



APPROVED MATERIALS

AM-2 WASTEWATER

Table 2: Wastewater

Materials that are not on the following table MUST be approved by Council – refer to – Chief Engineer

	Category / Material	Application	Standard	Product / Comment	Recommended Manufacturer	Recommended Supplier
AM-2.1	Wastewater Pipe	Trunk mains: larger than 150mm. These to be specifically approved and specified by Council				
AM-2.1.1	Restrain Pipe	150mm to 225mm uPVC SN16	No dig renewals		IPLEX Pipelines New Zealand Ltd	Humes Pipeline Systems Hynds Pipe Systems Ltd
AM-2.1.2	Spiral-Welded Steel Pipe Internal Linings Include Concrete or Epoxy	Structural mains	NZS 4442 and AS 1579	<ul style="list-style-type: none"> ▪ Specific design and approval ▪ Polyken YG111 external wrapping or speed steel with polyethylene coatings. Note internal coating must be resistant to hydrogen sulphide ▪ Manufacturer capable of meeting the required standard 	Steelpipe New Zealand	Mico Pipelines
AM-2.1.3	Ductile Iron Class K9 / K12	Structural mains	AS/NZS 2280 and amendments	<ul style="list-style-type: none"> ▪ Specific design and approval ▪ Light cement lined with Tyton joints. External protection with greensleeve ▪ Generally suspended pipes and high structural loadings. Note internal coating must be resistant to hydrogen sulphide 	Tubemakers of Australia	Mico Pipelines

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				<ul style="list-style-type: none"> Manufacturer capable of meeting the required standard Tubemakers of Australia Licence #2029 		
AM-2.1.4	Ductile Iron Pipe Light Cement-Lined Tyton Excel PN20 and PN35	Structural mains	AS/NZS 2280 and amendments	<ul style="list-style-type: none"> Specific design and approval With Tyton elastomeric seals and socket / spigot joints (with blue polyethylene sleeving). Note: internal coating must be resistant to hydrogen sulphide. Manufacturer capable of meeting the required standard Pentair Licence #SMK0883 	Tyco Flow Control Pacific	Mico Pipelines
AM-2.1.5	uPVC Pipes (solid wall) and Fittings for Gravity Applications SN8 SN12.5 or SN16 for Trenches	Reticulation mains and lateral connections	AS/NZS 1254	<ul style="list-style-type: none"> Rubber ring jointed IPLIX Licence #1697 Marley Licence #2365 	IPLIX Pipelines New Zealand Ltd Marley New Zealand Limited RX Plastics Ltd	Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.1.6	uPVC Pipes (solid wall) and Fittings for Pressure Applications SN16		AS/NZS 1477	<ul style="list-style-type: none"> Specific design and approval 	IPLIX Pipelines New Zealand Ltd Marley New Zealand Limited RX Plastics Ltd	Keyplas Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines

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AM-2.1.7	Polyethylene Pipe (PE) for pressure applications PE100 SDR17 (minimum PN12)		AS/NZS 4130 and 4131	<ul style="list-style-type: none"> ▪ Specific design and approval ▪ Pipes should be jointed in accordance with manufacturer's recommendations and be a standard black colour with inner core colour brown ▪ Electrofusion coupling will be accepted where pipe line strings are to be connected, connection of fittings and repairs to pipelines 	IPLEX Pipelines New Zealand Ltd Marley New Zealand Limited RX Plastics Ltd Waters & Farr	Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.1.8	Tracer Wire / Warning Tape					
AM-2.1.8.1	Tracer Wire	Trenchless installation rising mains		<ul style="list-style-type: none"> ▪ A continuous 4.0mm² multi-strand (minimum of 4) polythene sleeved cable 		Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.1.8.2	Warning / Detection Tape	Open cut installation		<ul style="list-style-type: none"> ▪ Width – 100mm (min.) ▪ Thickness – 80mu ▪ Printing – TBC ▪ Printing Height – 80mm ▪ Tape Colour – TBC 	Polymark Packaging	Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines

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AM-2.2	Seal Rings		Comply with AS 1646.1	<ul style="list-style-type: none"> Elastomeric seals for wastewater purposes 	IPLEX Pipelines New Zealand Ltd (Licence #SMK1174)	Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.3	Fittings					
AM-2.3.1	Cast-Iron Socket and Spigot Fittings Cast-Iron Flanges PN16		AS/NZS 1830 and AS/NZS 2544 Table D and coated to AS/NZS 4158 and amendments	<ul style="list-style-type: none"> Rated a PN16 or higher Epoxy coated 	Gillies Metaltech	HJ Asmuss & Company Limited Mico Pipelines
AM-2.3.2	Ductile Iron Pipe Flanged, Socket and Spigot Fittings Flanges PN16		AS/NZS 2280 to Table D or raised face and drilled to AS 4087, and coated to AS/NZS 4158 and amendments		Crevet Pipelines Surecast Metals Tyco Flow Control Pacific Gillies Metaltech	Humes Pipeline Systems Hygrade Products Ltd Mico Pipelines
AM-2.3.3	Stand-Alone Flanges PN16		Table D coated to AS/NZS 4158 and amendments	<ul style="list-style-type: none"> PVC, ductile or cast iron Steel and tube – unflanged adaptor – ductile iron 	IPLEX Pipelines New Zealand Ltd Marley New Zealand Limited	Mico Pipelines

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					Steel and Tube Holdings Limited	
AM-2.3.4	Bolts, Nuts and Washers to be Hot-Dipped Galvanised as an Alternative to 316-Grade Stainless Steel		AS/NZS 1111 and 1112	<ul style="list-style-type: none"> ▪ ISO metric hexagon commercial bolts and screws and ISO metric hexagon nuts, including thin nuts, slotted nuts and castle nuts ▪ Hot-dipped galvanised bolts, nuts and washers need to be wrapped in denso tape ▪ This particularly applies for corrosive soil and marine conditions 	Manufacturers who can supply to the relevant standards	<p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p> <p>Mico Pipelines</p>
AM-2.3.5	Stainless Steel Bolts, Nuts, Washers and Fastenings Provided they are 316-Grade Stainless Steel with Factory Applied Molybond Coating		Complying with AS 1252 – High Strength Steel Fastenings	<ul style="list-style-type: none"> ▪ Stainless steel bolts, nuts and washers need to be wrapped in denso tape ▪ This particularly applies for corrosive soil and marine conditions ▪ Thread binding may occur and the bolts should be cut off if needed to be un-wound 	Manufacturers who can supply to the relevant standards	<p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p> <p>Mico Pipelines</p>
AM-2.3.6	<p>Gibaults</p> <ul style="list-style-type: none"> - Cast Iron (coating as per standard) - Gunmetal DR LG2 with ABS belly - M16 316 stainless steel 		<p>AS/NZS 4158 and amendments</p> <p>Coating to ASTM A276</p>	<ul style="list-style-type: none"> ▪ Use 316-Grade Stainless Steel Bolts ▪ Preference for Long Barrel ▪ Use 316-Grade Stainless Steel Fasteners 	<p>Gillies Metaltech</p> <p>Viking Johnson – Maxifit (with Sheraplex coated bolts)</p> <p>Crevet Pipelines</p> <p>Milnes Pty Ltd</p>	<p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p> <p>Mico Pipelines</p>

	Category / Material	Application	Standard	Product / Comment	Recommended Manufacturer	Recommended Supplier
	(with clips fusion coating as per standard)				Tyco Flow Control Pacific	
AM-2.3.7	PE Fittings			<ul style="list-style-type: none"> ▪ Agru butt welding and electro fusion fittings ▪ Viking Johnson aqua fast, aqua grip and ultra-grip mechanical fittings for polyethylene pipe ▪ Hawle System 2000 mechanical fittings for polyethylene pipe ▪ Philmac Licence #1271 ▪ Pushlok Licence #1494 ▪ Plasson Licence #1494 and 1271 ▪ Alprene A16 Easygrip Licence #1157 ▪ “Plassim” MDPE fitting to AS/NZS 4129 – Licence #WMKA21062 ▪ “Magnum” MDPE fitting to AS/NZS 4129 – Licence #SMK02432 	<p>IPLEX Pipelines New Zealand Ltd</p> <p>Marley New Zealand Limited</p> <p>Asmuss Plastic Systems Limited</p> <p>PPI Corporation (NZ) Limited</p> <p>Waters & Farr</p> <p>RX Plastics Ltd</p>	<p>Hygrade Products Ltd</p> <p>Humes Pipeline Systems</p> <p>RX Plastics Ltd</p> <p>Mico Pipelines</p>
AM-2.3.8	uPVC Fittings		AS/NZS 1260	<ul style="list-style-type: none"> ▪ RRJ fitting only to be used ▪ IPLEX Licence #SMK1174 ▪ Marley Licence #WMKA20224 	<p>IPLEX Pipelines New Zealand Ltd</p> <p>Marley New Zealand Limited</p>	<p>Keyplas</p> <p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p> <p>Mico Pipelines</p>

