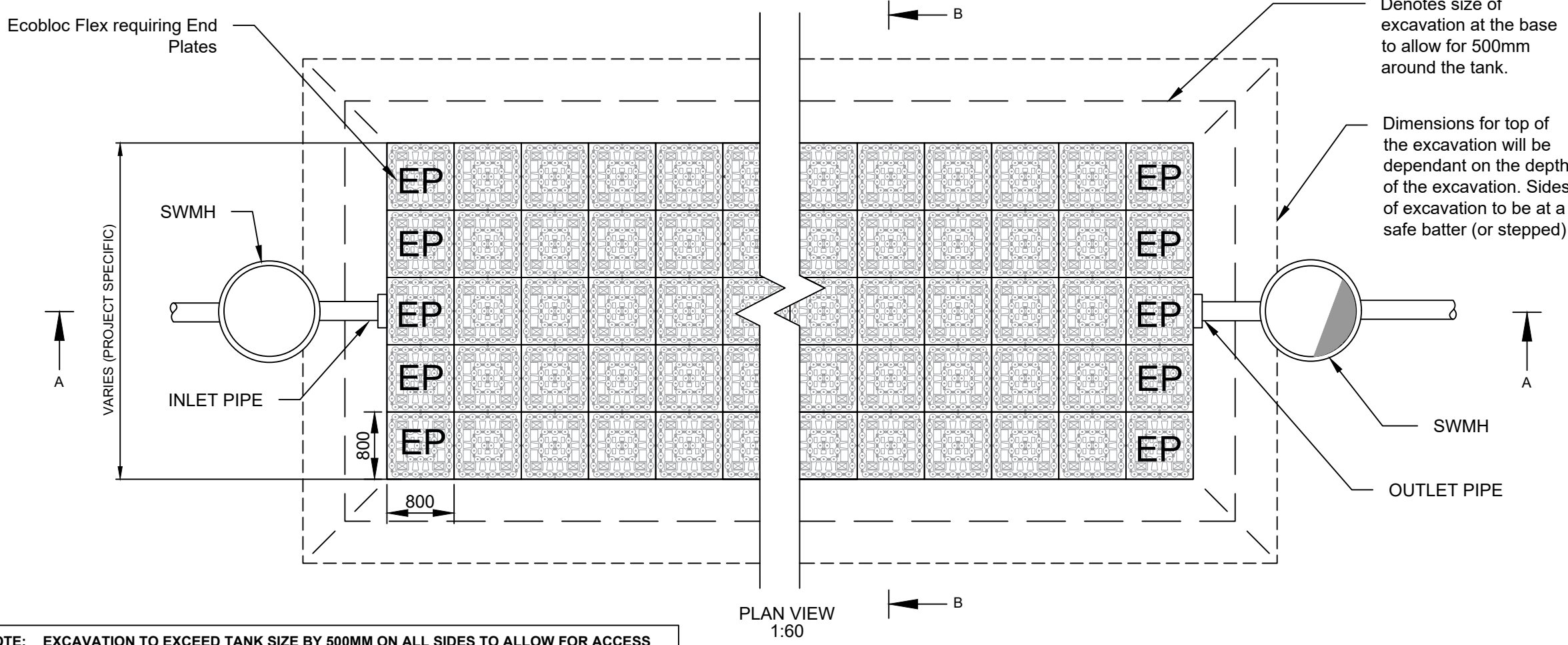
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- NOTES:-
1. All dimensions in mm, unless otherwise stated.
 2. All dimensions are nominal and may vary within manufacturing tolerances.
 3. All site temporary enabling works by others.
 4. Graf products to be installed in strict accordance with Graf recommendations.
 5. This drawing is intended for guidance only. Confirmation of the suitability for a particular project should be sought from the consulting engineers prior to final design or commencement of any construction works.

