



# Supplementary product catalogue for non-pressure pipeline systems

This supplementary catalogue is to be read in conjunction with  
the MRWA Products Web Portal

[www.mrwa.com.au/Pages/Products.aspx](http://www.mrwa.com.au/Pages/Products.aspx)

# Contents

<b>Document control information .....</b>	<b>4</b>
Document details.....	4
Document history.....	4
Disclaimer.....	5
<b>About this catalogue .....</b>	<b>6</b>
Product approval policy .....	6
Product approval process .....	6
Intended audience .....	7
Related reference material .....	7
Instructions for downloading WSAA Product Specifications.....	8
Organisation of this catalogue .....	9
Information .....	9
<b>Identification of buried Barwon Water network infrastructure by colour .....</b>	<b>10</b>
Introduction.....	10
Barwon Water Buried Infrastructure Pipe Colours.....	10
<b>Section 1 – Limitations.....</b>	<b>12</b>
PVC sewer tees.....	13
Tapers .....	14
Moulded DWV PVC-U Elastomeric Seal Fittings.....	15
Connectors .....	15
End seals .....	15
Elastomeric seals .....	15
Glass Reinforced Plastic (GRP) pipelines systems.....	15
Polyethylene sewer system .....	15
Vitrified clay systems .....	15
Ductile iron pipeline system .....	15
Ductile iron pipe for gravity sewers .....	15
Ductile iron fittings for gravity sewers.....	16
Steel pipeline systems.....	16
Pipes and fittings .....	16
ABS pipeline systems.....	16
Polypropylene sewer system .....	17
Profile wall polypropylene sewerage pipelines (RRJ).....	17
Polypropylene fittings .....	18
PE fittings for profile wall polypropylene sewerage pipelines .....	18
GRP fittings for profile wall polypropylene sewerage pipelines .....	18
PVC composite fittings for profile wall polypropylene sewerage pipelines.....	18
Jacking pipe system .....	19
Vitrified Clay Jacking Pipe System .....	19
Steel Reinforced Concrete Jacking PIPE systems.....	19
Centrifugally Cast CC - Glass Reinforced Plastic (GRP) jacking pipe systems .....	19
Maintenance structures .....	19
Maintenance shafts .....	19
PVC-U Maintenance shaft – MS Inline (180) .....	19
PVC-U Maintenance shaft – terminal MS .....	20
Precast Concrete DN 600 Maintenance Shaft with DN 600 access cover and frame.....	21
Precast Concrete DN 600 Maintenance Shaft with DN 300 access cover and frame.....	22
EZIpit™ Shaft.....	23
Sewer Maintenance Shafts (SMS).....	23
Maintenance shafts – miscellaneous fittings .....	25

## Uncontrolled if printed or downloaded

Page 2 of 42

Issue A Revision 02

PVC-U vertical riser (Shaft) ..... 25  
Maintenance hole – accessories..... 26  
Access chamber fittings..... 26  
Surface fittings..... 27  
Circular Access Cover and Frame ..... 27  
Single part square access cover and frame ..... 28  
Maintenance shaft covers ..... 29  
Repair Fittings ..... 30  
Access Chamber Systems..... 30  
Stainless steel joiners, repair clamps and junction clamps..... 30  
Stainless steel repair clamps ..... 30  
Maintenance products ..... 30

**Section 2 – Exclusions..... 31**  
Items excluded for use at Barwon Water (approved for use at CWW) ..... 32

## Document control information

### Document details

**Document name:** Supplementary catalogue for non-pressure Pipeline Systems  
**Document issue:** A  
**Document Revision No:** 01  
**Document owner:** Co-ordinator, Infrastructure Standards Review Committee  
**Prepared by:** Peter Stapleton, Graham Thomson, Terry Mulroyan, David Reid.  
**Date approved:**  
**Approved by:** GM Capital Projects  
**Next scheduled review date:** 1 September 2012

### Document history

Issue	Revision	Date approved	Page or Paragraph	Change	Reason for change
A	1			First addition	
A	2	14/02/2024	Entire document	Removal of outdate information	Removal of outdated information.

## Disclaimer

Barwon Water will assume no responsibility for any errors that may appear in this catalogue or any damages, loss, claim, action, liability, cost or deficiency of any kind or character which the user of this document suffers or incurs arising out of the use or inability to use this document.

## Acknowledgment

Barwon Water would like to acknowledge City West Water's Pressure Systems Catalogue which has been used as a basis to create our supplementary catalogue.

## About this catalogue

This catalogue is to be used as a supplement to the products list for non-pressure pipeline systems produced by City West Water (CWW), as shown on the MRWA Product Web Portal (the web portal) located at: [www.mrwa.com.au/Pages/Products.aspx](http://www.mrwa.com.au/Pages/Products.aspx).

Barwon Water has adopted a similar products list for non-pressure pipeline systems, however there are some differences between the products approved for use by CWW and Barwon Water.

For ease of use, this catalogue is arranged into the three sections, as follows:

### Section 1: Limitations

Products listed with CWW but with limitations for their use at Barwon Water

### Section 2: Exclusions

Products listed with CWW but not approved for use at Barwon Water

Barwon Water will regularly review and update this catalogue when required.

## Product approval policy

If a product is excluded or not shown, application may be made to Barwon Water for its adoption. Application can be made under the following circumstances.

Barwon Water will only appraise a product if it meets the following criteria:

- a. the product fulfils an infrastructure need that no existing approved product can meet, and
- b. there is a positive WSAA appraisal, or,
- c. there is a comprehensive and positive appraisal by a Melbourne Retail Water Agency (MRWA).

Barwon Water will:

- assess whether it is more appropriate for the product to be first directed to WSAA for appraisal
- assess products without a positive WSAA or MRWA appraisal at Barwon Water's discretion;
- elect to conduct a trial and/or provide provisional or interim approval at its discretion.

## Product approval process

Considering the policy above, any supplier may apply to Barwon Water to have its product assessed for inclusion in Barwon Water's Catalogue.

Please refer to Barwon Water's products and standards page at [www.barwonwater.vic.gov.au/business/products-and-standards](http://www.barwonwater.vic.gov.au/business/products-and-standards).

