



8111 uPVC Stormwater Pits

REVISION 02/06/2024

8111.1 Introduction

This supplementary specification refers to the supply and installation of uPVC pits for the purposes of stormwater drainage.

8111.2 Referenced Documents

This supplementary specification shall be read in conjunction with the following:

- MRS01 *“Introduction to Specifications”*;
- MRTS01 *“Introduction to Technical Specifications”*;
- MRS03 and MRTS03 *“Drainage, Retaining Structures and Embankment Slope Protections”*;
- MRS04 and MRTS04 *“Earthworks General”*
- MRC Standard Drawing A3-00870, *“Details of Allotment Grading and Allotment Drainage”*
- Manufacturers Specification and Installation guideline, and
- Project Drawings

8111.3 Description of Work Items

Work items incorporated by this supplementary specification are identified in Section 8111.6 and 8111.7 with individual activities/tasks for measurement and payment sourced from the Bill of Quantities and listed in MRC Supplementary Specification Annexure 8111_1 uPVC Stormwater Pits Section 1

8111.4 Quality Systems Requirements

8111.4.1 Std Test Methods (Testing Regime)

The following minimum testing regime applies to this specification:

Unless otherwise stated the manufacturer certification of the pit and components shall form the basis of the requirements.

Civil works activities associated with the installation of uPVC stormwater pits shall be tested as per the relevant MRTS specification MRTS03, unless otherwise approved by the Superintendent.

8111.4.2 Hold Points, Witness Points and Milestones

The following table represents the minimum inspection requirements for this specification;

Activity	Inspection Type	When
Construction Procedure and other submissions as required by Clause 8107.5	Milestone	4 Weeks prior to works commencing
Inspection of delivered items	Hold Point	At delivery time for each item.
Location of stormwater pit	Witness Point	Prior to excavation commencing.



Base excavation floor (including unsuitable material)	Hold Point	At completion of excavation and compacting
Bedding for stormwater pit	Hold Point	Prior to installing pit
Stormwater pit installed, pipes installed through walls, concrete laid to internal base	Witness Point	Prior to commencing backfilling operations
Concrete laid external to pit around pipe inlets and outlets	Witness Point	Prior to backfilling of pit
Backfilling of pit carried out as per specification	Witness Point	During backfilling activities
Clean outs	Witness point	After all works are complete (kerbing asphalt etc)
Pit surround at design finished surface level	Hold Point	After completion of backfilling and finishing off pit works
Works as Executed documentation	Hold Point	4 weeks prior to practical completion being requested.

8111.4.3 Construction Tolerances

Unless otherwise approved by the Superintendent the following construction tolerances shall apply as to this Specification;

The construction activity outcome shall not depart from the widths, lengths, heights, and shapes specified by the relevant specifications as applies to this specification;

- Concrete tolerances in accordance with MRTS70 Concrete.
- Bedding, laying, and backfill to culvert tolerances in accordance with MRTS03

Tolerances specific to the project are detailed on the design drawings and are included in Clause 2 of MRC Supplementary Specification Annexure 8111_1 uPVC Stormwater Pits

8111.5 Preliminary

The Contractor is to submit the following documentation 4 weeks prior to commencing work or a prestart is conducted:

- Works procedure
- Erosion and Sediment Plan (as required for site/s)
- Traffic Management Plan and TGS's (as required)

MILESTONE

Other preliminary requirements unique to the project will be listed in the MRC Supplementary Specification Annexure 8111_1 uPVC Stormwater Pits

MILESTONE

8111.5.1 Materials

The uPVC Stormwater pits are a proprietary item and must comply with Council's requirements unless otherwise approved by the Superintendent. The dimensions and sizing of the pit shall be as required by the design drawings and documents, a minimum of 50mm's from the external wall of the pipe to the pit corner/s shall be provided. No pipes shall come through the corner of a pit.



As applies to this specification materials also include fixings, lubricants, and sealing agents which form part of the manufacturers specification and installation requirements for the proprietary product specified in the design drawings.

Supply of materials to site is the responsibility of the Contractor at their cost, where items are Principal supplied the nominated storage site shall be obtained from MRC Supplementary Specification Annexure 8111_1 uPVC Stormwater Pits Section 3 and shall be the point of supply.

Where existing uPVC stormwater pits is to be salvaged unless otherwise instructed by the Superintendent MRC Supplementary Specification Annexure 8111_1 uPVC Stormwater Pits Section 4 will detail the items to be salvaged and the nominated storage site. This will also include any reuse of existing items.

All civil items and materials shall be supplied in accordance with MRTS03 and MRTS70

8111.6 Construction

This section lays out the works operations with more detail based on specific requirements of this supplementary specification. Some activities may appear to include items which are stated within other specifications, the purpose is to reinforce that requirement specific to this supplementary specification.

uPVC Stormwater pits shall be installed in the locations shown on the Project Drawings, and in accordance with the details shown on the Project Drawings and manufacturer's specifications.

