

Notes

1. Drawing is for information purposes only.
2. Contractor is responsible for all temporary work during construction and must ensure adequate compaction of fill material to avoid settlement.

△ S.H.E. Do not excavate until all underground services have been identified and marked out. Refer to service providers drawings and to the utilities survey drawings. Unknown underground services may exist. Check for services by carrying out a scan with a cable avoidance tool.

NB Underground attenuation tanks are to be provided which have capacities of 176m³. Tanks shall be designed by specialist contractor to provide the net volume of attenuation required and comply with recommendations by Ciria with regard to access for maintenance and strength. The strength of the tank should comply with Ciria document C737 "Structural design of Modular Geocell drainage tanks". The construction, installation and venting requirements of the tank shall be strictly in accordance with manufacturer guidance.

Attenuation Crate Installation Guidelines

1. Excavate the trench to the required depth ensuring that the plan area is slightly greater than that of the Attenuation tank - minimum 300mm to allow for compaction.
2. Lay 100mm bed of coarse sand/gravel, level and compact. Alternatively 75mm of Type 1 (Type 3 if for infiltration) and a 25mm sand blinding layer would also be suitable.
3. Lay the geotextile over the base and up the sides of the trench.
4. Lay the geomembrane on top of the geotextile over the base and up the sides of the trench.
5. Lay the AquaCell units parallel with each other. In multiple layer applications, wherever possible, continuous vertical joints should be avoided. AquaCell units can be laid in a "brick bonded" formation (i.e. to overlap the joints below). For single layer applications use the AquaCell Clips and for multi layers use the AquaCell Clips and the AquaCell Shear Connectors (vertical rods).
6. Place the flange adaptors/socket adaptors in position and fix using self-tapping screws.
7. Wrap the geomembrane around the AquaCell structure and seal to manufacturers recommendations. Cut appropriate holes for flange/pipe connections
8. Wrap and overlap the geotextile covering the entire AquaCell structure in order to protect the geomembrane.
9. Lay 100mm of coarse sand between the trench walls and the AquaCell core/plus units and compact.
10. Lay 100mm bed of coarse sand over the geotextile and hand compact. Backfill with suitable backfill material.

NB: A storage tank must be vented, and it is recommended that one vent pipe 110mm in diameter is provided per 7,600 square metres of impermeable catchment area on site. Manufacturers to confirm their specific requirements.

Notes

The contractor is to obtain detailed drawings from Wavin (*) that provide:

- Final dimensioned GA and section plans
- Installation specification and instructions
- Suitable maintenance access and venting requirements

All drawings are to be issued to the engineer for approval prior to placing the purchase order

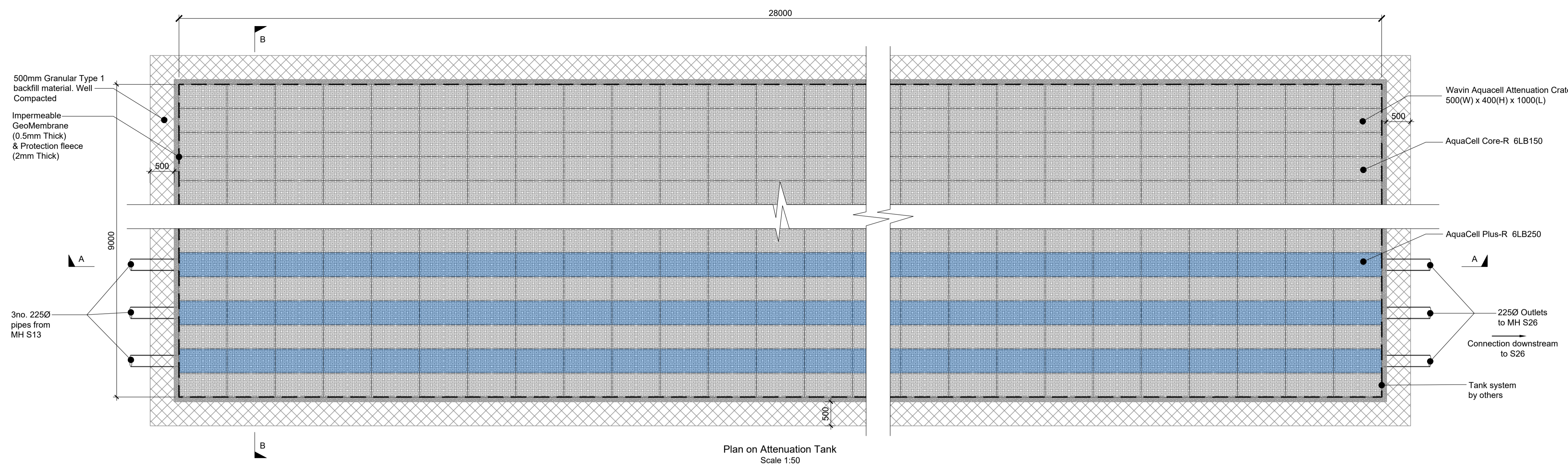
* Any alternative manufacturer to that specified must be issued to the engineer and the Lead Local Flood Authority for approval.

