

# APPROVED MATERIALS

AM-1 STORMWATER



QUEENSTOWN  
LAKES DISTRICT  
COUNCIL

**Table 1: Stormwater**

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
A-M1.1	Stormwater Pipe	Primary mains: Larger than 225mm. Reticulation mains: 225mm-150mm Lateral / connection: 100mm and 150mm		<ul style="list-style-type: none"> <li>Primary mains: larger than 225mm</li> <li>Reticulation mains: 225mm-150mm</li> <li>Lateral / connection: 100mm and 150mm</li> </ul>	IPLEX Pipelines New Zealand Ltd	Hynds Pipe Systems Ltd  Humes Pipeline Systems
AM-1.1.1	Restrain Pipe	150mm to 225mm uPVC	SN 16	<ul style="list-style-type: none"> <li>No dig renewals</li> </ul>	IPLEX Pipelines New Zealand Ltd	Hynds Pipe Systems Ltd  Humes Pipeline Systems
AM-1.1.2	Reinforced Concrete Rubber Ring Jointed Pipes (RCRRJ)	All primary mains	AS/NZS 4058			Hynds Pipe Systems Ltd  Humes Pipeline Systems  Mico Pipelines
AM-1.1.2.1	Rubber Ring Joint			<ul style="list-style-type: none"> <li>Humes Licence #2618</li> <li>Hynds Licence #2586</li> </ul>		Hynds Pipe Systems Ltd  Humes Pipeline Systems  Mico Pipelines

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AM-1.1.2.2	Flush Jointed Pipes	Not generally accepted		<ul style="list-style-type: none"> <li>Specific design and approval</li> </ul>		
AM-1.1.2.3	Skid Ring Joint	Not generally accepted		<ul style="list-style-type: none"> <li>Specific design and approval</li> </ul>		
AM-1.1.2.4	Roller Compacted Pipes			<ul style="list-style-type: none"> <li>Humes Licence #2618</li> </ul>		Humes Pipeline Systems  Mico Pipelines
AM-1.1.3	Spiral-Welded Steel Pipe Internal Linings include Concrete Only	Structural mains	NZS 4442 OR AS 1579	<ul style="list-style-type: none"> <li>Specific design and approval.</li> <li>Polyken YG111 external wrapping or Polyken synergy wrapping</li> </ul>	Steel Pipe New Zealand – Manufacturer capable of meeting the required standard	
AM-1.1.4	Ductile Iron Class K9 / K12	Structural mains	AS/NZS 2280 and amendments	<ul style="list-style-type: none"> <li>Specific design and approval</li> <li>Light cement lined with Tyton joints. External protection with green sleeve</li> <li>Generally suspended pipes and high structural loadings</li> </ul>	Tubemakers of Australia – Manufacturer capable of meeting the required standard	Asmus Pentair
AM-1.1.4.1	Ductile Iron Pipe Light Cement Lined Tyton Excel PN20 and PN35	Structural mains	AS/NZS 2280 and amendments	<ul style="list-style-type: none"> <li>Specific design and approval</li> <li>With Tyton joint elastomeric seals and socket / spigot joints (with blue polyethylene sleeve)</li> <li>Pentair Licence #SMK0883</li> </ul>	Pentair – Manufacturer capable of meeting the required standard	Asmus Pentair
AM-1.1.5	Polypropylene (PP) Twin-Wall Pipe	Specific design	AS/NZS 5065	<ul style="list-style-type: none"> <li>Specific design and approval</li> <li>Rubber ring joint</li> <li>Waters &amp; Farr-Stormboss</li> </ul>	Waters & Farr	Hynds Pipe Systems Ltd

