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**Aldi Store, Victoria
Road East, Moston**

Drainage Maintenance Plan

7th May 2025

9104-SWF-XX-XX-TR-C-0201

S2: Suitable for Information

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1. Design Summary

- 1.1. An FRA has been prepared by Integra Consulting and this has indicated that the surface water discharge should be reduced by 50% of the existing off-site flow. A climate change allowance of 40% is also to be applied to any calculations, exceeding the advice noted in the FRA, based on the lifespan of the building.
- 1.2. The whole site has the flow restricted to 22.5l/s for all storm event up to and including the 100-year event. This is to be achieved by the introduction of a Hydrobrake flow control at the penultimate manhole which was re-constructed as part of the work.
- 1.3. The design has required the use of an attenuation tank to hold surface water whilst the off-site discharge is controlled by a Hydrobrake flow control device. All drainage from the car park surfacing has been designed to pass through an oil separator with a silt trap which has been sized for the developed area and will treat the initial flush of surface water that may contain oils, whilst the silt trap removes the sediments within the water.
- 1.4. An original Tubosider attenuation tank is present on the site, which has been supplemented by a new Cellular tank to accommodate the increased attenuation requirement.
- 1.5. All ACO channels are required to discharge using a sump unit which will also prevent silts from entering the drainage network and reduce the impact of silts on the adopted sewer network.
- 1.6. In addition, a surface water pump has now had to be introduced to control flows at SWMH5. Here a small 3.0m x 3.0m x 1.0m tank is present with pumps discharging at 10l/s on an alternating duty/ standby arrangement.
- 1.7. The site is bisected by the Thirlmere Aqueduct, so all drainage from the car park is kept at a shallow depth to facilitate the crossing of the aqueduct.



2. Maintenance Requirements

- 2.1. Given the drainage installation is a gravity fed system the requirements for maintenance are similar to any typical installation.
- 2.2. It is recommended that road gullies are cleared of silt build up on an annual basis to prevent the build-up of silts within the below ground drainage network. In addition, the car park areas should be swept of debris, particularly around the autumn months to reduce the ingress of leaf litter.
- 2.3. In a similar manner, the ACO channels should be cleared on an annual basis ensuring that the proprietary silt traps are cleaned as necessary.
- 2.4. Alarms associated with the oil separator should be alarmed back to the plant room area. When the alarm sounds, information will be available in the operation and maintenance manuals to instruct on how to proceed. This will generally be contacting a drainage specialist to diagnose the issues to correct the fault.
- 2.5. The Hydrobrake should be checked on a bi-annual basis to ensure that the device is not subject to a blockage which is reducing the anticipated discharge from the site.
- 2.6. The pump set, within the proprietary pumping chamber, will be alarmed back to the store managers office together with the alarms associated with the oil separator. When these alarms sound, information will be available in the operation and maintenance manuals to instruct on how to proceed. This will generally be contacting a drainage specialist to diagnose the issues to correct the fault.
- 2.7. The pumps should be serviced on an annual basis ensuring that they continue to operate effectively.
- 2.8. The oil separator should be maintained in accordance with BS EN 858-2 which gives advice on the frequency and type of inspection to be carried out. At the very least this should be every six months or in accordance with the manufacturers' specification. The inspection shall determine the depth of oil in the system and the depth of sediment/ sludge present together with details of any repairs.
- 2.9. The storage tank, within the development, has been specified as ESS Versavoid tanks. These are capable of jet cleaning and vacuuming as with any conventional drainage pipe with access points either directly over the tank or at the upstream or downstream end. The following page gives information from ESS regarding maintenance of their systems. It should be noted that silt traps within the ACO channels and the upstream separator shall reduce the likelihood of silts entering the attenuation tank.
- 2.10. The existing attenuation tank, the Tubosider, will require a visual inspection from the surface with manual removal of any silt debris required. The inspection should form part of the annual maintenance regime.
- 2.11. As with any drainage system it is recommended that jet clearing of the system is undertaken on a 5-yearly basis. This should check for defects in the pipework and allow for the removal of any debris.
- 2.12. The foul water drainage should be subject to the same checks as the surface water system with an annual visual inspection undertaken and a five-yearly clean.



