

Halgan Pty Ltd General Purpose Pit

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1.1 Introduction

This type of pit is used to retain suspended solids and floatable material from various types of processes. Generally the Halgan General Purpose Pit is sized to allow 1 hour retention time. This provides the suspended solids sufficient time to settle to the bottom of the pit and allows the clean water to discharge to the sewer.

1.2 Description

The pit is provided with a baffle or inlet tee to slow down the flow and direct the flow and direct it towards the bottom of the pit. The second baffle is provided to retain floatable and direct the flow under the baffle and into the discharge area. In some cases, a flocculants or coagulate agent is used to assist in the settlement or floatation area.

2.0 Detailed Design & Installation Requirements

2.1 General

2.1.1 Location

The HGP is to be installed in a location that will not cause a nuisance, will not obstruct fire access, and in which it will not be damaged by vehicles or traffic or vandalised and which allows ease of access for maintenance. It is preferred to have the HGP installed externally below ground with a gravity inlet and gravity outlet.

2.1.2 Surcharge Relief Point

The HGP must not be used as a surcharge point. An extra surcharge gully or reflux valve may be required.

2.1.3 Sampling Points

Sampling points shall be provided at the inlet and outlet of the HGP. If below ground, risers shall be extended to ground level and fitted with a gas tight inspection box. The sampling points can also be used for clean up points.

2.1.4 Piping Material

Copper pipe and fittings shall not be used in trade waste installation as per AS/NZS 3500.

2.1.5 Non Standard Installations

Certain installations or position of installations that are unusual due to particular circumstances or matters not covered by this specification or local codes may be submitted to Halgan for consideration. Local trade waste approval for these situations will be considered on an individual basis.

2.1.6 Health Requirements

The HGP shall be designed and installed in such a way as not to cause a danger to health arising from leakage, blockage or surcharging.

2.1.7 Fire Resistance Level

The HGP is to be installed to maintain the Fire Resistance Level (F.R.L.) as specified in the Building Code of Australia.

2.1.8 Safety

The carrying out of work covered in this Technical Manual shall comply with the safety requirements of the relevant Authorities

3.2 Installation Requirements

3.2.1 General

The HGP is to be installed in a location that will not cause a nuisance, obstruct fire access, cannot be vandalised or be damaged by vehicles. The HGP must have ease of access to pumpout point for maintenance. A hose tap fitted with a Back Flow Protection Device (as per AS/NZS 3500) must be provided within 5 m of the HGP for cleaning purposes.

3.2.2 Installation above ground

The HGP is to be supported on a 100 mm thick concrete pad or on 98% compacted level ground with 20 mm sand base. The HGP does not require a stand. All pipes connecting to the HGP shall be fully supported, there should be no stress on the tank connections. All storm water must be diverted away from HGP to prevent undermining of supports or foundations.

3.2.3 Installation below ground

All connections to the HGP shall be in accordance with the appropriate authorities. Any excavation exceeding 1.5 m in depth shall comply with the construction safety Acts and Regulations. Before backfilling, the HGP must be filled with water.

3.2.3.1 Excavation dimensions

The excavated hole width shall be kept as narrow as practicable. The depth shall be not greater than 150 mm than the required depth. A 75 mm clearance is required at the sides of tank.

3.2.3.2 Over excavation

Where an excavation has been deeper than necessary, the excess depth shall be filled either with bedding material compacted to achieve a compaction of 98% or concrete.

3.2.3.3 Installation in mine subsidence, filled, unstable or water charged areas

A qualified engineer is required to certify this application.