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						Humes Pipeline Systems  Mico Pipelines
AM-1.1.6	uPVC Pipes (solid wall) and Fittings for Gravity Applications (SN 16)	Reticulation mains and lateral / connections	AS/NZS 1254	<ul style="list-style-type: none"> <li>Rubber ring jointed</li> </ul>	IPLEX pipelines New Zealand Ltd  Marley New Zealand Limited  RX Plastics Ltd	Keyplas  RX Plastics Ltd  Hynds Pipe Systems Ltd  Humes Pipeline Systems  Mico Pipelines
AM-1.1.7	uPVC Pipes (solid wall) and Fittings for Pressure Applications (SN 16)	Specific design	AS/NZS 1477	<ul style="list-style-type: none"> <li>Specific design and approval</li> </ul>	IPLEX Pipelines New Zealand Ltd  Marley New Zealand Limited  RX Plastics Ltd	Keyplas  Hynds Pipe Systems Ltd  Humes Pipeline Systems  Mico Pipelines
AM-1.1.8	Polyethylene Pipe (PE) for Pressure Applications PE100 SDR17 or PE80, SDR17 (minimum PN10)	Specific design situations	AS/NZS 4130, 4131	<ul style="list-style-type: none"> <li>Specific design and approval</li> <li>Pipes will be butt welded in accordance with manufacturer's recommendations, and the standard coloured black with inner core colour white/grey</li> </ul>	IPLEX Pipelines New Zealand Ltd  Marley New Zealand Limited  RX Plastics Ltd	Hynds Pipe Systems Ltd  Humes Pipeline Systems  Mico Pipelines

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				<ul style="list-style-type: none"> <li>Electrofusion couplings are not generally accepted</li> </ul>	Waters & Farr	
AM-1.1.9	Corrugated Aluminium or Galvanised Steel Pipe	Not generally accepted for urban design use		<ul style="list-style-type: none"> <li>Specific design and approval</li> </ul>	Manufacturers who can supply to the relevant standards	
AM-1.1.10	Perforated Drainage Pipes or Similar Pipe for Subsoil	Groundwater control		<ul style="list-style-type: none"> <li>Specific design and approval</li> <li>Includes products such as Novaflow, Novacoil or similar</li> </ul>	Manufacturers who can supply to the relevant standards	
AM-1.1.11	Tracer Wire / Warning Tape					
AM-1.1.11.1	Tracer Wire	Trenchless Installation Rising Mains		<ul style="list-style-type: none"> <li>A continuous 4.0mm<sup>2</sup> multi-strand (minimum of 4) polythene sleeved cable</li> </ul>		Humes Pipeline Systems  Hynds Pipe Systems Ltd  Mico Pipelines
AM-1.1.11.2	Warning / Detector Tape	Open Cut Installation		<ul style="list-style-type: none"> <li>Width – 100mm (min.)</li> <li>Thickness – 80µ</li> <li>Printing – TBC</li> <li>Printing Height – 80mm</li> <li>Tape Colour – TBC</li> </ul>	Polymark Packaging	Humes Pipeline Systems  Hynds Pipe Systems Ltd  Mico Pipelines
AM-1.2	Seal Rings		Comply with AS 1646.1	<ul style="list-style-type: none"> <li>Elastomeric seals</li> <li>IPLEX Licence #SMK1174</li> </ul>	IPLEX Pipelines New Zealand Ltd	

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AM-1.3	Fittings					
AM 1.3.1	Cast-Iron Socket and Flanges		AS/NZS 1830 and AS/NZS 2544 Table D and coated	<ul style="list-style-type: none"> <li>Rated at PN16 or higher</li> <li>Epoxy coated</li> </ul>	Gillies Metaltech	HJ Asmuss & Company Limited
AM-1.3.2	Ductile Iron Pipe Flanged, Socket and Spigot Fittings		AS/NZS 2280 Table D or Raised Face and drilled to AS 4087, and coated to AS/NZS 4158 and amendments		Crevet Pipelines  Surecast Metals Pentair  Gillies Metaltech	Humes Pipeline Systems  Hygrade Products Ltd
AM-1.3.3	Stand-Alone Flanges		Table D coated AS/NZS 4158 and amendments	<ul style="list-style-type: none"> <li>Ductile or cast-iron</li> <li>Steel and tube – unflanged adaptor – ductile iron</li> </ul>	IPLEX Pipelines New Zealand Ltd  Marley New Zealand Limited  Steel Tube Holdings Limited	
AM-1.3.4	Bolts, Nuts and Washers to be Hot-Dipped Galvanised as an Alternative to	Preferred product to AM-1.3.5	AS/NZS 1111 and 1112	<ul style="list-style-type: none"> <li>ISO metric hexagon commercial bolts and screws and ISO metric hexagon nuts, including thin nuts, slotted nuts and castle nuts</li> </ul>	Manufacturers who can supply to the relevant standards	Humes Pipeline Systems  Hynds Pipe Systems Ltd