Note

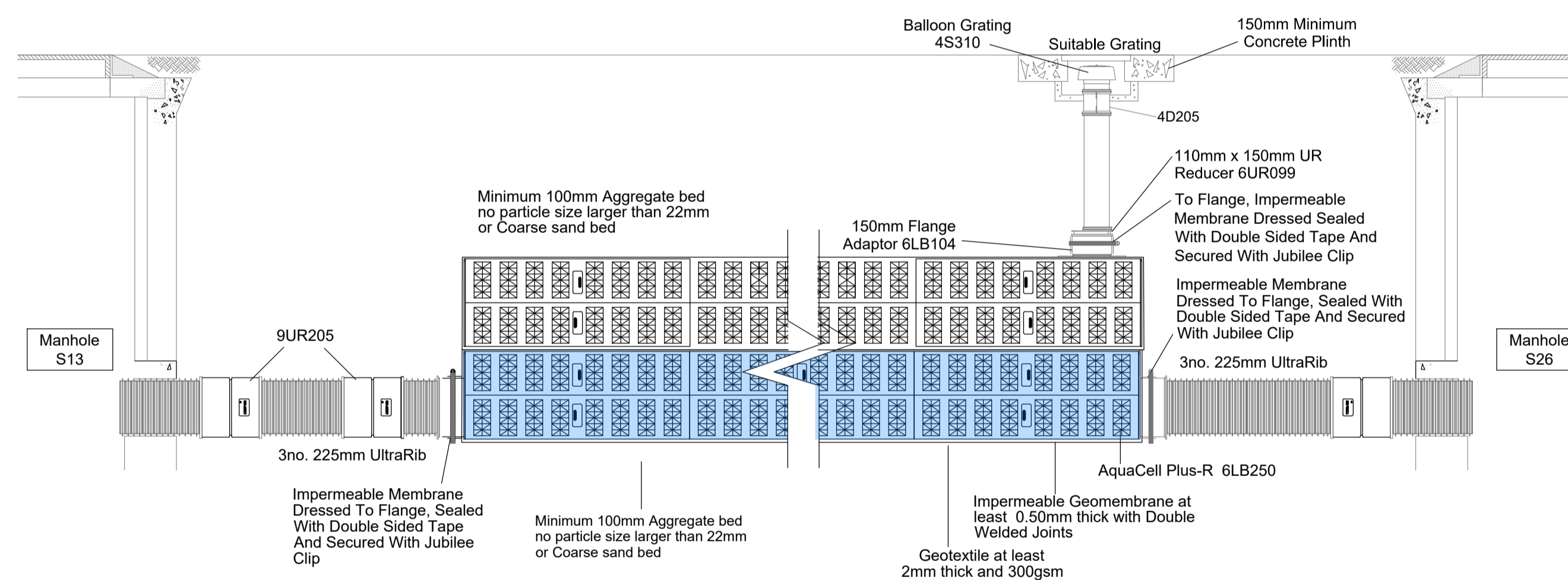
The details and installation guidance is based on Wavin recommendations for pricing only. These are subject to final design by Wavin or other alternative manufacturer for approval.