	Category / Material	Application	Standard	Product / Comment	Recommended Manufacturer	Recommended Supplier
AM-2.3.9	Rubber Sleeves	Reticulation pipes (non-pressure)	AS/NZS 4326	<ul style="list-style-type: none"> All couplings used shall have a central 316-grade stainless steel sheer band 	Furnco Pty Ltd	Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.4	Valves					
AM-2.4.1	Valves ≥50mm Resilient Seated Anti-Clockwise Closing Rated at PN16 External and Internal Protective Coating Flanges to be Raised Face and Drilled as Per Standard	Pump station and rising mains	AS/NZS 2638.2 NZS/BS 5163 Class 1 AS/NZS 4158 and amendments AS 4087	<ul style="list-style-type: none"> Teflon gland packing or 2 or more O ring seals and dust cover In-line valves should be the same diameter as the reticulation main AVK Australia Pty Ltd Licence #SAI2420 and 2573 Pentair Licence #PRD/R61/0412/2 Crevet Pipelines Licence #1327 Hawle 4060E2 and 4500E2AS series Licence #SMK20123 	AVK Australia Pty Ltd Gillies Metaltech Tyco Flow Control Pacific Crevet Pipelines Hawle	Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.5	Manholes					
AM-2.5.1	1050mm to 2500mm ID with Precast Base			<ul style="list-style-type: none"> Polyethylene manholes require specific design and approval by the Chief Engineer 	Humes Pipeline Systems Hynds Pipe Systems Ltd	Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines

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AM-2.5.2	Hyseal Type 1050 to 2500mm ID				Humes Pipeline Systems Hynds Pipe Systems Ltd	Humes Pipeline Systems Hynds Pipe Systems Ltd
AM-2.5.3	Concrete Lid (flat top) with 600mm Openings					Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.5.4	Manhole Sealant, Flexible Jointing Compound			<ul style="list-style-type: none"> ▪ BM100 or SM9020 		Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.5.5	Access Steps – 316-Grade Stainless Steel Access Steps			<ul style="list-style-type: none"> ▪ Stainless manholes steps – 16mm Ø 	Costavic	Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.5.6	Plastic Encapsulated Stainless Steel Access Steps		AS/NZS 1657 AS 4198		Nextep Miyama NZ Ltd	

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					Licence #JP-JQA-QM6570	
AM-2.5.7	Cast-Iron Covers and Frames: 600mm nominal diameter minimum		BS EN 124 vehicle loading or AS 3996 80kN load rating	<ul style="list-style-type: none"> Includes “non-rock” 	Humes Pipeline Systems Hynds Pipe Systems Ltd Hygrade Products Ltd Pipe & Infrastructure Ltd Mico Pipelines	
AM-2.5.8	Ductile Iron Covers and Frames: 600mm Nominal Diameter Minimum		AS 3996 210kN (Class D) load rating	<ul style="list-style-type: none"> Includes “non-rock” Webforge NZ – Code DCC6DIPAC Gatic – Code GM300S6D4 St Gobain – Korum Hygrade – 600mm Maestro 	Gatic Pty Ltd Saint Gobain PAM Webforge NZ	Humes Pipeline Systems Hynds Pipe Systems Ltd Pipe & Infrastructure Ltd Mico Pipelines
AM-2.5.9	Manhole Connectors					
AM-2.5.9.1	PVC			<ul style="list-style-type: none"> Proprietary units only 	IPLEX Pipelines New Zealand Ltd Solo Plastics Ltd	Humes Pipeline Systems