Barwon Water will assess the product or material according to following criteria:

- Previous product appraisals
- Health, safety and environmental considerations
- Applicability and compatibility with existing systems
- Whole-of-life cost
- Service life
- Availability of Australian or other relevant standard
- Availability of conformity assessments / product certifications
- Ease of installation
- Operability and maintainability
- Performance history

If a new product is approved for use at CWW, that product will be excluded from use in Barwon Water's network until Barwon Water has reviewed the CWW report.

Purchasers of products should obtain a declaration from the supplier that products purchased do, in fact, conform in every aspect to the products listed in this catalogue and/or the products web portal.

Products listed in this catalogue, having a reference to a WSAA product specification, as published in [www.wsaa.asn.au](http://www.wsaa.asn.au), shall conform to the relevant product specifications.

## Intended audience

This catalogue is intended for Barwon Water employees, suppliers, vendors, consultants and contractors engaged in the design, construction and maintenance of Barwon Water's gravity sewer reticulation system.

## Related reference material

The information in this catalogue should be read in conjunction with:

- Melbourne Retail Water Agencies (MRWA) Edition of the Water Services Association of Australia (WSAA) Sewerage Code of Australia WSA 02-2002-2.3.
- Barwon Water Supplement to Water Services Association of Australia (WSAA) Sewerage Pumping Station Code of Australia 27 June 2008.
- The Water Services Association of Australia (WSAA) Product Specifications (refer to <http://www.wsaa.asn.au> / Product Appraisals / Product Specifications).
- The Water Services Association of Australia (WSAA) Product and Material Information Guidance Notes (refer to <http://www.wsaa.asn.au> / National Codes / Codes of Practice/ Products and Materials Guidance).

Not all products and materials appraised by WSAA are approved for use in Barwon Water pipeline systems.

\*\* Australian Standards, WSAA Product Specifications and Water Industry Specifications.

**Uncontrolled if printed or downloaded.**

Page 7 of 42  
Issue A Revision 02

## Instructions for downloading WSAA Product Specifications

Click [here](#) to download or view a full set of product specifications. The file will open at the contents page of the product specifications. Using the F5 key, readers can navigate around the document using the bookmarks.

Alternatively, you can access the WSAA website [www.wsaa.asn.au](http://www.wsaa.asn.au) and download a full set of products specifications.

Product specifications will continue to be developed as more Industry Standards and Australian Standards are published.



## Organisation of this catalogue

The information for each product in this catalogue is formatted as shown below.

<b>Supplier</b>	Suppliers may be a reseller and not necessarily the manufacturer.
<b>Brand Name</b>	The marketing name used by the manufacturer of the product. This lists the brand name of approved products that are known to comply with water company requirements. See end of catalogue for contact details of manufacturers and suppliers that stock products listed in this catalogue. Supplier list may not be exhaustive.
<b>Material</b>	This lists the materials used in the manufacture of the product.
<b>Standard Drawing</b>	This gives the series or nominated drawing(s) showing where the product is used.
<b>Normal Size DN</b>	An alphanumeric designation of size for components of a pipeline system, which is used for reference purposes. It comprises the letters DN followed by a dimensionless whole number, which is indirectly related to the physical size, in millimeters, of the bore or outside diameter of the end connections.
<b>Pipe or Fitting type</b>	The pipe or fitting type complying in design and with the relevant Standard, and included in the Manufacturers Product Certification schedule, unless otherwise approved by the Water Agency.
<b>PN Rating</b>	Pressure rating marked on a pipe, fitting or appurtenance indicating the maximum pressure at which it can operate throughout its design life at a specified reference temperature, generally 20°C. The rated pressure incorporates a safety factor.
<b>Additional Fittings</b>	Additional fittings, not covered by the Manufacturers Product Certification schedule, have been assessed and approved for use by Barwon Water.
<b>Special Conditions</b>	Special conditions imposed by Barwon Water on the use of the listed product.
<b>Certifications Schedule</b>	The Certification Schedule describes and details the products produced by the manufacturers and which comply with the appropriate Standard.

Product specifications, Australian Standards and International Standards relevant to products listed are shown at the beginning of each product category.

## Information

For further information and to advise of possible errors, omissions and changes required for future revisions, please email [standards@barwonwater.vic.gov.au](mailto:standards@barwonwater.vic.gov.au).

**Uncontrolled if printed or downloaded.**

Page 9 of 42  
Issue A Revision 02

# Identification of buried Barwon Water network infrastructure by colour

## Introduction

Buried infrastructure networks, principally pipeline systems, are often colour coded to assist with the identification of the pipeline contents. There is no Australian (or International) Standard that comprehensively addresses the identification colours for buried infrastructure.


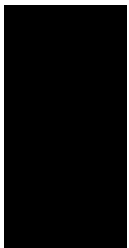
This guideline collates and clarifies the position adopted by Barwon Water relating to buried infrastructure colour.

## Barwon Water Buried Infrastructure Pipe Colours

Table 1 (below) summaries Barwon Water’s agreed colours chosen to identify buried Barwon Water pipeline infrastructure, developed based on the following assumptions:

1. The colour coding is limited to smaller sized pipes  $\leq$  DN 375 used for reticulation/distribution and colour coding of larger pipes – to be determined project-by-project.
2. Colour coding of pipes  $>$  DN 375 installed using trenchless technology will be determined by Barwon Water on a project-by-project basis.