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	316-Grade Stainless Steel			<ul style="list-style-type: none"> <li>Hot-dipped galvanised bolts, nuts and washers need to be wrapped in denso tape</li> <li>This particularly applies for corrosive soil and marine conditions</li> </ul>		Mico Pipelines
AM-1.3.5	Stainless Steel Bolts, Nuts and Washers are the Preferred Acceptable Fastenings Provided that 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"> <li>Stainless steel bolts, nuts and washers need to be wrapped in denso tape</li> <li>This particularly applies for corrosive soil and marine conditions</li> <li>Thread binding may occur and the bolts should be cut off if needed to be un-wound</li> </ul>	Manufacturers who can supply to the relevant standards	
AM-1.3.6	PE Fittings			<ul style="list-style-type: none"> <li>Agro Butt welding and Electro fusion fittings</li> <li>Viking Johnson Aqua fast, Aqua grip and Ultra grip mechanical fittings for Polyethylene Pipe</li> <li>Hawle System 2000 mechanical fittings for Polyethylene Pipe</li> <li>DureFuse Licence #9603049</li> <li>Philmac Licence #1271</li> <li>Pushlok Licence #1494</li> <li>Plasson Licence #1494 and 1271</li> <li>Alprene A16 Easygrip Licence #1157</li> </ul>	IPLEX Pipelines New Zealand Ltd  Marley New Zealand Limited  Asmuss Plastic Systems Limited  PPI Corporation (NZ) Limited  Waters and Farr	Hygrade Products Ltd  Humes Pipeline Systems  RX Plastics Ltd  Mico Pipelines

	Category / Material	Application	Standard	Product / Comment	Recommended Manufacturer	Recommended Supplier
				<ul style="list-style-type: none"> <li>GF – Compression Fittings Licence #1157</li> <li>“Plassim” MDPE Fitting to AS/NZS 4129 – Licence #WMKA21062</li> <li>“Magnum” MDPE Fitting to AS/NZS 4129 – Licence #SMK02432</li> </ul>	RX Plastics Ltd	
AM-1.3.7	uPVC Fittings		AS/NZS 1260	<ul style="list-style-type: none"> <li>RRJ fitting only to be used</li> <li>IPLIX Licence #SMK1174</li> <li>Marley Licence #WMKA20224</li> </ul>	IPLIX Pipelines New Zealand Ltd  Marley New Zealand Limited	Keyplas  Hynds Pipe Systems Ltd  Humes Pipeline Systems  Mico Pipelines
AM-1.3.8	Rubber Sleeves	Reticulation Pipes (non-pressure)	AS/NZS 4326	<ul style="list-style-type: none"> <li>All couplings shall have a central 316-grade stainless steel sheer band</li> </ul>	Furnco Pty Ltd	
AM-1.4	Manholes					
AM-1.4.1	1050mm to 2500mm ID with Precast Base			<ul style="list-style-type: none"> <li>Polyethylene manholes require specific design and approval by the Chief Engineer</li> </ul>	Humes Pipeline Systems  Hynds Pipe Systems Ltd	Humes Pipeline Systems  Hynds Pipe Systems Ltd  Mico Pipelines



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AM-1.4.2	Concrete Lid (flat top) with 600mm Openings					Humes Pipeline Systems  Hynds Pipe Systems Ltd  Mico Pipelines
AM-1.4.3	Manhole Sealant, Flexible Jointing Compound			<ul style="list-style-type: none"> <li>BM100 or SM9020</li> </ul>		Humes Pipeline Systems  Hynds Pipe Systems Ltd  Mico Pipelines
AM-1.4.4	Access Steps Hot-dipped Galvanised Steel Access Step or 316-Grade Stainless Steel			<ul style="list-style-type: none"> <li>Galvanised manhole steps – 20mm<sup>2</sup></li> <li>Stainless manhole steps – 16mm<sup>2</sup></li> <li>Avon Industries Part #AA25003 / Part #AA25004</li> </ul>	Costavic  Avon Industries	Humes Pipeline Systems  Hynds Pipe Systems Ltd  Mico Pipelines
AM-1.4.5	Plastic Encapsulated Stainless Steel Access Step		AS/NZS 1657, AS 4198	<ul style="list-style-type: none"> <li>Nextep License #JP-JQA-QM6570</li> </ul>	Nextep Miyama NZ Ltd	
AM-1.4.6	Cast-Iron Covers and Frames: 600mm Nominal		BS EN 124 vehicle loading or AS 3996 80kN load rating	<ul style="list-style-type: none"> <li>Includes “non-rock”</li> </ul>		Humes Pipeline Systems