3. Responsible Person - Aldi development

- 3.1. Each Aldi region has designated Property Managers who are based with the distribution centre that serves their store. The drainage maintenance falls under their remit with works sub-contracted as necessary to complete the requirement.
- 3.2. At the time of writing the report Liz Bagnall is the Property Manager for the Bolton region and can be contacted at:

ALDI Stores Ltd
National Real Estate GB/IE
Chester High Road
Neston
CH64 3TS
United Kingdom
- 3.3. The maintenance contractor contact is Sally Gorton of Calder Construction:
Unit 15, Brearley Lane
Halifax
West Yorkshire
HX2 6HU
Tel: 01422 886870



4. Extract from Versavoid Maintenance Document

Recommended maintenance schedule

Maintenance schedule	Required Action	Recommended Frequency
At Commission	Inspect all areas to ensure free from construction debris and silt	Once at Commission
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial actions.	Monthly for 3 months then 6 monthly
	Debris removal from catchment surface (where may cause risk to performance)	Monthly
	Where rainfall infiltrates into blocks from above, check surface filter for blockage by silt, algae or other matter. Remove and replace surface infiltration medium as necessary.	Monthly (and after large storms)
	Remove sediment from pre treatment structures	Annually or as required
Remedial actions	Repair / rehabilitation of inlets, outlet, overflows and vents.	As required
Monitoring	Inspect / check all inlets, outlet, overflows and vents to ensure in good condition and operating as required.	Annually and after large storms

Maintenance strategies

In order to protect geocellular installations from damage, siltation and reduce onerous maintenance and inspection, systems are designed to protect the tanks from direct damage and intercept suspended solids. Recommended design measures and good practise to include in the specification for the installation are given below:

- Tanks are recommended to be designed to be "off-line" but "on-line" tanks incorporating a low flow bypass pipeline usually minimum 150mm in diameter is usually acceptable.
- Silt traps, hydrodynamic separators or similar should be installed "upstream" of the tank inlets.
- Allowance should be made for siltation and a percentage loss of capacity agreed over the design life of the installation.
- Where direct connections are to be made a temporary geotextile is recommended to be placed over/ around the units inlet pipes to prevent silt ingress during construction. This is removed prior to final commissioning.
- Isolation / Penstock control units should be provided to isolate the installation for maintenance and to prevent / control contaminated flows.
- Geocellular installation pipework / manifolds shall be CCTV accessible for inspection.
- No large shrubs to be planted over the geocellular installation plus or within 3m in all directions and 6m from small/medium specimen tree planting. Large trees such as Oaks should not be planted within 20m of the installation.
- Geocellular installation should not be constructed beneath the existing or the predicted full mature canopy of trees.
- A specialist contractor must be used for the sealing of the membrane which should be by automatic heat welding unit. Use of taped seams even on soakaway installations is not recommended.
- Warning tapes or a grid should be provided 300mm above the installation to visually indicate that there is a buried structure.
- Permanent above ground signage detailing location and depth should be provided.
- A pre agreed maintenance and inspection regime should be in place at handover to the client.

It is recommended that the end user therefore allows for the sections highlighted in red as these sections will be applicable for this particular installation.



5. Extract of BS EN 858-2:2002 for maintenance of oil separators

6 Operation, inspection and maintenance

All parts which have to be regularly maintained shall be at all times reachable. Maintenance of the system has to be carried out at least every six months by experienced personnel. The maintenance shall be carried out in accordance with the manufacturers instructions, but at least shall include the following items:

a) sludge trap

- determination of sludge volume

b) separator

- measure the thickness of light liquids
- check the operation of the automatic closure device
- check the coalescing devices for permeability, if the water levels in front and behind the coalescing device show significant difference
- check the function of the warning device

c) sampling shaft

- clean the drain channel

Light liquid and sludge shall be removed as required. Before putting in service sludge trap and separator shall be re-filled with fresh water.

NOTE Emptying is recommended when one half of the sludge volume or 80 % of the storage capacity of the separator is reached.

In exceptional circumstances, when personnel need to enter the separator, it shall be fully drained and thoroughly ventilated.