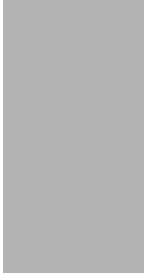
**Table 1: Colour code for buried network infrastructure gravity sewer pipeline**

Application	Colour	Urban Water Industry Practice	Product Specifications	
<b>Gravity Sewerage</b> - Applies to reticulation pipes only, generally $\leq$ DN 300 - For non-reticulation pipes, generally $\geq$ DN 300, colour identification should be specified on a project-by-project basis.	Grey	Adopts applicable Australian Standards or other nominated Standard except where grey or black is not specified in which case where grey is used it shall be: grey nlt Pearl Grey N11 - ndt Cloud Grey N22 - (AS 2700 colours specified)  VC pipe does not require colour coding given that it is not used for any other water utility system other than gravity sewerage <ul style="list-style-type: none"> <li>• All PVC-U plain grey</li> <li>• PE plain black or grey</li> <li>• PP plain black or grey</li> <li>• Ductile iron - coated plain grey or grey PE sleeved</li> <li>• PE sleeving plain grey</li> <li>• Marking tape plain grey</li> </ul> NOTE: Black pipe shall have a white, light grey or yellow internal surface to permit CCTV inspection	PVC-U	PS-230
			VC	PS-231
			PE – plain wall	PS-242
			PE – plain wall and ribbed	PS-241
			PP	PS-240
			DICL	PS-234
			PE sleeving	PS-320
			Marking tape - detectable	PS-318
			Marking tape non-detectable	PS-319
Black				

Notes: 1. nlt – “not lighter than” ndt – “not darker than”

Table 2 summarises Barwon Water’s agreed colours chosen to identify buried Barwon Water appurtenances.

**Table 2: Colour code for buried network infrastructure gravity sewer pipeline appurtenances**

Application	Colour	Urban Water Industry Practice	Product Specifications
<p><b>Gravity sewerage</b></p>	<p>Grey</p> 	<p>Where grey is nominated, it shall be:                      grey nlt Pearl Grey N11 - ndt                      Cloud Grey N22 - (AS 2700                      colours specified)</p> <ul style="list-style-type: none"> <li>No products nominated</li> </ul>	

**Uncontrolled if printed or downloaded.**

## Section 1 – Limitations

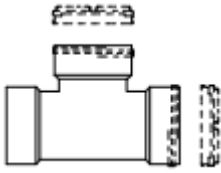
This section presents products listed with City West Water (CWW) and used by Barwon Water, but with limitation(s).

Procedure:

- 1) Check if the product is listed for with CWW under the MRWA web portal [www.mrwa.com.au](http://www.mrwa.com.au).
- 2) If approved with CWW, check Section 1 for limitations and Section 2 for exclusions.

PVC sewer tees

Inspection tees with two threaded caps SOC-SOC-SOC (SCJ)

<b>Material</b>	PVC	
<b>Brand(s)</b>	Aymroo	
	Iplex	
	Vinidex	
		Standard Drawing

Nominal Size (DN x DN) mm	Moulded / Fabricated
225 x 100	F
225 x 150	F
300 x 150	F
375 x 150	F

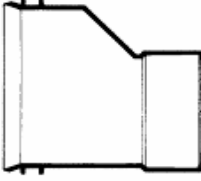
**Note:** This product is for retrofitting of new branches on existing pipelines.

**Barwon Water limitation**

Limited for special applications. An inspection opening is required under any change in direction. For DN > 299mm and by approval only

## Tapers

### Tapers Eccentric SPIG - SOC (SCJ)

<b>Material</b>	PVC		
<b>Brand(s)</b>	Aymroo		
	Fabfit		
	Iplex		
	Key Plastics		
	Vinidex		
	Independent plastic Pty Ltd	Standard Drawing	SEW-1155-M

Nominal Size (DN)
150 - 100
<del>225 - 100</del>
<del>225 - 150</del>
<del>300 - 100</del>
<del>300 - 150</del>
<del>300 - 225</del>

**Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.**

**Barwon Water limitation**  
DN 150 to 100 only.

## Moulded DWV PVC-U Elastomeric Seal Fittings

Refer to the MRWA web portal and double check Section 2 for exclusions.

## Connectors

Refer to the MRWA web portal and double check Section 2 for exclusions.

## End seals

Refer to the MRWA web portal. No exclusions.

## Elastomeric seals

<b>Specification</b>	Refer to the relevant Pipeline Material WSA Product Specification for Elastomeric joint seals.
<b>Australian Standards</b>	AS 1646-2007: Elastomeric seals for waterworks purposes.

Refer to the MRWA web portal. No exclusions.

## Glass Reinforced Plastic (GRP) pipelines systems

<b>Specification</b>	WSA PS – 232 Glass Reinforced Plastic (GRP) Non-Pressure Pipe
	WSA PS – 237 Glass Reinforced Plastic (GRP) Non-Pressure Fittings
<b>Australian Standards</b>	ISO 10467:2004: Plastics piping systems for pressure and non-pressure drainage and sewerage - Glass-reinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP) resin.

Refer to the MRWA web portal and double check Section 2 for exclusions.

## Polyethylene sewer system

<b>Specification</b>	WSA PS – 242 Polyethylene (Plain Wall) Non-Pressure Pipe & Fittings
<b>Australian Standards</b>	AS/NZS 5065:2005 Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications.

Refer to the MRWA web portal and double check Section 2 for exclusions.

## Vitrified clay systems

<b>Specification</b>	WSA PS-231 Vitrified Clay (VC) Pipe and Fittings
----------------------	--

Refer to the MRWA web portal and double check Section 2 for exclusions.

## Ductile iron pipeline system

### Ductile iron pipe for gravity sewers

<b>Specification</b>	WSA PS-234 Ductile Iron Pipe for Gravity Sewers
	WSA PS 239 Ductile Iron Fittings for Gravity Sewers

Refer to the MRWA web portal and double check [Section 2](#) for exclusions

### Ductile iron fittings for gravity sewers

For details refer to the Barwon Water's Pressure Pipeline Systems Products Catalogue.

Cement lined fittings with calcium aluminate are generally not permitted. Specific approval from Barwon Water is required – potential for internal corrosion to be evaluated prior to approval.

### Steel pipeline systems

<b>Specification</b>	WSA PS – 203 Steel Pipe for Water Supply and Sewerage
	WSA PS – 204 Steel Fittings for Water Supply and Sewerage

### Pipes and fittings

Refer to Barwon Water's Supplementary Pressure Pipeline Systems Products Catalogue for a range of approved steel pipes and fittings.

