

Hynds Megapit[®]

Technical Guide D5.10

Hynds Megapit[®] units are designed for installation in areas where there is a need to intercept very high volumes of stormwater (up to 800 litres/second).



08.25 | DRAINAGE | D5.10 HYNDS MEGAPIT

Applications

Capture of very high flow stormwater
Provision of extended inlet capacity
Inner city locations

Product Attributes

Simple installation
(refer to installation guide)
Two piece unit
Multiple stormwater capture
Narrow footprint

Robust construction

Low maintenance

Approvals/Standards

Designed in accordance with Auckland
Transport Code of Practice RD045
NZS 3109 Concrete Construction

Sustainability

Available in Hynds LC[®] low
carbon concrete
Verifiable carbon footprint data available

Customisable for
climate-resilient infrastructure

Quality/Environment/Health & Safety

Hynds management systems are
certified to ISO 9001:2015, 45001:2015,
and 14001:2018 standards

Hynds Megapit® units are designed for installation in areas where there is a need to intercept very high volumes of stormwater (up to 800 litres/second).



The Megapit® is ideal for situations where flow rates are in excess of the capacity of standard superpit and catchpit installations. Stormwater is directed into the Megapit® through an extended roadside grate and an extended back entry inlet under the kerb. The compact footprint is ideal for inner city locations where it can be fitted without much interference to existing services, particularly those behind the kerb. The Megapit® is manufactured in high quality reinforced concrete with galvanised iron grates and steel bullnose kerb protection for long life and low maintenance.

Features

- Robust 3 chamber tank unit.
- The narrow width and installation position (partly under the kerb and partly under the roadway) minimises interference with existing or proposed services behind the kerb.
- Flow capacity. Flow patterns at intake structures are complex and very dependant on site conditions. The theoretical flow capacities detailed in Table 1 are based on an orifice formula and should only be used as a guide. It is the responsibility of the design engineer to verify the flow capacity for each appropriate case.
- Designed for HN:HO:72 Loading.
- Robust construction using reinforced concrete and galvanised steel grates and kerb nosing.
- Grates available in Class C or Class D as required.
- Grates can include heel guard for protection for cyclists and pedestrians (but will reduce flow capacity).

Installation

The Megapit® comprises two pieces for ease of handling.

The tank section is supplied in two configurations depending on the specific requirements of the site and outlet conditions. This unit sits partly under the kerb and partly under the roadway.

The lid section contains the extended grate at road level and the extended kerb with the back entry inlet.

The kerb section is formed by special galvanised chequer plate steel bullnose which provides increased strength and protection to the kerb inlet.

Construction Notes

- The following work is undertaken, on site, by the contractor at the time of installation:
- Epoxy horizontal joint between lid and tank units.
- Grout locating pins between lid and tank units.
- Determine size and position of outlet pipe and core drill hole as required.

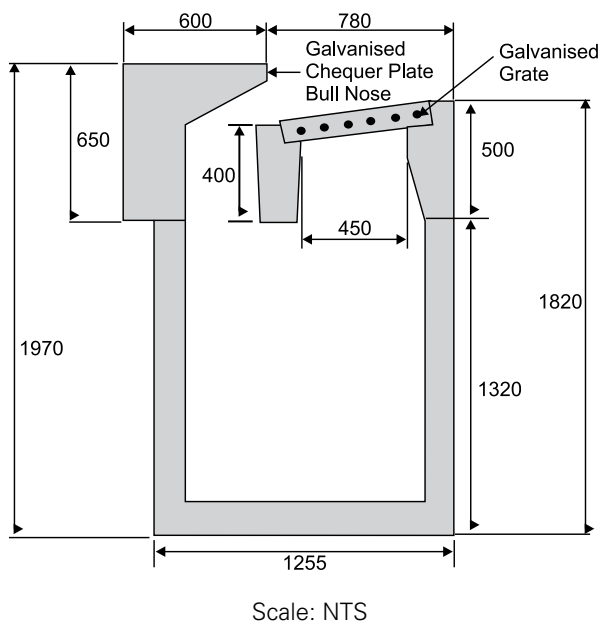


FIG. 1 Figure 1: Standard Megapit®.