Note

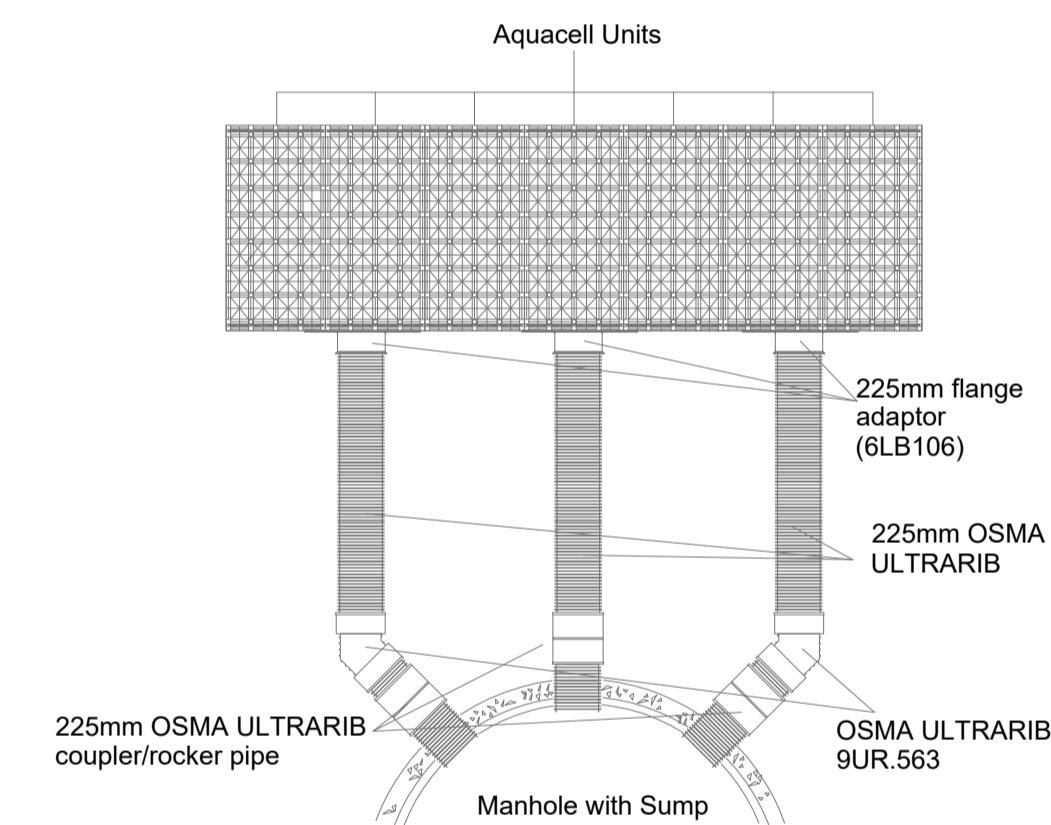
Contractor to allow for access turrets within attenuation tank. Location and quantity to be confirmed by manufacturer.