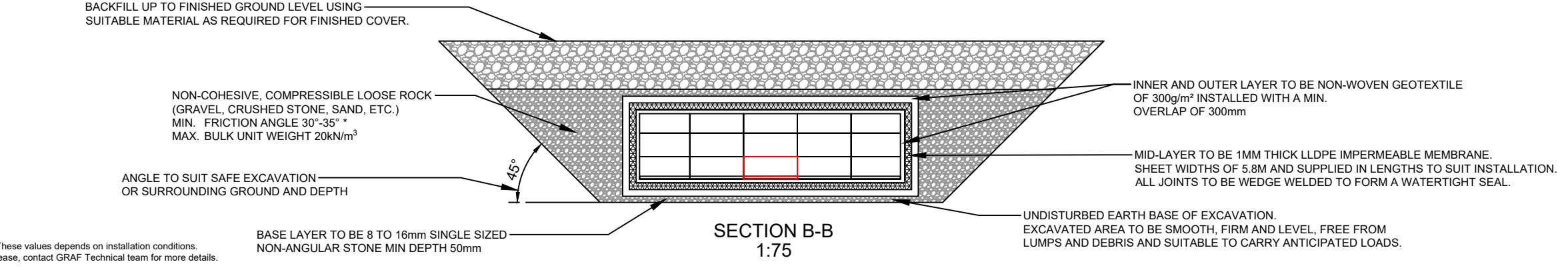
ECOBLOC FLEX



	Ecobloc	Baseplate
Dimensions (mm)	800 x 800 x 320	800 x 800 x 40
Gross Volume (m3)	0.205m³	0.025m³
Net Volume (m3)	0.195m³	0.020m³
Material	Polypropylene	Polypropylene
Weight	8kg	4kg
Void Ratio	>96% depending on number of layers	
Inspectable	Yes	
Conform to load requirements of AS5100		



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



* These values depends on installation conditions. Please, contact GRAF Technical team for more details.

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DRAWN :	MV	DATE :	04.01.2022
CHECKED :	LB	SCALE :	VARIOUS@A3

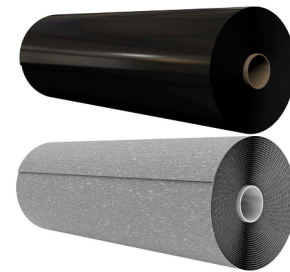
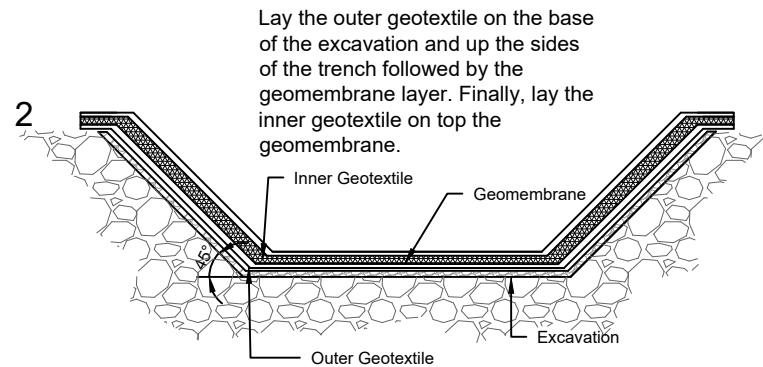
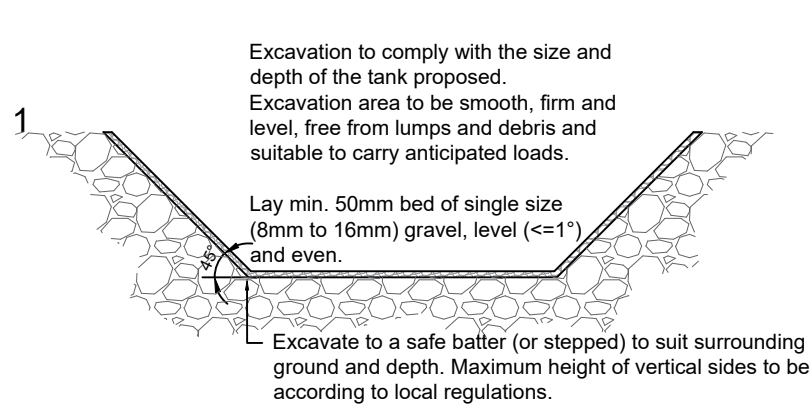
PROJECT

