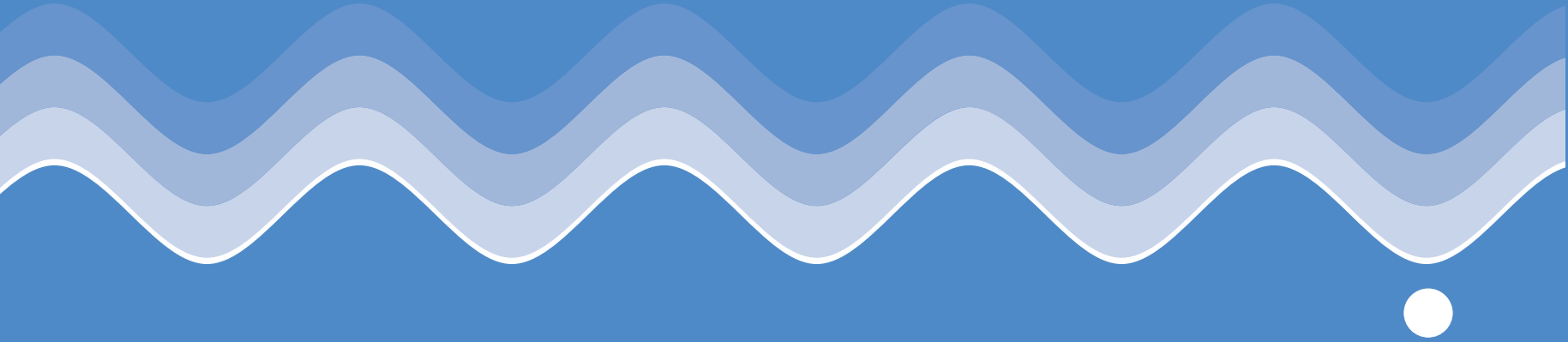




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City West Water
LIMITED



SOUTH EAST
WATER



Yarra Valley Water

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27 COMMENTARY On WAT–1100 SERIES – PIPELINE layout

- 27.1 General
- 27.2 WAT–1100 and WAT–1101 – Design layouts
 - 27.2.1 WAT–1100 – Typical locality plan
 - 27.2.2 WAT–1101 – Typical site plan
- 27.3 WAT–1102-V, WAT-1103-V, WAT-1104 and WAT–1105 – Typical mains construction
 - 27.3.1 WAT–1102-V – Reticulation main arrangements
 - 27.3.2 WAT–1103-V – Distribution and transfer mains
 - 27.3.3 WAT–1104 – DN 63 PE cul-de-sac arrangement
 - 27.3.4 WAT–1105 – Connection to existing mains
- 27.4 WAT–1106-V and WAT–1107-V – Property services – Main-to-meter
- 27.5 WAT–1108-V – Property services – Connection to main
- 27.6 WAT–1109 – Property services – Above ground meter assembly arrangement
- MRWA 27.7 WAT–1121-M – Typical Mains Construction – Polyethylene Water Mains in Residential Cul-de-Sac
- MRWA 27.8 WAT–1122-M - Design Layout - Typical Design Plan

28 COMMENTARY On WAT–1200 SERIES DRAWINGS – Embedment, trench fill and restraints

- 28.1 General
- 28.2 WAT–1200 – Soil classification guidelines
- 28.3 WAT–1201-V – Embedment and trench fill
- 28.4 WAT–1202-V – Standard embedment – All pipe types
- 28.5 WAT–1203 – Special embedments – Inadequate and poor foundation
- 28.6 WAT–1204-V – Special embedments – Concrete, geotextile and cement stabilised systems
- 28.7 WAT–1205 – Thrust block details – Concrete blocks
- 28.8 WAT–1206 – Thrust block details – Timber & recycled plastic blocks
- 28.9 WAT–1207 – Thrust and anchor blocks – Gate valves and vertical bends
- 28.10 WAT–1208 – Restrained joint system – DN 100 to DN 375 DI mains
- 28.11 WAT–1209 – Trench drainage – Bulkheads and trenchstop
- 28.12 WAT–1210 – Trench drainage – Typical systems
- 28.13 WAT–1211, WAT-1212, WAT-1213 and WAT–1214 – Buried crossings
- MRWA 28.14 WAT–1251-M – External Corrosion Protection Coatings
- MRWA 28.15 WAT–1254-M – Special Trench Details – Water Main Passing Under Reticulation Sewer
- MRWA 28.16 WAT–1255-M – Trench Drainage – Earthwork Drainage Stops
- MRWA 28.17 WAT–1256-M and WAT–1260-M – Standard Trench Details
- MRWA 28.18 WAT–1257-M – Thrust Block Details
- MRWA 28.19 WAT–1258-M AND WAT–1259-M – Anchorage Details

