

<b>Hamilton City Development Manual</b>	
<b>Volume 3 : Standard Technical Specifications</b>	<b>Part 6 — Water Supply</b>
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## **SECTION B : INSTALLATION OF STEEL PIPELINES**

### **1.0 INTRODUCTION**

All watermain pipe laying and associated fitting installation shall only be carried out by a qualified Water Service Person holding the qualification of National Certificate in Water Reticulation.

### **2.0 SCOPE**

This specification covers the laying of concrete lined spiral steel (CLSS) pipes for use within the Hamilton City Council Water Reticulation network and is to be read in conjunction with the following documents :

- i. Drawings pertaining to the main to be laid (including service drawings)
- ii. Manufacturers instructions for the handling, storage and laying of the pipe being used.

### **3.0 MATERIALS**

Acceptable materials are listed in Section A of this Specification.

### **4.0 HANDLING AND STORAGE**

Procedures for the handling and storage of pipes (and pipe fittings) shall be as recommended by the pipe manufacturer.

Notwithstanding the above, the following shall apply :

- i) No hooks, wire slings or chains shall be used to lift the pipes.
- ii) Pipes larger than 450mm in diameter shall not be stacked more than 2 pipes high.
- iii) Defects in the lining or coating shall be repaired to the satisfaction of Council.

### **5.0 PIPELAYING**

#### **5.1 Trench Excavation**

Trench widths in the region of the pipe invert to just above the top of the pipe, shall be kept to a minimum consistent with good practice and safety to workers.

#### **5.2 Bedding**

Water main pipes shall be bedded on suitably fine, evenly-graded granular material, either natural or imported, of a minimum depth of 100mm.

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### **5.3 Laying Of Pipes And Fittings**

Pipes shall be laid in accordance with the approved pipe manufacturers specifications.

Pipes and fittings shall be free of defects (internally & externally) and dirt on the inside, prior to lowering them into the excavation. Pipes shall be set true to line and level and care taken to ensure that joints are kept free from dirt.

Pipes shall be laid with product labelling uppermost in the trench.

At anytime when the Contractor is not actually working on the pipeline, open pipe ends shall be blanked off in a manner which prevents the ingress of animals and deleterious material.

### **5.4 Backfill and Reinstatement**

Backfill material in the vicinity of the pipeline, haunch support, mid-section support and pipe cover, shall be of the same material as approved for the pipe bedding material in Section 5.2. This material shall be compacted optimum density in layers not exceeding 100mm depth. This material shall provide pipe cover to a depth of at least 100mm.

Trenches shall be backfilled and reinstated in accordance with the requirements of Clause 13 of Part 3 (Roadworks) of this Volume.

## **6.0 JOINTING**

### **6.1 Welded Joints**

Welding plant and equipment shall comply with the requirements of NZS 4701 (latest edition) and workmanship shall be in accordance with the latest editions of BS 499 Parts 1 & 2 and BS 2971.

All welding shall be carried out by fully certificated welders.

Where access to the inside of the joint is feasible, then both this and the external joint shall be fully welded with 6mm fillet welds using standard welding bands.

Once completed, all welds shall be hydrostatically tested to 100m for 30 mins with no drop in test pressure, or visible leakage. Completed welds shall be signed off on a suitable weld test sheet.

### **6.2 Rubber Ring Joints (where applicable)**

The joint shall be made in accordance with the manufacturer's recommendation and inspected internally (where feasible). All joints should be inspected externally to ensure that the rubber ring is in the correct position and is located at an even distance from the socket end of the pipe.

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**6.3 Corrosion Protection**

On welded joints, the internal welds (where possible) shall be brushed clean, and a cement mortar, or other approved material, applied to the joint to the same thickness as the pipe lining.

The exterior of the pipe shall be completely protected by the manufacturer's applied coating or a heat shrink sleeve (Raychem WPC or similar) to provide corrosion resistance.