GRAF STANDARD DETAILS

DESCRIPTION

ATTENUATION TANK using GRAF ECOBLOC FLEX

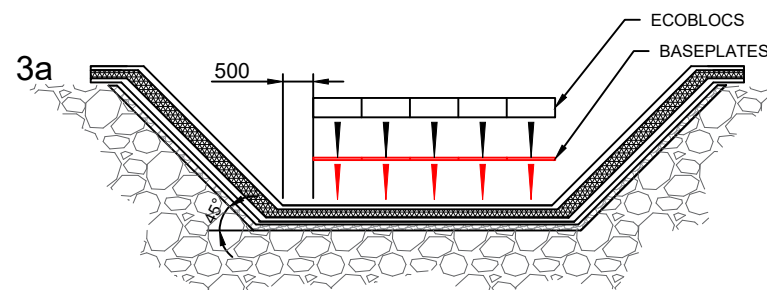
DRAWING No.	DWG-340	REV.	2
			(Pg.1)



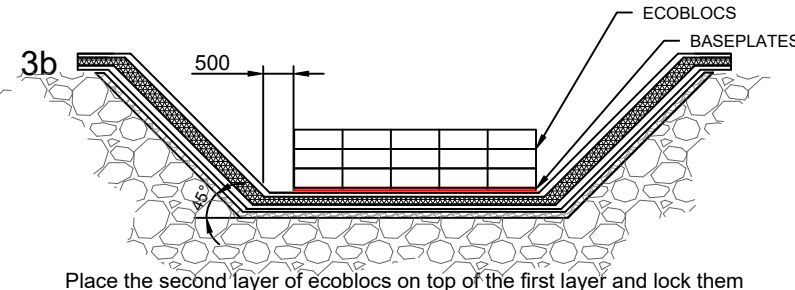
Geomembrane:
1mm Thick LLDPE Geomembrane

Geotextile:
300g/m² Non-woven

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

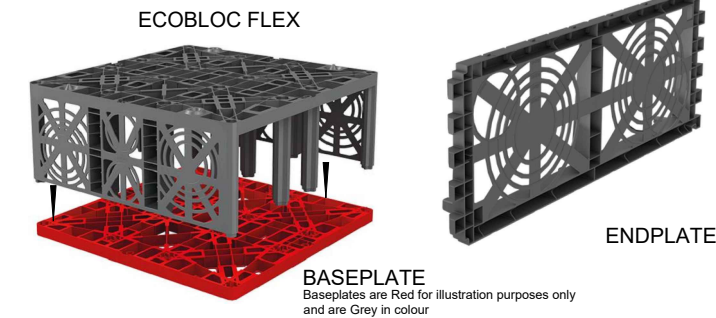


Place the Baseplates on the inner geotextile layer and lock them together using the connectors. Place the first layer of Ecoblocs on top of the baseplates and lock them together using the connectors.

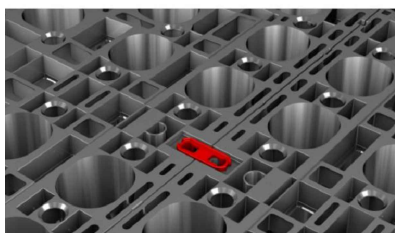
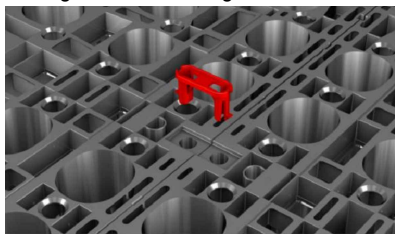


Place the second layer of ecoblocs on top of the first layer and lock them together using the connectors. Place other layers of Ecoblocs make sure all blocs are secure. After all layers of Ecoblocs are placed and secure, install the End Plates. Endplates are clipped to the tank where it is required.