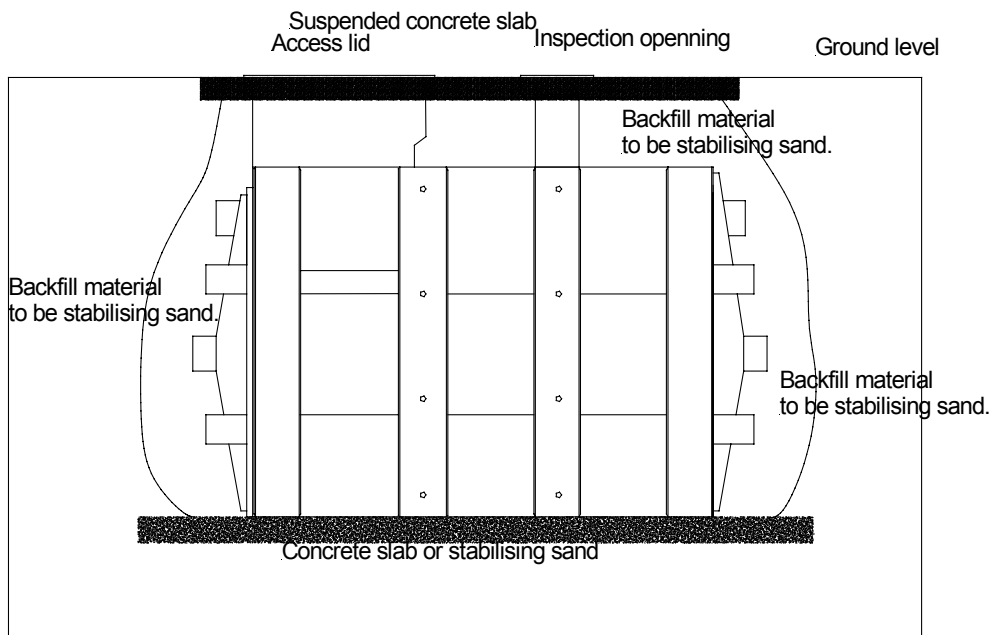
3.2.3.4 Bedding material

The bedding material shall be 1 part Portland cement to 5 parts clean sand. The bedding shall be thoroughly compacted by tamping at 300 mm layers. The bedding material shall encase the whole tank.

3.2.3.5 Final Backfill

The final backfill material shall comply with the following:

- (a). Spoil from the excavation of the trench may be used.
- (b). Foreign material such as builder's waste, bricks, and concrete shall not be used.
- (c). The backfill shall be compacted to restore the excavated hole as near as practicable to the normal ground.



3.2.4 Relief Overflow Point

The HGP is not to be used as a surcharge point. An extra surcharge gully may be required or a reflux valve installed. Refer to figure in AS/NZS 3500 Part 2. The drainage line upstream from the HGP shall have an overflow relief gully as per the AS/NZS 3500.

3.2.5 Protection Barricades

The protection barricades shall be installed to protect the HGP from physical damage. The posts shall be manufactured from 80 mm galvanised tube (refer to material specification) with a sealing cap at the top. A 400 mm white strip shall be painted at the top of the post. The posts will be 1300 mm long and approximately 800 mm apart.

- Concrete Installation - The post shall be 1300 mm long with a 200 mm x 200 mm base plate fixed to the concrete with four 12 mm x 50 mm concrete anchors.

- Installation in Bitumen & In Ground - A hole shall be excavated 400 mm x 400 mm x 400 mm deep. The base shall be encased in concrete. The post will be 1700 mm long and have bituminous paint applied to the section enclosed in concrete. The concrete shall be finished in a way that water cannot settle around the base.

3.2.6 Venting

The high level vent on the inlet line shall be 100 mm. The high level vent shall terminate above the roof line and a high/low vent from the chamber as per AS/NZS 3500. Refer to AS/NZS 3500 Part 2.

3.2.8 Access Lids

General - The top of the access lid shall be a 100 mm above ground level to stop the ingress of storm water. The polyethylene HGP with the polypropylene lid can be installed in a non trafficable areas, eg garden beds etc. If the HGP is in a location where it can be damaged due to gardening activities (lawn mower etc) a minimum 100 mm x 100 mm concrete edge strip is to be installed around the HGP.

Duty of Access Lids -

All covers are manufactured to Australian Standards 3906 and comply with the required design loading.

For above ground or non-pedestrian application the access lid is 600 mm in diameter and manufactured from high density polyethylene lid.

All other application the access lid shall be 600 x 600 square, cast iron, gas tight, concrete infill lid and frame.

4.0 Specifications

4.1 Holding Tank

Material: Virgin, good grade, UV stabilised, polyethylene. ALKATUFF Polyethylene shall be grade 711UV (Formerly ET6059) suitable for rotational moulding and conforming with the US Code of Federal Regulations (21 CFR) Part 177.1520 (c) for use in articles in contact with food under conditions described in Part 178.2010 (for volumes greater than 18.9 litres and at temperatures below 65 deg C).

Wall Thickness: Average 8 mm.

Access Opening: 600 x 600.

Stainless steel shall:

- (a) Be 304 grade and 1.6 mm thick.
- (b) Be welded by MIG wire using 316 grade stainless steel and 0.8 mm diameter

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Unplasticised polyvinyl chloride (UPVC) pipes & fittings shall:

- (a) Conform to AS 1260 for sewerage applications and AS 1415 for soil waste and vent.
- (b) Pressure pipe and fittings shall conform to AS 1477.
- (c) Be joined with solvent cement and priming fluid to conform with AS 3879.

Non-return check valve shall:

- (a) Be light pattern copper alloy type.
- (b) Be swing check pattern.
- (c) Be manufactured to AS 1628.

Control valve shall:

- (a) Be light pattern copper alloy type.
- (b) Be manufactured to AS 1628.
- (c) Be screw pattern with union fitted to the outlet up to and including 50 mm diameter.

Concrete:

All concrete used in conjunction with this work shall have a minimum strength of 20 MPa at 28 days when tested in accordance with AS 1012 Part 8.