### ABS pipeline systems



<b>Specification</b>	WSA PS-238 ABS Non-Pressure Pipe and Fittings
	WSA PS-212 Ductile Iron Fittings for Plastics Pressure Pipe for Water Supply and Sewerage

Refer to the MRWA web portal. No exclusions



## Polypropylene sewer system

### Profile wall polypropylene sewerage pipelines (RRJ)

<b>Specification</b>	WSA PS - 240 – Polypropylene (Ribbed Construction) Non-Pressure Pipe and Fittings		
<b>Australian Standards</b>	AS/NZS 5065:2005 - Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications.	SewerMAX	SewerPRO
<b>Special Condition</b>	<ul style="list-style-type: none"> <li>SewerPRO is not designed for pipe jacking or boring applications.</li> <li>Minimum pipe stiffness SN 10</li> <li>Length 3 meters for SewerPro and SewerMax</li> <li>Elastomeric seal EPDM or SBR to AS 1646</li> </ul>	Standard Drawing	

Supplier / Manufacturer	Brand Name	Sizes	Limits of Use	Certification Schedule
Vinidex	SewerPRO	DN 150, 225, 300, 375, 450, 525, 600, 750, 900		<a href="#">Vinidex SewerPRO Certification Schedule</a>
Iplex	SewerMAX	DN 225, 300, 375, 450, 525 & 600		<a href="#">Iplex SewerMAX Certification Schedule</a>

#### Barwon Water limitation

If installing a maintenance shaft or manhole, no OBs are to be cut in until vendor supplied fittings are available.

Uncontrolled if printed or downloaded.

## Polypropylene fittings

<b>Specification</b>	WSA PS - 240 – Polypropylene (Ribbed Construction) Non-Pressure Pipe and Fittings
<b>Australian Standard</b>	AS/NZS 5065:2005 - Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications.
<b>Special conditions</b>	Minimum Stiffness SN10 Vinidex Injection Moulded Polypropylene Fittings < DN 150

Supplier	Brand Name	Nominal Size	Fitting Type	SN rating	Additional Fittings	Certification Schedule
Vinidex	SewerPRO (Uniplas Mouldings International Pty Ltd)	See according to types (below)	1 - 14	SN 10		

### \* Fitting Type

1. Coupling PP DN 150	2. Adaptor Couplings PP – PVC RRJ DN 150
3. Junctions PP – 88° DN 150	4. Bends PP – 90° DN 150
5. Adaptor Couplings PP – Ultra Rib DN 150	6. Junctions PP – 45° DN 150 x 100 PVC Branch to DN 450 x 150 PVC Branch
7. Tees PP DN 150 x 150	8. Inspection Tees PP DN 150 x 150
9. Adaptor Coupling PP – VC DN 450mm	10. Junctions PP – 88° DN 150 x 100 PVC Branch
11. Adaptor Couplings PP – PVC SWJ DN 150	12. Push On Caps PP DN 150
13. Bends PP – 45° DN 150	14. Junctions PP – 45° DN 150

### \* Subject to Barwon Water approval

#### Barwon Water limitation

No OBs to be cut in unless vendor supplied fittings are available. Retro fitting process for OBs to approved by Barwon Water.

### PE fittings for profile wall polypropylene sewerage pipelines

Refer to the MRWA web portal and double check **Section 2** for exclusions.

### GRP fittings for profile wall polypropylene sewerage pipelines

GRP fittings are excluded. Refer to Section 2.

### PVC composite fittings for profile wall polypropylene sewerage pipelines

PVC-U composite fittings may be used with profiled wall polypropylene sewerage pipelines subject to Barwon Water approval. The installation process must be clearly presented prior to installation.

## Jacking pipe system

### Vitrified Clay Jacking Pipe System

Refer to the MRWA web postal. No exclusions.

### Steel Reinforced Concrete Jacking PIPE systems

Steel Reinforced Concrete Jacking Pipe Systems are excluded. Refer **Section 2**.

### Centrifugally Cast CC - Glass Reinforced Plastic (GRP) jacking pipe systems


Refer to the MRWA web portal. No exclusions.

## Maintenance structures

There are multiple exclusions for maintenance structures. Refer **Section 2**.

## Maintenance shafts

### PVC-U Maintenance shaft – MS Inline (180°)

Specification		WSA PS-321 Maintenance Shafts – PVC-U		
<b>Material</b>	PVC-U (Moulded)			
<b>Brand(s)</b>	Aymroo			
<b>Product</b>	300 moulded Tee with Level Invert Taper solvent welded into sockets or DN225 or DN150 as required.			
<b>Use Limits</b>	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 – 2002 Do not use MS where depth to invert exceeds 4 m.			
		Standard Drawings	SEW-1314-V	SEW-1315-V
			SEW-1316	SEW-1317

### MS Inline (180°)


Nominal Size DN x Bend Angle	Aymroo
150 x 150	✓
225 x 225	✓

### Barwon Water limitation

Not used by the Development Services for new subdivisions. Used by Water Reclamation and Connection Services for retrofitting end of lines where improved access and/or maintenance is required. Approved for service maintenance shafts only.

Uncontrolled if printed or downloaded.

PVC-U maintenance shaft – terminal MS

<b>Material</b>	PVC-U (Moulded)		
<b>Brand(s)</b>	Aymroo		
<b>Use Limits</b>	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 – 2002 Do not use MS where depth to invert exceeds 4 m.		
		Standard Drawing	
		SEW-1315-V	SEW-1315-V
		SEW-1316	SEW-1317

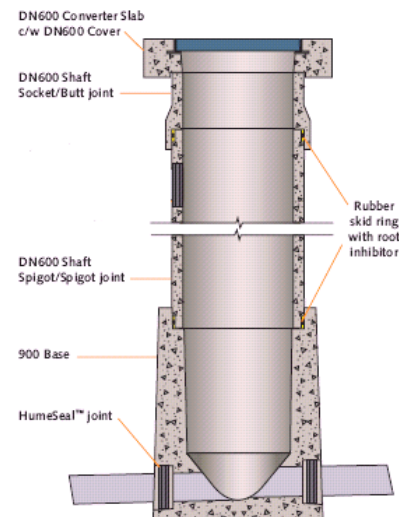
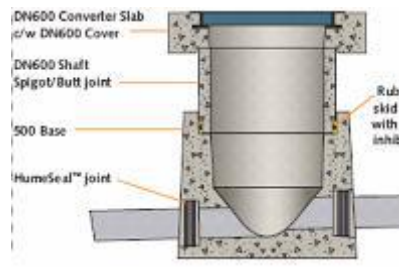
MS Inline (180°)	
Nominal Size DN x Bend Angle	Aymroo
150 x 150	✓
225 x 225	✓

<b>Specification</b>	WSA PS-322 Maintenance Shafts - PE
----------------------	------------------------------------

**Barwon Water limitation**  
Not used by the Development Services for new subdivisions. Approved as service maintenance shafts only.