The regulations/decrees for avoiding accidents and the handling of dangerous materials shall be followed.

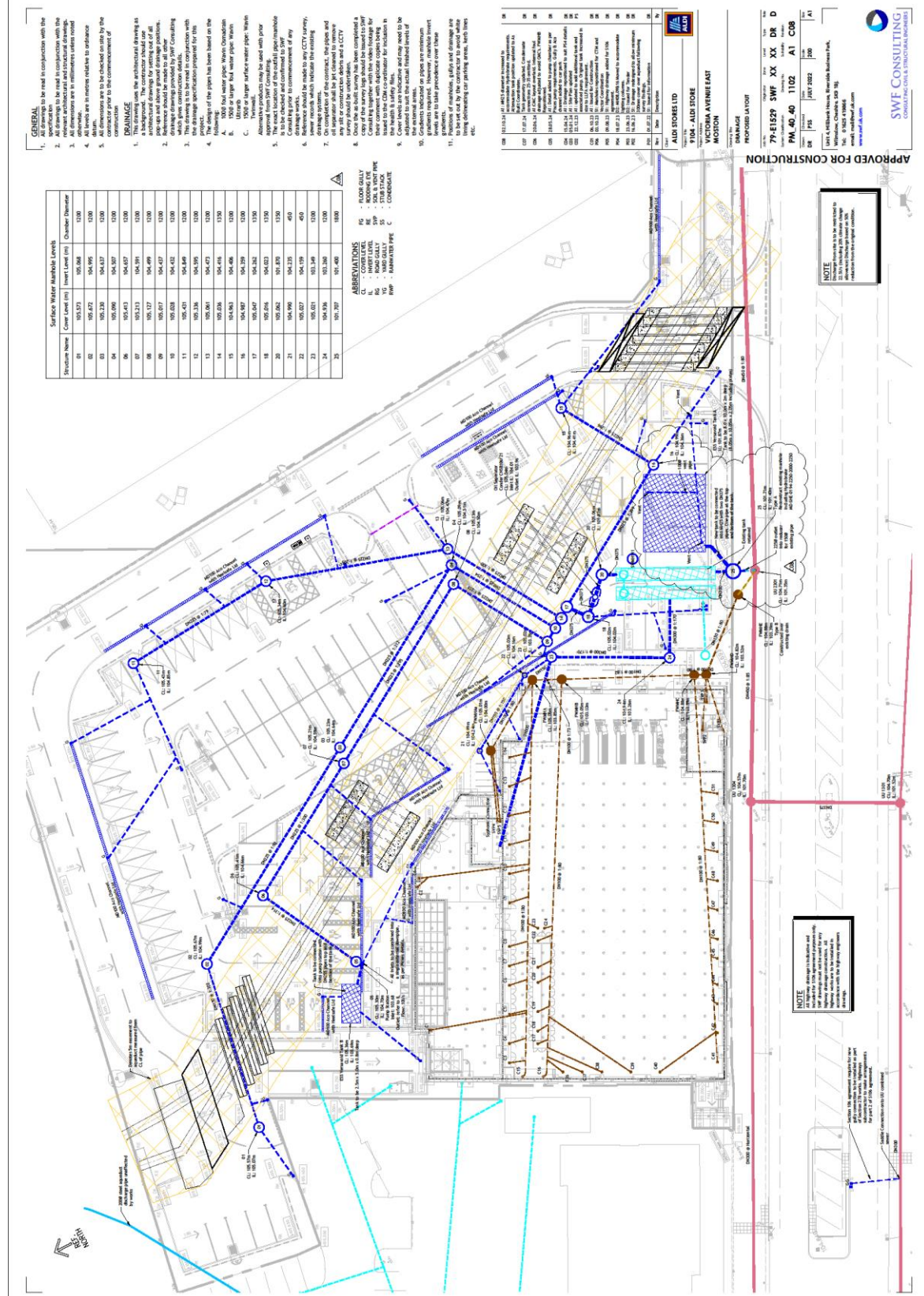
In intervals of at maximum five years the separator system shall be emptied and then submitted to general inspection covering the following items:

- tightness of the system;
- structural condition;
- internal coatings, if present;
- state of inbuilt parts;
- state of electrical devices and installations;
- checking of adjustment of automatic closure device, e.g. floating bodies.