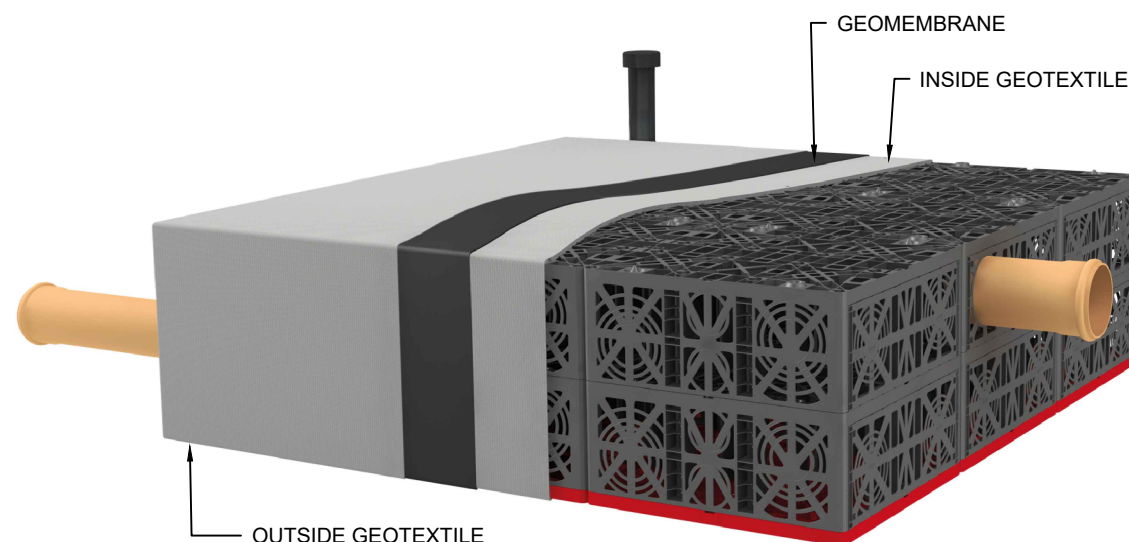
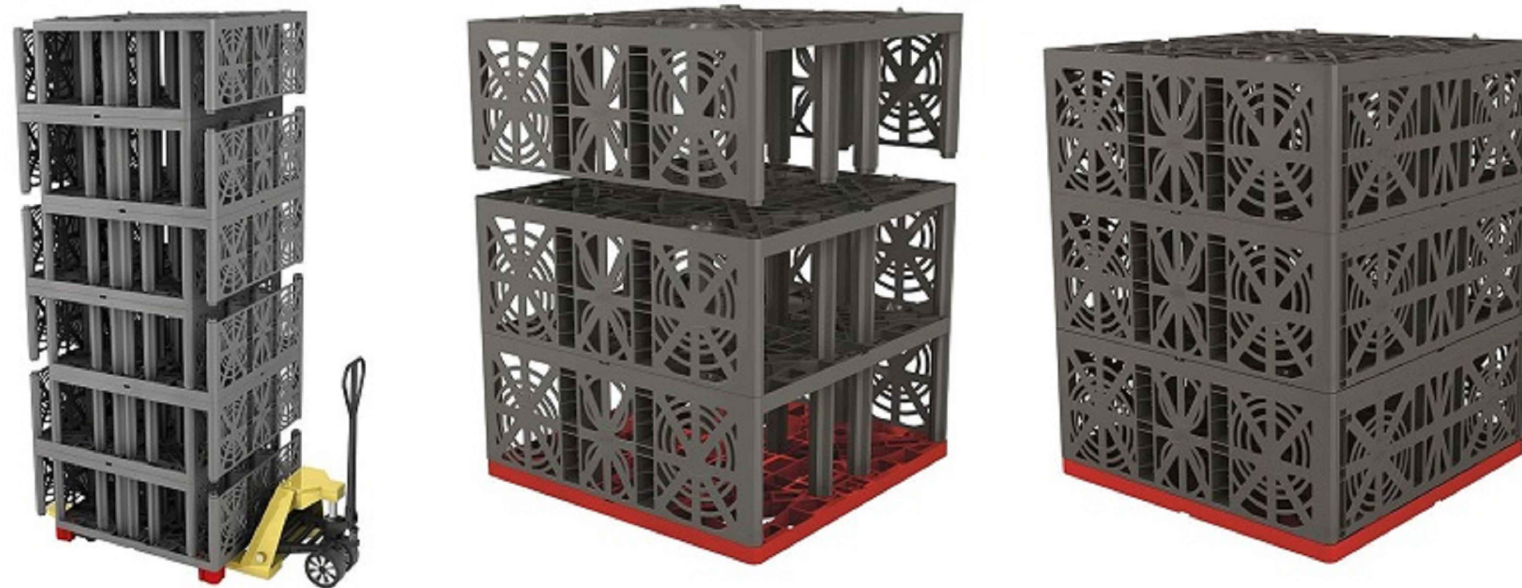
Assemble EcoBloc Flex and Baseplate as shown below.