8111.6.1 Work Operations

Work operations incorporated in this item will include:

- a) **Work operations included in Clause 2.1.5 of MRS01 "Introduction to Standard Specifications";**
- b) **Supply and delivery of pit and pit cover**

All materials, plant, and labour required to carry out the works under this Specification is to be supplied by the Contractor, where the stormwater pits are Principal supplied the designated storage site will be the point of supply for the purposes of this Specification.

All items shall be inspected at delivery to site prior to use. Any items which are damaged are not to be used and are to be returned to the supplier.

HOLD POINT

- c) **Carrying out excavation to design depth and alignment;**

Prior to excavation commencing the location of the stormwater pits are to be marked out on site. **(WITNESS POINT)**

Excavations for the stormwater pits are to be carried out in accordance with design drawings, where there is a lack of detail the manufacturers specification and installation guidelines shall apply.

Excavation of material to level and grade as per design drawings, vertical tolerances shall not exceed +/-10mm, horizontal tolerances +/- 100mm

Bed/Subgrade is to be inspected for areas of unsuitable material

HOLD POINT

If unsuitable material is identified this is to be removed and replaced with approved material as per the instructions of the Superintendent.



d) Utilising or disposing of excavated material

Excess excavated materials shall be disposed of by the contractor or utilised as per Superintendents instructions. Material stockpiled shall ensure that all Environmental ESC measures are in place and maintained.

e) Conformance of bottom of excavation, inclusive of testing (as required);

All loose material is to be removed from the bottom of the excavation.

Excavated floor preparation is to be carried out as per MRTS03 and MRTS04 and is to be presented for inspection by the Superintendent with inspections, geotechnical testing and geometric requirements applying unless otherwise stated in MRC Supplementary Specification Annexure 8111_1 uPVC Stormwater Pits.

HOLD POINT

f) Supply and installation of bedding materials;

The contractor shall supply, install, and compact bedding material as required by the design drawings in accordance with MRTS03.

The bedding shall be finished as per the design levels with the pit to be seated firmly on the compacted bedding and the upper surface of the grate or pit cover being at the design finished surface level.

HOLD POINT

Any divergence of the pit top from the design finished surface level will require the pit to be removed and the bedding reshaped so the pit can be installed to the correct levels as per the design drawings.

g) Installation of pit and pit cover;

Prior to seating the pit in place, the design levels for the inlet and outlet pipes shall be marked and the pit walls cut.

The pit shall be installed and haunched to stabilise while the pipes are inserted and sealed.

h) Installation of stormwater pipe inlets and outlets to pit;

The stormwater pipes shall be fitted through the pit wall and be sealed with a suitable silicon based adhesive/sealant. The use of flanges to support the pipe through the pit wall shall be used, these are to be installed as per the manufacturers requirements.

Where the pit is designed to take roof water or an internal property stormwater system 2 stubs shall be installed and capped until such time as required to be connected as detailed in MRC Standard drawing A3-00870. The openings in the pit shall be core drill and sealed with a suitable silicon based adhesive/sealant.

Concrete is to be laid on the base of the inside of the pit up to the invert of the lowest stormwater pipe, where there is minimal grade between the pipes the concrete is to be shaped invert to invert and benched slightly to form a channel through the pit.

After concreting the inside the grate/lid shall be fixed in placed to ensure the pit retains its shape during backfilling. Larger pits will be required to be braced on the inside.

WITNESS POINT



i) Backfill and compact to FSL.

Prior to backfilling mass concrete shall be poured around the external pipe entries outside the pit walls to provide support to pipes entering the Pit walls.

WITNESS POINT

Concrete shall be left to harden and gain strength prior to backfilling the pit. The contractor shall supply, install, and compact the backfill material as required by the design drawings in accordance with MRTS03 and MRTS04.

WITNESS POINT

The backfill shall be finished at the levels required as per the design drawings and any concrete collar or pavement/paving which is required to be installed.

j) Pit Surround Installation

As required by the design drawings the finished surface shall be installed to the pit lit/grate and be finished flushed to ensure the proposed drainage lines are compliant with the design and surface stormwater flows are directed to the pit.

HOLD POINT

8111.7 Post construction

a) Collection and submission of all As Constructed data including QA data requirements.

Contractor is to supply and submit Works as Executed documentation as required by *MRC D20 - Drawings and Documentation* for approval by the Superintendent 4 weeks prior to requesting a practical completion inspection.

HOLD POINT

Format of submitted “As Constructed” documentation shall be compliant with MRC Supplementary Specification 8919.

8111.8 Measurement and Payment

Provision for these works shall be included in the scheduled unit rate for the items show in Clause 8111.3 of this Supplementary Specification and Annexure. No separate payment will be made for the works specified within this Supplementary specification or it’s annexure.

Version Control:

Version	Description	Reviewed / Endorsed	Date
1.0	Previous Version	MRC	09.02.22
2.0	Specification Review	C. Sultana	02.06.2024