29 COMMENTARY On WAT–1300 SERIES – INSTALLATION PRACTICES / STRUCTURES

- 29.1 General
- 29.2 WAT–1300-V – Valve and hydrant identification

- 29.3 WAT–1301 and WAT–1302 – Typical valve & hydrant installation
- 29.4 WAT–1303, WAT-1304, WAT-1305-V and WAT–1306 – Typical surface fitting installation
- 29.5 WAT–1307 – Typical appurtenance (scour) installation
- 29.6 WAT–1308 and WAT–1309 – Typical appurtenaNce (valve) installation
- 29.7 WAT–1310, WAT-1311 and WAT–1312 – Aerial crossings
- 29.8 WAT–1313 – Flanged joints
- MRWA 29.9 WAT–1320-M – Temporary valve and hydrant installation – Wash out and chlorination installation
- MRWA 29.10 WAT–1321-M – Temporary appurtenance installation – Swabbing discharge assembly

30 COMMENTARY ON WAT–1400 SERIES – FABRICATION DETAILS

- 30.1 General
- 30.2 WAT–1400 – Typical steel pipe jointing – Butt welding of joints
- 30.3 WAT–1401 – Typical steel pipe jointing – RRJ spigot bands
- 30.4 WAT–1402 – Typical steel pipe jointing – Welded pipe collars
- 30.5 WAT–1403 – Typical steel fabrication – Bends
- 30.6 WAT–1404 – Typical steel fabrication – Access openings
- 30.7 WAT–1405 – Typical steel fabrication – Dismantling and flexible joints
- 30.8 WAT–1406 and WAT–1407 – Valve connection & by-pass arrangements
- 30.9 WAT-1408 – Joint corrosion protection
- 30.10 WAT-1409 – Hydrant installation fittings – PE assemblies
- MRWA 30.11 WAT–1410-M and WAT–1411-M – Cathodic protection system

STANDARD DRAWINGS

TABLES

- TABLE 28.1 MINIMUM TRENCH DIMENSIONS

26 LISTING OF STANDARD DRAWINGS

DRAWING NUMBER	ACTIVITY	TITLE	Equivalent 1999 DRAWING NUMBER
PIPELINE LAYOUT			
WAT-1100*	Design Layouts	Typical Locality Plan	
WAT-1101*	Design Layouts	Typical Site Plan	
WAT-1102-V	Typical Mains Construction	Reticulation Main Arrangements	WAT-200
WAT-1103-V	Typical Mains Construction	Distribution and Transfer Mains	WAT-201
WAT-1104*	Typical Mains Construction	DN 63 PE Cul-de-Sac Arrangement	WAT-202
WAT-1105	Typical Mains Construction	Connection to Existing Mains	
WAT-1106-V	Property Services	Single Service Main to Meter	WAT-300
WAT-1107-V	Property Services	Split Service Main to Meter	WAT-301
WAT-1108-V	Property Services	Connection to Main	WAT-302
WAT-1109	Property Services	Above Ground Meter Assembly Arrangement	WAT-303
WAT-1121-M	Typical Mains Construction	Polyethylene Water Mains in Residential Cul-de-Sac	
WAT-1122-M	Design Layout	Typical Design Plan	
EMBEDMENT / TRENCHFILL AND RESTRAINTS			
WAT-1200	Soil Classification Guidelines	And Allowable Bearing Pressures for Anchors and Thrust Blocks	WAT-400
WAT-1201-V	Embedment & Trenchfill	Typical Arrangement	WAT-100
WAT-1202-V	Standard Embedment	All Pipe Types	
WAT-1203	Special Embedments	Inadequate and Poor Foundation	WAT-101
WAT-1204-V	Special Embedments	Concrete, Geotextile and Cement Stabilised Systems	WAT-102
WAT-1205	Thrust Block Details	Concrete Blocks	WAT-203
WAT-1206	Thrust Block Details	Timber & Recycled Plastic Blocks	WAT-204
WAT-1207	Thrust and Anchor Blocks	Gate Valves and Vertical Bends	WAT-205
WAT-1208	Restrained Joint System	DN 100 to DN 375 DI Mains	
WAT-1209	Trench Drainage	Bulkheads and Trenchstop	WAT-103
WAT-1210	Trench Drainage	Typical Systems	WAT-104
WAT-1211	Buried Crossings	Under Obstructions	WAT-105
WAT-1212	Buried Crossings	Major Roadways	WAT-106
WAT-1213	Buried Crossings	Railways	WAT-107
WAT-1214	Buried Crossings	Bored & Jacked Encasing Pipe Details	
WAT-1251-M	External Corrosion Protection Coatings	Corrosion Protection for Mild Steel Pipe and Fittings	
WAT-1254-M	Special Trench Details	Water Main Passing Under Reticulation Sewer	
WAT-1255-M	Trench Drainage	Earthwork Drainage Stop	
WAT-1256-M	Standard Trench Details	Transfer and Distribution Mains DN 300 to DN 750	