<b>Specification</b>	WSA PS-323 Maintenance Holes – Precast Concrete
----------------------	---

Precast Concrete DN 600 Maintenance Shaft with DN 600 access cover and frame

<b>Material</b>	Precast Concrete		
<b>Brand(s)</b>	* Humes Quicktee		
<b>Product</b>	<p><b>900mm base MS Shaft</b></p> <ul style="list-style-type: none"> <li>A precast concrete 900mm conical benched base;</li> <li>DN600 shaft sections (Spigot / Spigot joint and Socket / Butt joint); and</li> <li>DN600 Converter Slab (with DN600 cover supplied by others)</li> </ul> <p><b>500mm base MS Shaft</b></p> <ul style="list-style-type: none"> <li>A precast concrete 500mm conical benched base;</li> <li>DN600 shaft Spigot / Butt joint; and</li> <li>DN600 Converter Slab (with DN600 cover supplied by others)</li> </ul>		
<b>Use Limits</b>	<ul style="list-style-type: none"> <li>In-line and Terminal Maintenance Shafts (TMS) only;</li> <li>To be used on reticulation sewer size <math>\leq</math>DN 225;</li> <li>All connections to be RRJ (Rubber Ring Joints);</li> <li>Maximum depth 6 meters to Obvert of the Tee;</li> <li>Suitable for trafficable areas;</li> <li>Lateral connections are not permitted; and</li> <li>Other constraints as referred in Part 1 (Planning &amp; Design) Clause 6.2 &amp; 6.3 of the MRWA Ver 1.0 of Sewerage Code of Australia WSA 02-2002.</li> </ul>		
			
		Standard Drawing	SEW-1316, SEW-1317, SEW-1314-V, SEW-1315-V

Nominal Size	Humes™ Quicktee™
DN 600 MS with DN 600	✓

**Barwon Water limitation**  
 Precast shafts are approved for 300, 600 and 900 mm, however the conical bases are not approved. Bases must be poured in situ unless requested by Development Services.

Uncontrolled if printed or downloaded.

Precast Concrete DN 600 Maintenance Shaft with DN 300 access cover and frame

<b>Material</b>	Precast Concrete		
<b>Brand(s)</b>	* Humes Quicktee		
<b>Product</b>	<p><b>900mm base MS Shaft</b></p> <ul style="list-style-type: none"> <li>• A precast concrete 900mm conical benched base;</li> <li>• DN600 shaft sections (Spigot / Spigot joint and Socket / Butt joint); and</li> <li>• DN600 Converter Slab (with DN300 cover supplied by others)</li> </ul> <p><b>500mm base MS Shaft</b></p> <ul style="list-style-type: none"> <li>• A precast concrete 500mm conical benched base;</li> <li>• DN600 shaft Spigot / Butt joint; and</li> <li>• DN600 Converter Slab (with DN300 cover supplied by others)</li> </ul>		
<b>Use Limits</b>	<ul style="list-style-type: none"> <li>• In-line and Terminal Maintenance Shafts (TMS) only;</li> <li>• To be used on reticulation sewer size <math>\leq</math>DN 225;</li> <li>• All connections to be RRJ (Rubber Ring Joints);</li> <li>• Maximum depth 6 meters to Obvert of the Tee;</li> <li>• Suitable for trafficable areas;</li> <li>• Lateral connections are not permitted; and</li> <li>• Other constraints as referred in Part 1 (Planning &amp; Design) Clause 6.2 &amp; 6.3 of the MRWA Ver 1.0 of Sewerage Code of Australia WSA 02-2002.</li> </ul>	Standard Drawing	SEW-1316, SEW-1317, SEW-1314-V, SEW-1315-V

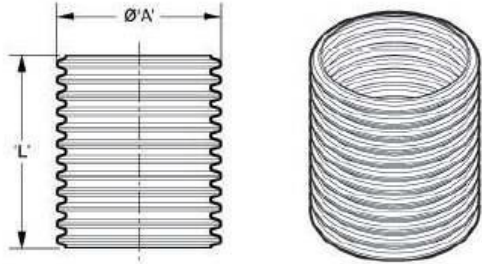
Nominal Size	Humes™ Quicktee™
DN 600 MS with DN 300	✓

**Barwon Water limitation**

Precast shafts are approved for 300, 600 and 900 mm, however the conical bases are not approved. Bases must be poured in situ unless requested by Development Services.

Uncontrolled if printed or downloaded.

## EZIpit™ Shaft

Product Code	Description	'A' (mm)	Kg>(each)	
TGPP600A	DN600 x 1000mm EZIpit™ Shaft	682.8	22.5	
TGPP600AV	DN600 x 1500mm EZIpit™ Shaft		45.1	
TGPP600B	DN600 x 2000mm EZIpit™ Shaft		33.8	
TGPP600C	DN600 x 3000mm EZIpit™ Shaft		67.6	
TGPP600DV	DN600 x 4500mm EZIpit™ Shaft		101.4	
TGPP600F	DN600 x 6000mm EZIpit™ Shaft		135.2	


**Note:** All dimensions and masses are approximate only. If critical, contact Iplex Pipelines. (Unless otherwise stated, all dimensions are in mm).

### Barwon Water limitation

Application needs to be made to Barwon Water for use of this product. The EZIpit Shaft product is normally only used for rehabilitation works.

Refer to the MRWA web portal for CWW approved products and double check Section 2 for exclusions.

## Sewer Maintenance Shaft (SMS)

<b>Material</b>	Polypropylene	
<b>Brand(s)</b>	SMS	
<b>Product</b>	<ul style="list-style-type: none"> <li>MS9 300 X 150 Junction no reducer</li> <li>Has 3 inlets: Straight thru and a left and right 45 Degree</li> </ul>	
<b>Use Limits</b>	<p><b>MS9</b></p> <ul style="list-style-type: none"> <li>Requires 300 DWV SN4 pipe for riser &amp; either 300 push on or locking cap.</li> <li>Min depth required 850mm.</li> </ul>	

Uncontrolled if printed or downloaded.