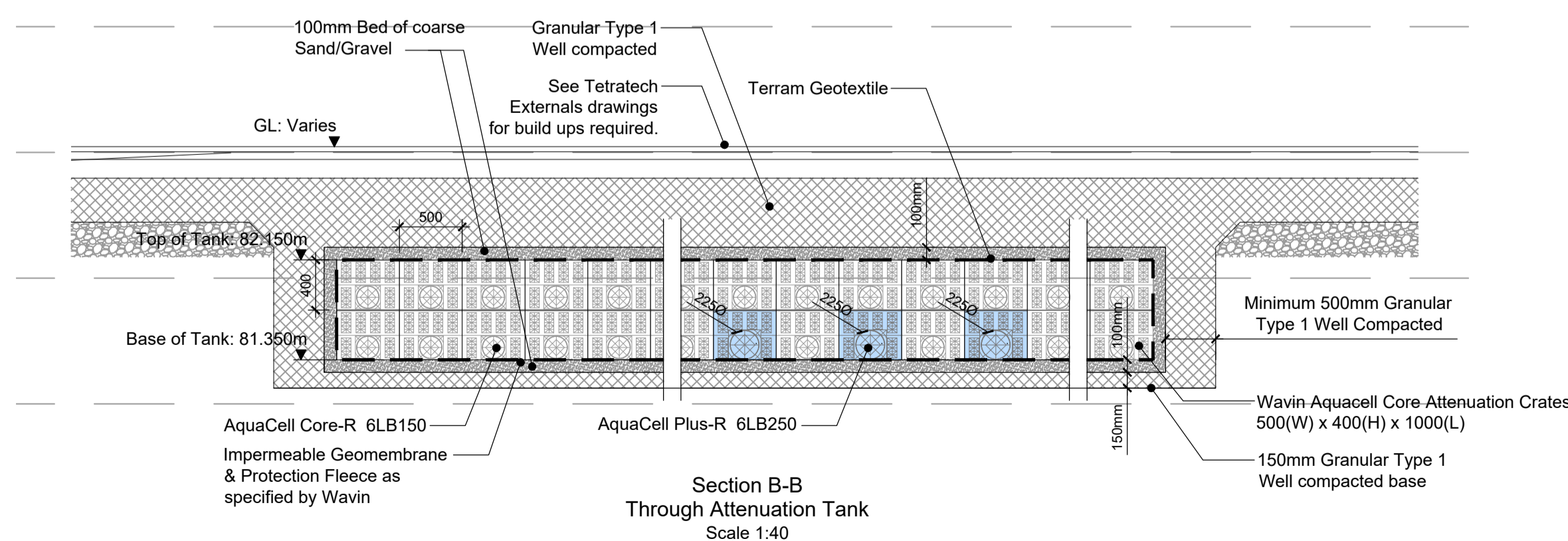
Plan on Attenuation Tank Scale 1:50



Section A-A Through Attenuation Tank Scale 1:20



Wavin Manifold Detail Scale 1:40



Section B-B Through Attenuation Tank Scale 1:40

*Note: Attenuation Tank
176m³ Net Min. Storage volume required based on 1 in 100 year storm + 50% climate change and 42.4 l/s discharge rate.
Tank Top = 82.150 / Tank Depth = 0.8m / Tank Base = 81.350
Top of Water Level 1 in 100 + 50% CC = 82.068 (0.718m H)
Top of Water Level 1 in 30 = 81.564
Tank Dimensions = 9m x 26m
Approx. Contributing Impermeable Area = 7,090m²

Issued for Stage 4	JJH	P03	JC	20.09.2024
Issued for Stage 4	JJH	P02	JC	13.09.2024
Issued for Stage 4	JJH	P01	JC	14.06.2023
AMENDMENT	BY	REV	CHK	DATE

Rev P = Preliminary T = Tender C = Construction LCI = Last Construction Issue

In instances where this drawing completes or partly completes a contract, Billingham George & Partners will consider that it's product has been validated, unless in a period not exceeding 90 working days, the client advises to the contrary.



Billingham George & Partners

CIVIL & STRUCTURAL ENGINEERS | BUILDING SURVEYORS

1st Floor, Wellington House, Wellington Court, Stockton-on-Tees, TS18 3TA
T 01642 876 470 @BGPconsulting E consulting@bgp-teeside.co.uk W www.bgp-consulting.co.uk

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Project Cleator Moor Innovation Quarter			
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