DRAWING NUMBER	ACTIVITY	TITLE	Equivalent 1999 DRAWING NUMBER
WAT-1257-M	Thrust Block Details	DN 450 to DN 750 Mains	
WAT-1258-M	Anchorage Details	Stop Valve Installations up to DN 1200 SCL Mains	
WAT-1259-M	Anchorage Details	Stop Valve Installations up to DN 750 DICL Mains	
WAT-1260-M	Standard Trench Details	Reticulation Mains DN 100 to DN 375	
INSTALLATION PRACTICES/ STRUCTURES			
WAT-1300-V	Valve and Hydrant Identification	Identification Markers & Marker Posts	WAT-207
WAT-1301	Typical Valve & Hydrant Installation	Valve Arrangement	WAT-206
WAT-1302	Typical Valve & Hydrant Installation	Hydrants and Air Relief Valves	WAT-206 WAT-210
WAT-1303	Typical Surface Fitting Installation	Gate Valve Surface Boxes Non Trafficable	WAT-208 WAT-209
WAT-1304	Typical Surface Fitting Installation	Gate Valve Surface Boxes Trafficable	
WAT-1305-V	Typical Surface Fitting Installation	Hydrant Surface Boxes Trafficable and Non Trafficable	
WAT-1306	Typical Surface Fitting Installation	Hydrant Surface Boxes Trafficable	
WAT-1307	Typical Appurtenance Installation	Scour Arrangements	WAT-211
WAT-1308	Typical Appurtenance Installation	Valve Chambers	
WAT-1309	Typical Appurtenance Installation	Pressure Reducing Valves (PRV)	WAT-213
WAT-1310	Aerial Crossings	Aqueduct	WAT-108
WAT-1311	Aerial Crossings	Aqueduct Protection Grille	WAT-109
WAT-1312	Aerial Crossings	Bridge Crossing Concepts	
WAT-1313	Flanged Joints	Bolting Details	
WAT-1320-M	Temporary Valve & Hydrant Installation	Wash Out and Chlorination Installation	
WAT-1321-M	Temporary Appurtenance Installation	Swabbing Discharge Assembly	
FABRICATION DETAILS			
WAT-1400	Typical Steel Pipe Jointing	Butt Welding of Joints	
WAT-1401	Typical Steel Pipe Jointing	Rubber Ring Joint Spigot Bands	
WAT-1402	Typical Steel Pipe Jointing	Welded Pipe Collars	
WAT-1403	Typical Steel Fabrication	Bends	
WAT-1404	Typical Steel Fabrication	Access Opening for Pipes \geq DN 750	
WAT-1405	Typical Steel Fabrication	Dismantling and Flexible Joints	
WAT-1406	Typical Steel Fabrication	Valve Connection & Bypass	
WAT-1407	DI Installation	Valve Bypass Arrangement DI and GRP Pipe	
WAT-1408	Joint Corrosion Protection	Cement Mortar Lined Steel Pipe DN 300 to DN 1200	
WAT-1409	Hydrant Installation Fittings	PE Assemblies	PE Code
WAT-1410-M	Cathodic Protection System	Electrolysis Test Connections Steel Mains DN 100 – DN 300)	
WAT-1411-M	Cathodic Protection System	Electrolysis Test Connections Steel Mains DN 375 – DN 2100)	

DRAWING NUMBER	ACTIVITY	TITLE	Equivalent 1999 DRAWING NUMBER
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NOTE: 1999 Drawing WAT-212 – “Swabbing Point Typical Arrangement” has been deleted from the new series of drawings

* These Drawings are **NOT** used by MRWA