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Type of System: Stormwater Attenuation

Date of Installation: 2010

Tank Size: 238m³

Project Requirements:

With a significant increase in rainfall and rising sea levels, the collection of surface water has become paramount in new residential and commercial developments, as volumes far exceed the capabilities of many existing sewerage systems.

Attenuation systems, including tanks and rainwater harvesting systems, are designed to manage peak flow rates in storms, by attenuating excess flow on site for the duration of the storm and then releasing it at a specified reduced flow rate, after the storm.



VERSAVOID

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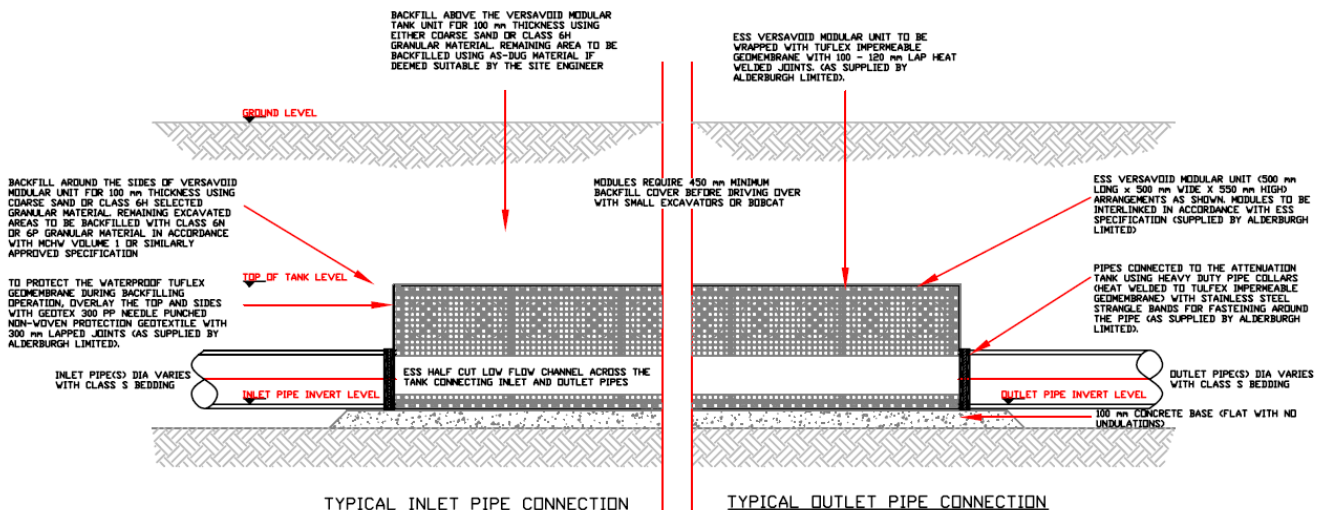
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TYPICAL DETAILS OF ATTENUATION TANK USING VERSAVOID MODULAR UNITS



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ESS Solution:

ESS specified a modular VersaVoid tank with a void ratio of 96%. At 238m³, this provided approximately 228.5m³ of storage capacity for excess stormwater runoff from the surrounding areas.

The 320kN/m² loading strength provided by each module gave the tank the required structural stability to cope with loading from above. The 120kN/m² lateral strength provided the same capability horizontally, allowing the tank to cope with any side loading that may occur.

The modular system also provided great flexibility and meant less aggregate was required to achieve the same infiltration rate as a full gravel construction.





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Summary:

- VersaVoid provided a design that met all of the requirements set for both loading and access.
- Modular configuration allowed for a flexible, ideal site solution that worked with other existing infrastructure both above and below ground level. The modular assembly further reduced installation times allowing a much more economical solution to be found.
- Load bearing capabilities and high void ratios provided the most efficient solution for a restricted site with loading issues.