**Barwon Water limitation**


All maintenance shaft products shall be installed as per manufactures requirement and in accordance with Barwon Water's Land Development Manual.



## Maintenance shafts – miscellaneous fittings

There are multiple exclusions for maintenance shafts – miscellaneous fittings. Refer **Section 2**.

### PVC-U vertical riser (Shaft)

<b>Material</b>	PVC-U		
<b>Brand(s)</b>	Supplied by Installer from Barwon Water list of approved Suppliers		
<b>Use limits</b>	Minimum Stiffness Class SN 8. Solvent cement pipes are used for DN225		
		Standard Drawing	
		SEW-1315-V	SEW-1316
		SEW-1317	SEW-1314-V

Nominal Size (DN) mm
225
300

#### Barwon Water limitation

All maintenance shaft products shall be installed in accordance with Barwon Water's Land Development Manual. 300 mm only.

### Maintenance hole – accessories

<b>Specification</b>	WSA PS-315 Fixed Ladders
	WSA PS-317 Ladders, Hot Dipped Galvanised
	WSA PS-328 Step Irons, Galvanised Ferrous or Stainless Steel

### Access chamber fittings

Refer to the MRWA web portal and double check Section 2 for exclusions.

## Surface fittings

<b>Specification</b>	WSA PS-290 Access Covers for Water Supply and Sewerage to AS 3996
	WSA PS-291 Access Covers for Water Supply and Sewerage to EN 124
<b>Australian Standards</b>	AS 3996 -2006 Access Covers and Grates

## Circular Access Cover and Frame


Refer to the MRWA web portal. No exclusions.

### Barwon Water limitation

Note 1: The snap-lock fastening device feature to prevent dislodgement by traffic, unrestricted access or backpressure resistance has not been approved for use within the Barwon Water licensed area. If required, special approval should be obtained from Barwon Water.

Note 2: Installation of bolts to lids is only allowed with the express permission of Barwon Water. From AS3996 Barwon Water only uses Class B and D lids from this load classification under the standard.

Single part square access cover and frame


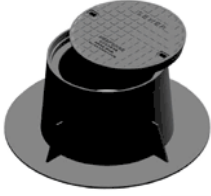

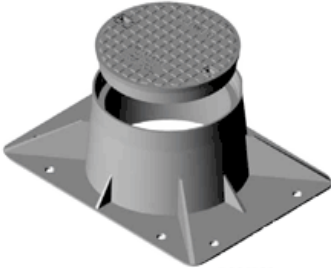
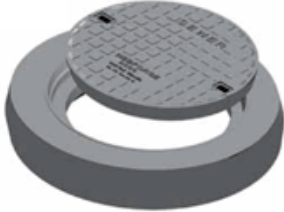
<b>Material</b>	Cast Iron / Ductile Iron / Steel		
<b>Brand(s)</b>	Access Covers Australia Pty Ltd		
	ACO Polycrete Pty Ltd		
	Durham & Son Pty Ltd		
	Icon Industries Pty Ltd		
	Milnes-Gatic		
	SVC Products		
Have-Stock			
<b>Special conditions</b>	Single part square and rectangular solid top access covers come with an anti-slip solid surface.	<b>Standard Drawing</b>	SEW-1308-V

Clear opening size (mm)	Supplier	Supplier's product code	Description	Option
750 x 750	Access Covers Australia Pty Ltd	C7575D	Class D, Cast Iron Access Cover and Frames Concrete Infill	Optional bolt down cover to frame and frame to concrete manhole using stainless steel bolts.
750 x 750	ACO Polycrete	DIS77D	Class D, recessed DI Access Cover and Cast Iron Frames Concrete Infill	
750 x 750	SVC Products	AC77D	Class D, Access Cover & Frames Concrete Infill	
762 x 762	Milnes-Gatic	301C77D	Class D, Access Cover & Frames Concrete Infill	
750 x 750	Icon Industries Pty Ltd	CICIN77D	Class D, Ductile Iron Access Cover & Frames Concrete Infill	
750 x 750	Havestock	AC77D	Class D, Access Cover & Frames Concrete Infill	
762 x 762	Durham & Son Pty Ltd	AC77D	Class D, Access Cover & Frames Concrete Infill	

**Barwon Water limitation**

Normally only used on sewerage pump stations. Barwon Water must provide approval for use of this product.

Maintenance shaft covers

<b>Materials</b> <b>Brand(s)</b>	Cast Iron	 <b>DCC3BC</b>	 <small>DCC3B32</small> Not approved for use at Barwon Water	 TC40 & TC40D Not approved for use at Barwon Water
	Milnes-Gatic			
	Havestock			
	Webforge	 <small>DCC4D32</small> Not approved for use at Barwon Water	 <small>DCC3BPCE</small> 120 mm deep concrete encased frame If used, shroud to be installed.	
Standard Drawing	SEW-1314-V, SEW-1315-V, SEW-1316, SEW-1317			

**Barwon Water limitation**

Please see notes above.

## Repair Fittings

Refer to the MRWA web portal. No exclusions.

### **Barwon Water limitation**

Approval must be sought from Barwon Water for use of all repair products. Please refer to Barwon Water's Stores list for approved repair fittings.

## Access Chamber Systems

Refer to the MRWA web portal and double check Section 2 for exclusions.

### **Barwon Water limitation**

Precast products are only to be used for manhole and maintenance chamber systems.

## Stainless steel joiners, repair clamps and junction clamps

### Stainless steel repair clamps

Refer to the MRWA web portal. No exclusions.

### **Barwon Water limitation**

Approval must be sought from Barwon Water for use of all repair products. Please refer to Barwon Water's Stores list for approved repair fittings.

## Maintenance products

### Gap filling epoxy paste adhesive for civil engineering use

### **Barwon Water limitation**

CWW include "Megapoxy P1 – Gap Filling Epoxy Paste Adhesive for civil engineering use" in their approved list.