TABLE 1 Megapit Flow Capacities

Gutter flow depth (mm)	200	150	100
Average head over grate (mm)	150	100	50
Length of back entry (m)	3.24	3.24	3.24
Length of grate (m)	2.88	2.88	2.88
Theoretical flow (Litres/second)	800	680	500

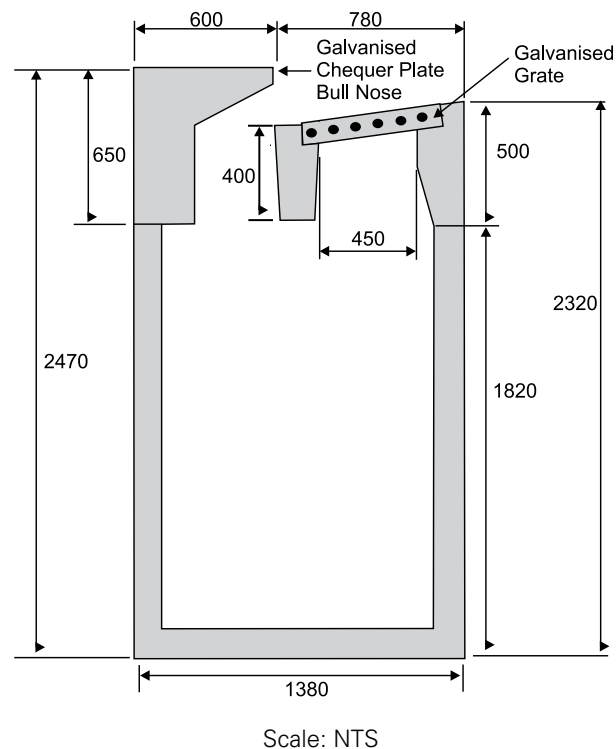


FIG. 2 Figure 2: Extra deep Megapit®.

TABLE 2 Megapit Inlet Dimensions

Unit	Length (mm)	Width (m)	Depth (m)	Weight (kg)
Tank (Standard)	3620	1255	1320	7200
Tank (Extra Deep)	3620	1380	1820	8400
Lid	3620	1380	650 / 500	4100

Lifting and Handling

All Hynds Megapits® incorporate lifting anchors for safe lifting and must be used with the correct lifting clutch. Hynds Pipe Systems has designed and manufactured Hynds Megapits® with a minimum dynamic factor of 1.2. This dynamic factor requires that all the following conditions are observed when lifting, moving or placing the Megapits:

- Lifting with mobile plant (*such as an excavator or similar*) where equipment is specifically exempt from the requirements of the PECPR Regulations 1999, subject to the conditions outlined in the New Zealand Gazette, No. 104, September 2015 and
- Lifting, travelling and placing over rough or uneven ground where anchor failure is not anticipated to cause harm or injury, by adopting procedures such as:
 - Transporting the element as close as practical to ground level (300mm recommended)
 - Establishing and maintaining exclusion zones

- Transporting only precast concrete elements that are unlikely to topple if they were to hit the ground
 - Inspecting lifting anchors both after transportation and before final lifting into place
- Hynds uses both Reids and Ancon lifting anchors which are both designed to (*Haeussler*) specifications and as such are compatible with Reid, Deha or Ancon anchors, clutches, and recess formers of the same load range.

Refer to "Safe work with precast concrete - Handling, transportation and erection of precast concrete elements" published by Worksafe New Zealand (October 2018)

Shock loads resulting from travelling with suspended Megapits over rough terrain and uneven ground may exceed design, dynamic and safety factors of the lifting systems. It is essential that care is taken during lifting and transporting as additional stresses could result in anchor failure.

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Disclaimer: While every effort has been made to ensure that the information in this document is correct and accurate, users of Hynds product or information within this document must make their own assessment of suitability for their particular application. Product dimensions are nominal only, and should be verified if critical to a particular installation. No warranty is either expressed, implied, or statutory made by Hynds unless expressly stated in any sale and purchase agreement entered into between Hynds and the user.

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