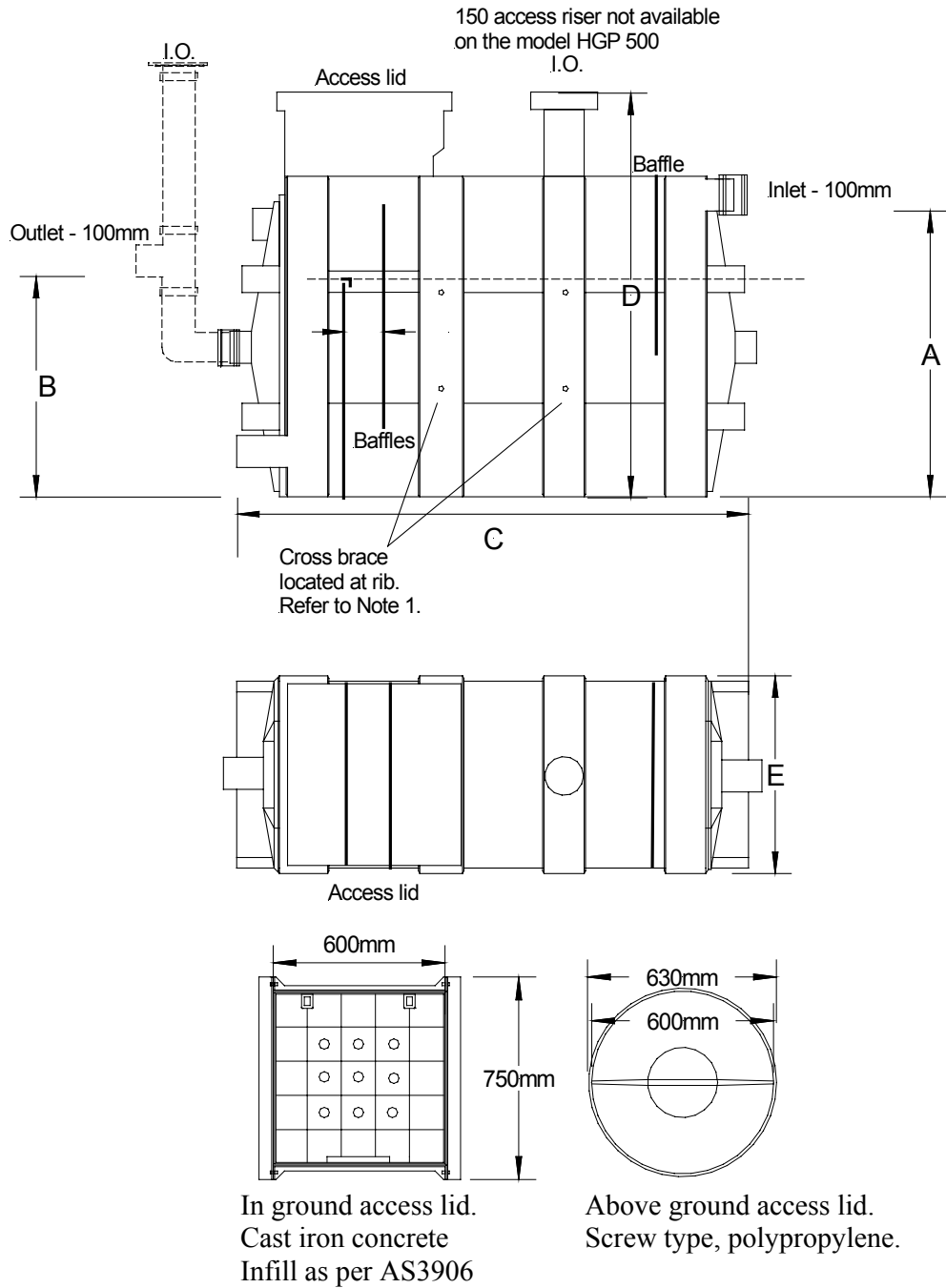
Galvanised mild steel pipes and fittings shall:

- (a) Be approved by relevant authorities.
- (b) Conform to AS 1074 heavy grade for pipes and BSS 1256 for fittings.
- (c) Be equal to Tubemakers Australia.
- (d) Be polytec coated or wrapped with approved protective tape where located under ground.
- (e) Be jointed with hot dipped galvanised fittings.
- (f) Be jointed by approved patented roller grooved couplings or
- (g) Be screw jointed with compound approved for the service.

5.0 HGP Applicability

PROCESS	POLLUTANT	SPECIAL CONDITIONS
Crafts secondary schools, cottage industries, clay pottery, paints, gem stones, jewellery.	Suspended Solids	
Municipal swimming pool (first 2 minutes backwash)	Suspended Solids	Subject to local authority's approval and conditions
Glass cutting and grinding	Suspended Solids	
Optical factory where grinding of glass and plastic is carried out	Suspended Solids	
Oyster processing	Grit, Suspended Solids	
Screen printing	Suspended Solids	
Stencil Stripping	Suspended Solids	
Stone Working	Suspended Solids	

6.0 HGP Specifications



Model	A	B	C	D	E
HGP 550	1060	980	1120	1550	720
HGP 1000	1060	980	2060	1550	720
HGP 1500	1060	980	3000	1550	720