Barwon Water only uses "Ferrepren" product ranges for civil engineering uses.



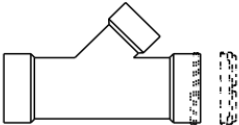


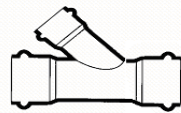
## Section 2 – Exclusions

Only products **excluded** for use at Barwon Water appear in this section.

Procedure:

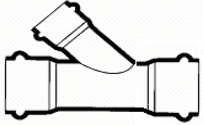
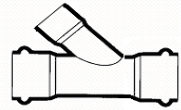


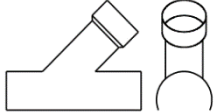
- 1) Check if the product is listed for use by CWW under the MRWA web portal [www.mrwa.com.au](http://www.mrwa.com.au)
- 2) If approved with CWW, check **Section 1** for limitations and **Section 2** for exclusions.

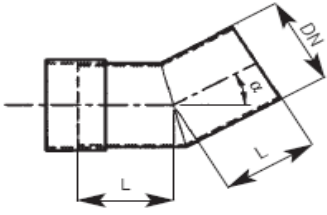
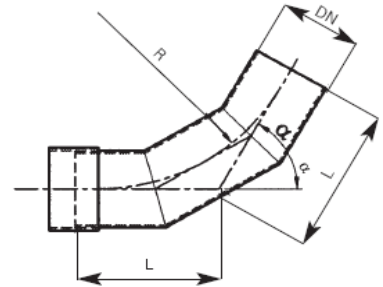
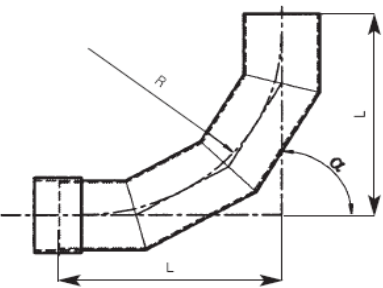
Items excluded for use at Barwon Water (approved for use at CWW)

Product Type	Product	Graphic
<b>PVC</b>		
PVC SEWER BENDS AND ELBOWS	Bends & Elbows SOC-SOC (RRJ)	
PVC SEWER BENDS AND ELBOWS	Bends & Elbows SOC-SPIG (RRJ)	
PVC SEWER BENDS AND ELBOWS	Junction – 45° (Threaded) (SCJ)	
PVC SEWER BENDS AND ELBOWS	Plain Junction SOC-SOC-SPIG (RRJ)	
PVC SEWER BENDS AND ELBOWS	Reducing Junction SOC-SOC-SPIG (RRJ)	
PVC SEWER BENDS AND ELBOWS	Plain Junction SOC-SOC-SOC (RRJ)	

Uncontrolled if printed or downloaded.



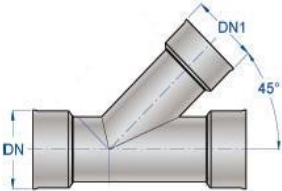
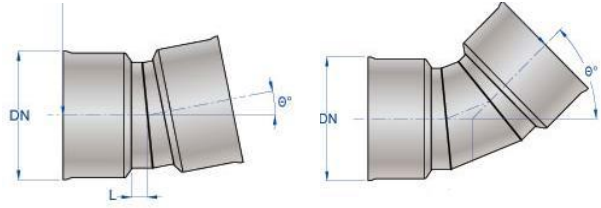
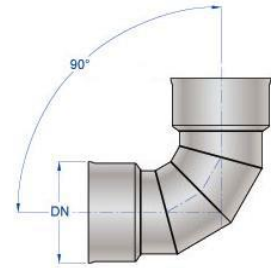
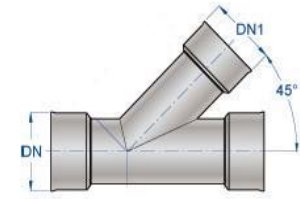
<p>PVC SEWER BENDS AND ELBOWS</p>	<p>Reducing Junction SOC-SOC-SOC (RRJ)</p>	
<p>PVC SEWER BENDS AND ELBOWS</p>	<p>Reducing Junction SOC-SOC-SOC (RRJ/SCJ) with solvent cement joint branch</p>	
<p>PVC Sewer Tees</p>	<p>Inspection Tees with Cap SOC-SOC-SOC (RRJ)</p>	
<p>Moulded DWV PVC-U Elastomeric Seal Fittings</p>	<p>Bend M&amp;F (RRJ)</p>	 <p>15 deg 30 deg 45 deg 67.5 deg</p>
<p>Connectors</p>	<p>Saddle</p>	

Glass reinforced plastic (GRP) pipeline systems		
Bends	Bends 300 - 1200 mm	 <p><math>\alpha = 0 - 30^\circ</math></p>
		 <p><math>\alpha = 31 - 60^\circ</math></p>
		 <p><math>\alpha = 61 - 90^\circ</math></p>

Uncontrolled if printed or downloaded.

Page 34 of 42

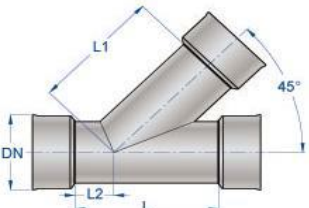
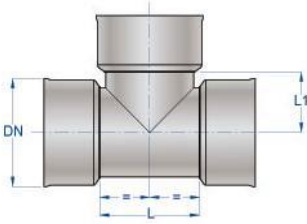
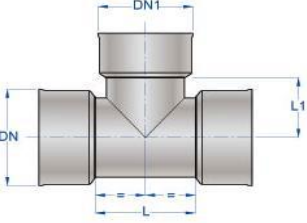
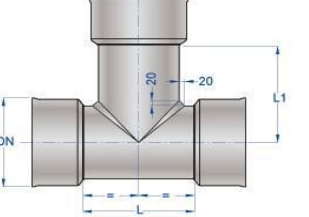
Issue A Revision 02