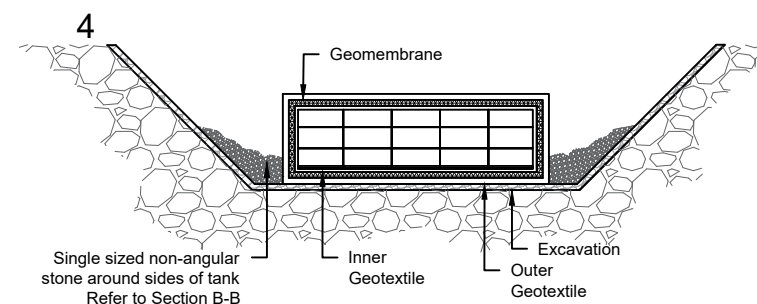
Place the one layer of Ecoblocs on top of the previously placed layer of Baseplates ensuring the connector clips are clipped locking the Ecoblocs together.



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



Finally, wrap the blocs with the inner geotextile followed by the geomembrane ensuring it is heat welded then wrap with the outer geotextile to protect the geomembrane. Geomembrane must be joined by an experienced operator that holds an appropriate National Qualification or other qualification for membrane installation.



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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 outer geotextile over the base of the excavation, overlapping any joins by a minimum of 300mm.
 - Lay the geomembrane on top of the geotextile over the base and up the sides of the trench.
 - Geomembrane must be joined by thermal fusion heated wedge welding by an experienced operator that holds an appropriate National Qualification or other qualification for membrane installation. 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.
 - Lay the geotextile over the geomembrane before starting to build the tank.
 - The geomembrane and geotextile used must meet the specification stated on the drawing.
- Place EcoBloc Flex Baseplates on top of the inner geotextile according to inspection orientation until the bottom of the tank is completed. Clip Baseplates together using the connectors.
 - Place Ecoblocs Flex on the Baseplates clipping each adjacent bloc using the connectors. Ecoblocs will only fit in the correct orientation considering the inspection orientation. Push down firmly to ensure the Ecobloc is located correctly.
 - Install the next layer of Ecoblocs on top of the first layer until all the layers are completed. Ensure the Ecobloc has the correct direction and ensure each bloc is secure with connectors.
 - Fit Endplates to the sides of each bloc 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 blocs in the required position for the inlet and outlet pipes if required.
 - Cut a hole in the geomembrane and geotextile for inlet and outlet connections.
 - Pull geomembrane up around the sides and fully wrap the blocs, securing the top in place by heated wedge welding to the side panels.
 - Cover the top and sides with outer geotextile to protect the geomembrane.
 - Install vent pipe connection into the top of the tank at a suitable location.
 - Backfill around the tank in 300mm layers increments using non-cohesive, compressible loose rock (gravel, crushed rock, sand, etc).
 - Connect inlet/outlet pipes and weld/glue them to have a watertight connection.
 - 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.

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 Australia.

2	LATEST REVISION	MV	04.01.2022
1	LATEST REVISION	MV	27.10.2021
REV.	DESCRIPTION	BY	DATE

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CHECKED :	LB	SCALE :	VARIOUS@A3

PROJECT	GRAF STANDARD DETAILS
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DESCRIPTION	ATTENUATION TANK using GRAF ECOBLOC FLEX
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DRAWING No.	DWG-340	REV.	2 (Pg.2)
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