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						Hynds Pipe Systems Ltd Mico Pipelines
AM-2.5.9.2	PE			<ul style="list-style-type: none"> ▪ PE 80 ▪ PE 100 	Manufacturers who can supply to the relevant standards	Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.5.10	Epoxy	Sealing joints and step irons		<ul style="list-style-type: none"> ▪ 2-part epoxy (e.g. Humebond, Hybond) 		Humes Pipeline Systems Ltd Hynds Pipe Systems Ltd Mico Pipelines
AM-2.5.11	Concrete	Lid surround	NZS 3104	<ul style="list-style-type: none"> ▪ 17.5MPa 		
AM-2.5.12	Reinforcing Steel	Lid surround	AS/NZS 4671	<ul style="list-style-type: none"> ▪ D10 Grade 300 	Pacific Steel Group	
AM-2.5.13	Entry Safety Grill	Entry Safety	≥75mm square mesh Hot dipped galvanised if made of steel or of 316-grade stainless steel allows installation	<ul style="list-style-type: none"> ▪ Caliber Safety Grill 02104076 Grill MH TCC Galvanised 500mm ▪ Caliber Safety Grill 02104078 Grill MH TCC Maestro Galvanised 600mm ▪ Caliber Safety Grill 02104079 Grill MH TCC Maestro Stainless Steel 600mm 	Hygrade Products Ltd Humes Pipeline Systems	Hynds Pipe Systems Ltd Humes Pipeline Systems

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			<p>without heavily modifying existing manhole</p> <p>Capable of locking and securing to manhole</p> <p>Test load $\geq 400\text{kg}$</p> <p>Can be removed easily by one person $\geq 5\text{min}$</p> <p>Connected by chain or similar to ensure grill does not fall into MH (must be able to support the weight of the grill)</p> <p>Manufacturers name, applicable information on the product</p> <p>Does not introduce any additional Health and Safety Issues</p>	<ul style="list-style-type: none"> ▪ All other products are subject to specific approval or trial installations ▪ Humes 48502 – 520mm Nominal Safety Grille ▪ Humes 48504 – 600mm Nominal Safety Grille 		
AM-2.6	Rodding Eyes					
AM-2.6.1	Reinforced Concrete Pipe	To create chamber	NZS 3107 – soon to be replaced with AS/NZS 4058	<ul style="list-style-type: none"> ▪ 600mm \varnothing cut to 600mm length 		Humes Pipeline Systems

	Category / Material	Application	Standard	Product / Comment	Recommended Manufacturer	Recommended Supplier
						Hynds Pipe Systems Ltd Mico Pipelines
AM-2.6.2	Cast-Iron Cover and Frames 545mm Nominal Diameter Minimum		BS EN 124 vehicle loading or AS 3996 80kN load rating			Humes Pipeline Systems Hynds Pipe Systems Ltd Hygrade Products Ltd Pipe & Infrastructure Ltd Mico Pipelines
AM-2.6.3	Ductile Iron Cover and Frames 545mm Nominal Diameter Minimum		AS 3996 210kN (Class D) load rating	<ul style="list-style-type: none"> ▪ Hygrade 500 HD Hytec Cover and Frame ▪ Humes HD Non Rock Cover and Frame 		Humes Pipeline Systems Hynds Pipe Systems Ltd Hygrade Products Ltd Pipe & Infrastructure Ltd Mico Pipelines
AM-2.6.4	uPVC Fittings and Bends		AS/NZS 1260	<ul style="list-style-type: none"> ▪ 45 degree swept bend ▪ Solvent welded threaded mall fitting 	IPLEX Pipelines New Zealand Ltd (Licence #SMK1174)	Keyplas

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				<ul style="list-style-type: none"> Threaded cap 	Marley New Zealand Limited (Licence #WMKA20224)	Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.6.5	Concrete	Lid surround	NZS 3104	<ul style="list-style-type: none"> 17.5MPa 	Manufacturers who can supply to the relevant standards	
AM-2.6.6	Reinforcing Steel	Lid surround	AS/NZS 4671	<ul style="list-style-type: none"> D10 Grade 300 	Pacific Steel Group	
AM-2.7	Pump Stations			<ul style="list-style-type: none"> Fibreglass packaged pump stations by specific design and approval only 		
AM-2.7.1	Wet Well			<ul style="list-style-type: none"> FRP pump stations are subject to specific design and approval 		
AM-2.7.1.1	Centrifugally Spun Flushed Jointed Concrete Pipes – Class 2 (X)	Pump stations		<ul style="list-style-type: none"> Minimum 1800mm Ø Altex – Carboline product range: Carboguard 504 as the primer to new or used concrete surfaces followed by 2 x coats of Carboguard 690 		Humes Pipeline Systems Hynds Pipe Systems Ltd
AM-2.7.1.2	Guide Rails	Pump stations		<ul style="list-style-type: none"> Schedule 10, 316-grade stainless steel pipe Any joints to be an internal pressed fit stainless steel sleeve 		
AM-2.7.1.3	Guide Rail Brackets	Pump stations		<ul style="list-style-type: none"> Flygt 316-grade stainless steel 		