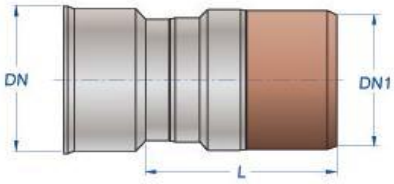
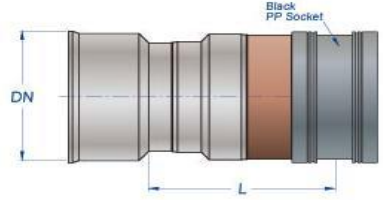
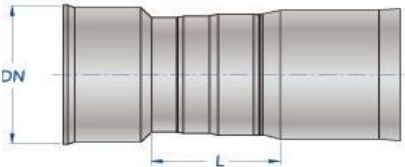
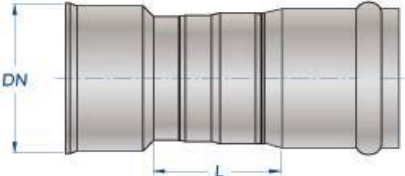
Polyethylene sewer system		
<p>PE fittings for profile wall polypropylene sewerage pipelines</p>	<p>Reducing PE Junctions: Socket x Socket, 45°</p>	
<p>GRP fittings for profile wall polypropylene sewerage pipelines</p>	<p>Bend GRP x 15°, 30°, 45°, SOC – SOC</p>	
	<p>Bend GRP x 90°, SOC – SOC</p>	
	<p>Reducing Junctions GRP x 45o SOC – SOC– SOC</p>	

Uncontrolled if printed or downloaded.

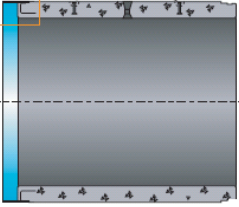
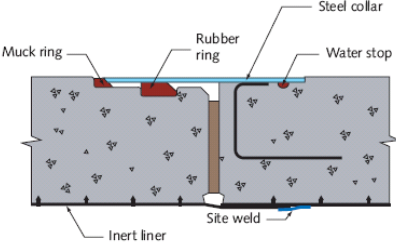
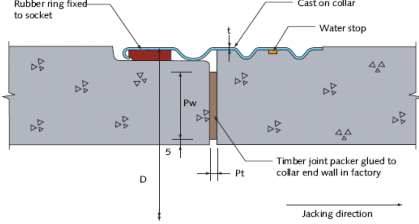
Page 35 of 42

Issue A Revision 02


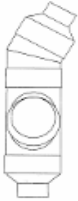
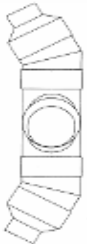
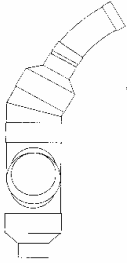
<p>Equal Junction GRP x 45° SOC – SOC– SOC</p>	
<p>Equal Tees GRP x 90° SOC – SOC– SOC</p>	
<p>Reducing Tees GRP x 90° SOC – SOC– SOC</p>	
<p>Drop Junction GRP</p>	

	<p>Adaptor GRP SOC x VC SPIG</p>	
	<p>Adaptor GRP SOC x VC SOC RRJ</p>	
	<p>Adaptor GRP SOC x DWV SWJ SOC</p>	
	<p>Adaptor GRP SOC x DWV RRJ SOC</p>	

Uncontrolled if printed or downloaded.

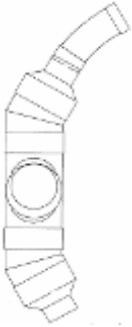

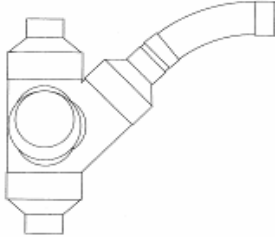
Jacking pipe systems		
Product type	Product	Graphic
Steel Reinforced Concrete Jacking PIPE systems	Steel Reinforced Concrete Jacking Pipe	
	Steel Collar (J Series)	
	Steel Collar (S Series)	

Uncontrolled if printed or downloaded.

Maintenance Structures		
Product Type	Product	Graphic
Maintenance Shafts	PVC-U Maintenance shaft – Elbow MS (1° to 30°) DN 150 Only	
	PVC-U Maintenance shaft – Elbow MS (1° to 30°) DN 225 Only	
	PVC-U Maintenance shaft – Elbow MS (30° to 60°) DN 225 Only	
	PVC-U Maintenance shaft – Elbow MS (30° to 60°) – DN 150 only	

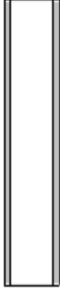
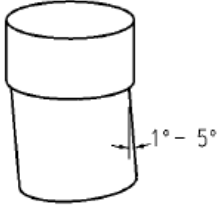

Uncontrolled if printed or downloaded.

Page 39 of 42  
Issue A Revision 02

	<p>PVC-U Maintenance shaft – Elbow MS (60° to 90°) – DN 150 Only</p>	
	<p>PVC-U Maintenance shaft – Elbow MS (45° Optional Vario Bend for combined deflection &lt;75°) DN 150 Only</p>	
	<p>PVC-U Maintenance shaft – Junction MS (45° Optional Vario Bend for combined deflection ≤ 75°)</p>	

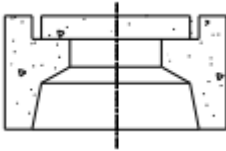
Uncontrolled if printed or downloaded.



Maintenance shafts – Miscellaneous fittings		
Product Type	Product	Graphic
Maintenance shafts – miscellaneous fittings	PE Vertical Riser	
	PE Drop Junctions	No Graphic
	PE Vertical Riser Cap	No Graphic
	Short radius riser bends (Kicker Bend) SOC-SPI	
Surface Fittings	Maintenance Shaft Covers Cast Iron / Ductile Iron / Steel	<p>The following shaft covers are not approved for use at Barwon Water.</p> 

Uncontrolled if printed or downloaded.

Page 41 of 42  
Issue A Revision 02

Surface Fittings	Inspection Cover	
Pipe bedding material		
Product Type	Product	Graphic
PIPE EMBEDMENT	Aerolite Quarries: Washed scoria sand	
PIPE EMBEDMENT	Aerolite Quarries: 5mm minus scoria	
PIPE EMBEDMENT	Aerolite Quarries: 5mm aggregate scoria	

Uncontrolled if printed or downloaded.