The cleaning and maintenance records shall be kept and made available to the authorities upon request and shall contain remarks on specific events (e.g. repairs, accidents).

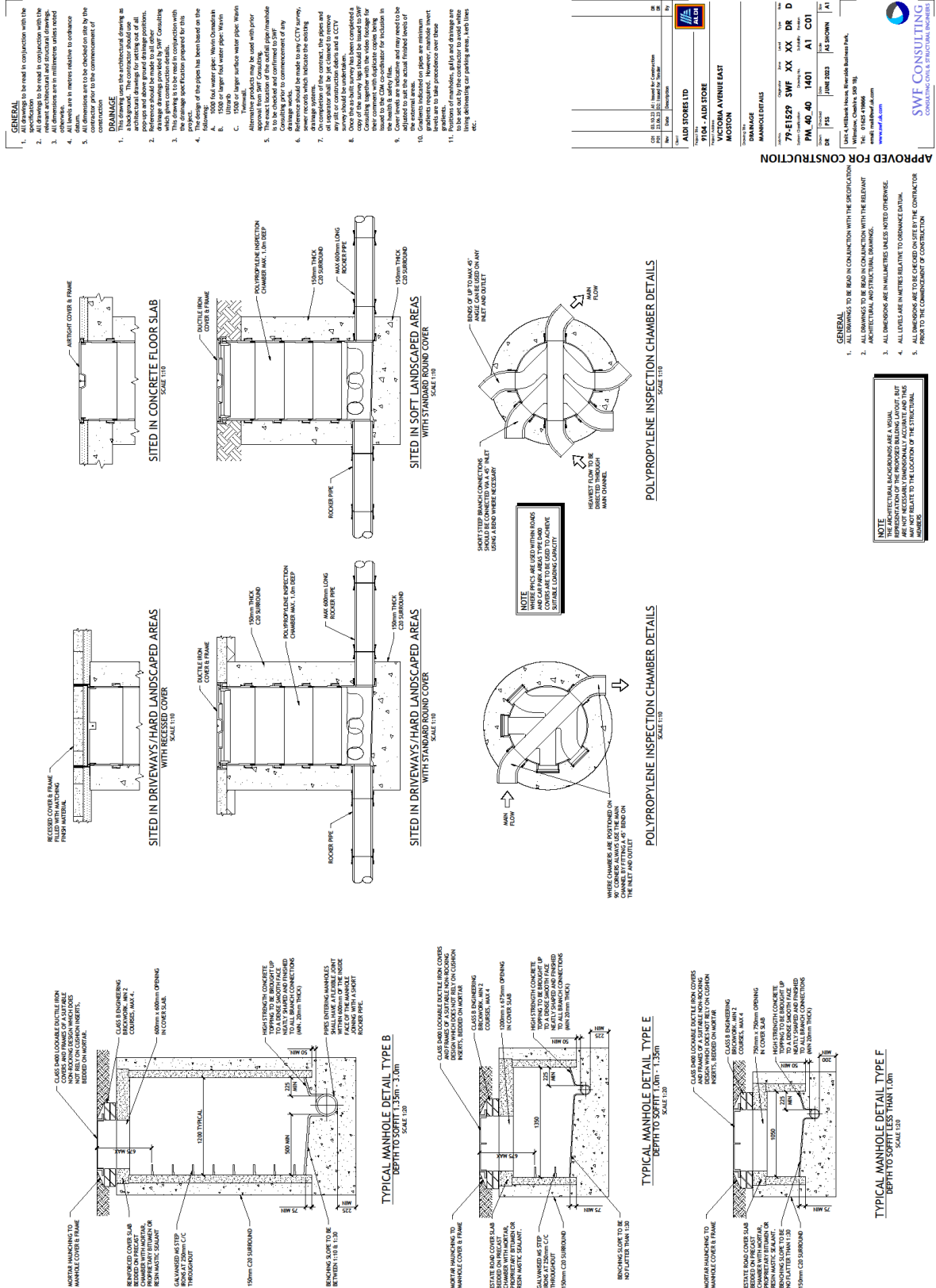