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AM-2.7.1.4	Cable Brackets	Pump stations		<ul style="list-style-type: none"> 316-grade stainless steel 		
AM-2.7.2	Pump Valve Chamber					
AM-2.7.2.1	Chamber Walls	Pump stations		<ul style="list-style-type: none"> 200mm concrete block 		
AM-2.7.2.2	Chamber Floor	Pump stations		<ul style="list-style-type: none"> Cast in-situ concrete – 17.5MPa 		
AM-2.7.2.3	Chamber Top Slab	Pump stations		<ul style="list-style-type: none"> Concrete may be precast – 17.5MPa 		
AM-2.7.2.4	Flanges	Pump stations		<ul style="list-style-type: none"> Gaskets shall be 3mm full face neoprene 		
AM-2.7.2.5	Access Lids	Pump stations		<ul style="list-style-type: none"> 6mm aluminium chequer plate Stainless steel 316-grade frame and fittings Specific design that considers odour and water infiltration 		
AM-2.7.2.6	Valves ≥50mm Resilient Seated Anti-Clockwise Closing Rated at PN16 External and Internal Protective Coating Flanges to be raised face and drilled as Per Standard	Pump stations	<p>AS/NZS 2638.2 NZS/BS 5163 Class 1</p> <p>AS/NZS 4158 and amendments</p> <p>AS 4087</p>	<ul style="list-style-type: none"> Teflon gland packing or 2 or more O ring seals and dust cover In-line valves should be the same diameter as the reticulation main Resilient seated anti-clockwise closing Rated at PN16 External and internal protective coating Flanges to be raised face and drilled as per standard Valves to have hand wheels 	<p>AVK Australia Pty Ltd</p> <p>Gillies Metaltech</p> <p>Tyco Flow Control Pacific</p> <p>Crevet Pipelines</p> <p>Hawle</p>	<p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p> <p>Mico Pipelines</p>

	Category / Material	Application	Standard	Product / Comment	Recommended Manufacturer	Recommended Supplier
				<ul style="list-style-type: none"> ▪ AVK Australia Licence #SAI2420 and 2573 ▪ Tyco Flow Control Pacific Licence #PRD/R61/0412/2 ▪ Crevet Pipelines Licence #1327 ▪ Hawle 4060E2 and 4500E2AS series Licence #SMK20123 		
AM-2.7.2.7	Ductile Iron Non-Return Valves PN16	Pump stations	AS 4974	<ul style="list-style-type: none"> ▪ Ball type ▪ Other types require specific approval 		Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.7.2.8	Ductile Iron Fittings PN16	Pump stations	AS 2280 AS/NZS 4158	<ul style="list-style-type: none"> ▪ All ductile valves, fittings and pipes should be coated in accordance with AS/NZS 4158 		Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.7.2.9	Entry Safety Grill			<ul style="list-style-type: none"> ▪ Specific Design and approval 		
AM-2.7.3	Pumps	Pump stations		<ul style="list-style-type: none"> ▪ Flygt Submersible wastewater pumps 	ITT Flygt Ltd	
AM-2.7.4	Pump Discharge Pipes	Pump stations	AS 2280	<ul style="list-style-type: none"> ▪ Ductile iron pipes and fittings AS 2280:1999 ▪ Schedule 10, 316-grade stainless steel 		Humes Pipeline Systems Hynds Pipe Systems Ltd

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						Mico Pipelines
AM-2.7.5	Rising Main PE100 or PE80 Polyethylene Pipe Minimum PN12	Pump stations	AS/NZS 4130	<ul style="list-style-type: none"> Welded or flanged joints 		RX Plastics Ltd Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.7.6	Bolts, Nuts and Washers	Pump stations		<ul style="list-style-type: none"> All to be 316-grade stainless steel and coated before installation to prevent “binding” 		Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines
AM-2.7.7	Tracer Wire	Rising main		<ul style="list-style-type: none"> A continuous 4.0mm² multi-strand (minimum of 4) polyethylene sleeved cable 		Humes Pipeline Systems Hynds Pipe Systems Ltd Mico Pipelines