headwalls XL/XXL installation guide

fpmccann

This guide is intended for use by persons responsible for the installation of the XL & XXL Headwalls manufactured by FP McCann

1.0 Introduction

- This document describes the recommended procedure for the installation of FP McCann Extra Large Easi-Headwall the reinforced Precast Concrete Headwall unit used in drainage outfalls.

Headwall Range	Up to & including Pipe Sizes	Max Pipe O.D. mm	Approx. Weight (Kg)
HW XXL	2100	2475	Part A 8000 Part B 8000
HW XL	1500	1830	Part A 4750 Part B 4750

2.0 Disclaimer

- This document is produced by FP McCann as a ***'recommended guideline document to the industry'.***
- Its purpose is to aid contractors in the installation of the FP McCann Precast Concrete Extra Large Headwall. It is the responsibility of the contractor to ensure that the Precast Concrete Headwall is carried out in accordance with the design specifications for the site.
- It is the responsibility of the contractor to install the Precast Concrete Headwall safely in accordance with site conditions.

3.0 Receipt and Handling of Extra Large Headwall on Site

1. Time and place of off-loading should be agreed before units arrive at site. For safety, all units are delivered in the upright position as installed. The units when off-loaded should be placed on 250mm skids as delivered and off-loaded to ensure no damage to the toe end. Units must be stored individually and not stacked.
2. Off-loading should take place at the nearest hard standing area to the point of installation.
3. Off-loading must be carried out using appropriate lifting equipment. It is recommended that telescopic handlers or equivalent with forklift toes are used to off-load on site; avoiding the necessity for operatives having to climb onto the trailer. Each Headwall section is supplied with 3 lifting anchors cast into the reinforcing in the floor and wall of the unit. Lifting loops are attached to these anchors and 3 legged adjustable chains *(1 leg shortened)* are used to transport on site, fix into position and used for jointing both halves.
4. Carefully inspect units during off-loading to verify that products are undamaged and comply with order placed. Two types of check are required:

Visual: Inspect the Headwall for any sign of damage, including cracked or chipped concrete, or damage that could affect the performance.

Design: Check that the item received is the one ordered. Headwalls are a standard FP McCann product and are labelled with the following information:

a. Headwall Size
b. Pipe Type
c. Pipe Diameter
d. Production date
e. Site / Customer Ref
f. Customer Order No. (if applicable)

5. All FP McCann products are stamped with the production date (this is a quality control procedure).

6. Any Headwalls rejected should be labelled and stored separately with the discrepancies for each noted on the delivery docket and reported for further action.

4.0 Installation of Precast Concrete Headwall

The Headwall is manufactured as a 2 piece precast concrete unit; to be joined on site upon installation. FP McCann operates a Quality Management System accredited to ISO 9001:2008 with all constituent products subject to regular quality inspection. The headwalls are manufactured to structural classes XD2 and XD3/4 depending on actual unit and use required.

1. Cut and install the last section of pipe that the headwall will cover. Ensure that the pipe is fully fitted leaving a section of pipe free from backfill to accept the headwall.

2. Excavate to formation level; this should be approx 750mm below the floor level of the Headwall. Place and compact approx. 300mm of 50mm clean drainage stone or similar free drainage aggregate (compacted in 100mm layers), then place approx. 200mm of lean mix concrete ensuring a level surface.

3. Check that the correct Headwall has been brought to the installation point. Cross reference and check pipe connection diameter to that of the Headwall. The movement of the Headwall on site must be undertaken in a manner that is safe and will not cause any damage to the unit in any way – the use of the cast in lifting anchors fitted with loops and connected to a standard set of 3 legged adjustable chains *(1 leg shortened)* is recommended.

4. Place Part A of the Headwall unit onto the bedded surface. It is essential that the Headwall is positioned in the centre of the pipe and is levelled. Placing a shim at the bottom of the pipe to position is recommended.

5. Clean the receiving jointing groove of Part A and place a 20mm bed of construction adhesive mortar *(supplied with the units)* onto the groove, ensuring a uniform bed.

6. Clean the corresponding jointing surface of Part B and lift into position. Clean all excess mortar that is forced out when both halves are jointed.

7. Using the appropriate grout or an epoxy resin, fill in the void between the reinforced concrete headwall and the pipe. This will ensure a firm fit. Backfill the pipe section between the headwall and embankment. It is recommended that 300mm surround of 50mm or similar free drainage aggregate is used to surround the headwall to ensure good groundwater drainage.