6. As Built Record Drawings

6.1. Drainage GA

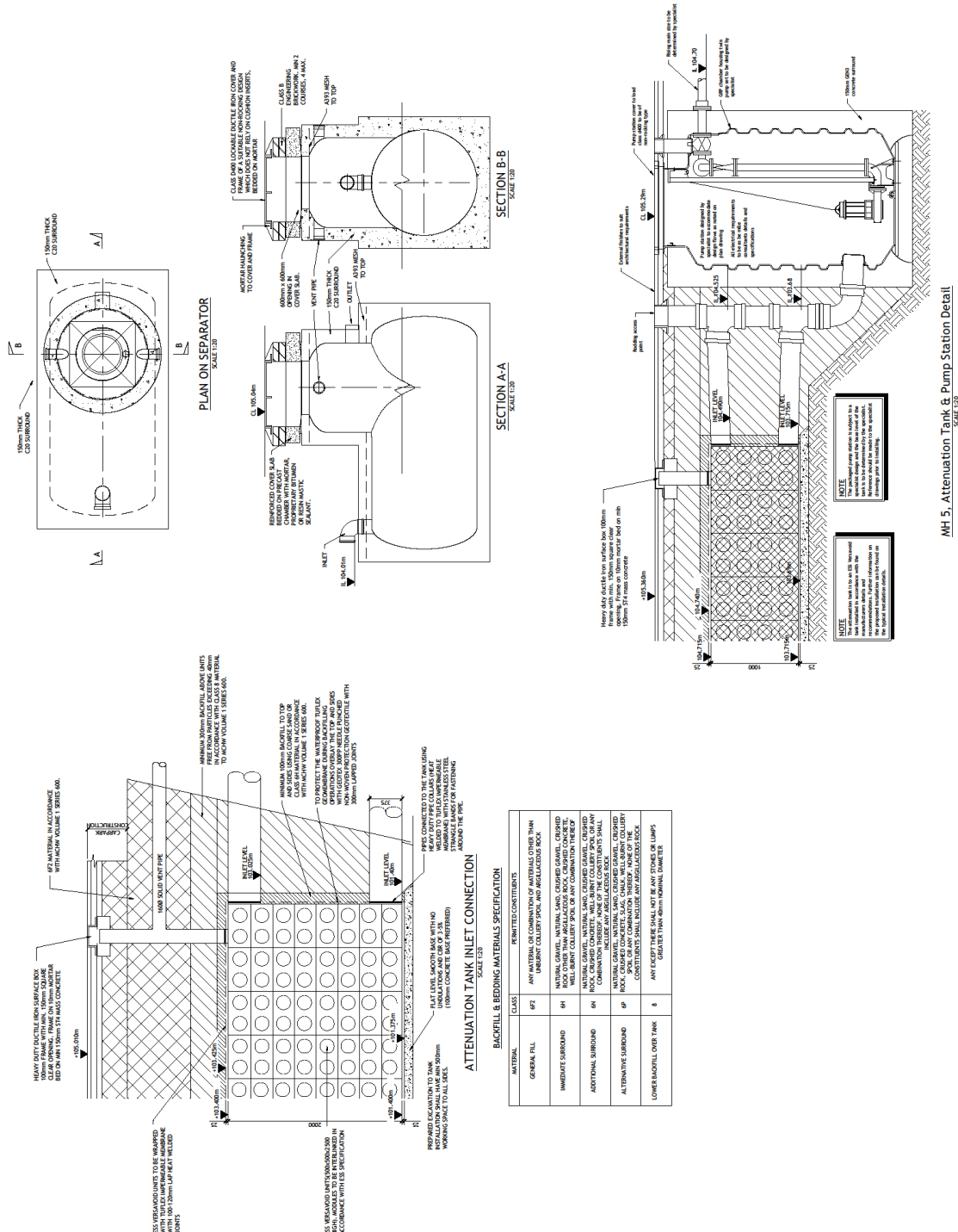




6.2. Manhole Details



6.3. Attenuation Tank and Seperator Details

[illegible]

MH 5, Attenuation Tank & Pump Station Detail
SCALE 1/20