	Category / Material	Application	Standard	Product / Comment	Recommended Manufacturer	Recommended Supplier
	Diameter Minimum					Hynds Pipe Systems Ltd  Hygrade Products Ltd  Pipe & Infrastructure Ltd  Mico Pipelines
AM-1.4.7	Ductile Iron Covers and Frames: 600mm Nominal Diameter Minimum		AS 3996 210kN (Class D) load rating	<ul style="list-style-type: none"> <li>Includes “non-rock”</li> <li>Webforge NZ – Code DCC6DIPAC</li> <li>Gatic – Code GM300S6D3</li> <li>St Gobain – Korum</li> <li>Hygrade – 600mm Maestro</li> </ul>	Gatic Pty Ltd  Saint Gobain PAM  Webforge NZ	Humes Pipeline Systems  Hynds Pipe Systems Ltd  Hygrade Products Ltd  Pipe & Infrastructure Ltd  Mico Pipelines
AM-1.4.8	Epoxy Mortar	Covering exposed steel in cut pipes		<ul style="list-style-type: none"> <li>Two-part epoxy (e.g. Humebond, Hybond)</li> </ul>	Manufacturers who can supply to the relevant standards	Humes Pipeline Systems  Hynds Pipe Systems Ltd  Mico Pipelines

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AM-1.4.9	Concrete	Lid Surround	NZS 3104	<ul style="list-style-type: none"> <li>17.5MPa</li> </ul>	Manufacturers who can supply to the relevant standards	
AM-1.4.9.1	Reinforcing Steel	Lid surround	AS/NZS 4671	<ul style="list-style-type: none"> <li>D10 Grade 300</li> </ul>	Pacific Steel Group	
AM-1.4.10	Entry Safety Grill	Entry Safety	<p>≤75mm square mesh. Hot dipped Galvanised if made of steel or 316-grade stainless steel. Allows installation without heavily modifying existing manhole. Capable of locking and securing to manhole. Test load ≥400kg. Can be removed easily by one person ≤5min. Connected by chain or similar to ensure grill does not fall into MH (must</p>	<ul style="list-style-type: none"> <li>Caliber Safety Grill 02104076 Grill MH TCC Galvanised 500mm.</li> <li>Caliber Safety Grill 02104078 Grill MH TCC Maestro Galvanised 600mm.</li> <li>Caliber Safety Grill 02104079 Grill MH TCC Maestro Stainless Steel 600mm.</li> <li>All other products are subject to specific approval or trial installation.</li> <li>Humes 48502 - 520mm Nominal Safety Grille.</li> <li>Humes 48504 - 600mm Nominal Safety Grille.</li> </ul>	<p>Hygrade Products Ltd</p> <p>Humes Pipeline Systems</p>	<p>Hynds Pipe Systems Ltd</p> <p>Humes Pipeline Systems</p>

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			be able to support the weight of the grill). Manufacturers name, applicable information on product. Does not introduce any additional Health and Safety issues			
AM-1.5	Rodding Eyes					
AM-1.5.1	Reinforced Concrete Pipe	To create chamber	NZS 3107 – soon to be replaced with AS/NZS4058	<ul style="list-style-type: none"> <li>600mm Ø cut to 600mm length.</li> </ul>		Humes Pipeline Systems  Hynds Pipe Systems Ltd  Mico Pipelines
AM-1.5.2	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

	Category / Material	Application	Standard	Product / Comment	Recommended Manufacturer	Recommended Supplier
						Mico Pipelines
AM-1.5.3	Ductile Iron Cover and Frames 545mm Nominal Diameter Minimum		AS 3996 210kN (Class D) load rating	<ul style="list-style-type: none"> <li>Hygrade 500 HD Hytec cover and frame</li> <li>Humes HD non rock cover and frame</li> </ul>	Humes Pipeline Systems  Hygrade Products Ltd	Humes Pipeline Systems  Hynds Pipe Systems Ltd  Hygrade Products Ltd  Pipe & Infrastructure Ltd  Mico Pipelines
AM-1.5.4	uPVC Fitting and Bends		AS/NZS 1260	<ul style="list-style-type: none"> <li>45 degree swept bend</li> <li>Solvent welded threaded mall fitting</li> <li>Threaded cap</li> </ul>	IPLEX Pipelines New Zealand Ltd (Licence #SMK1174)  Marley New Zealand Limited (Licence #WMKA20224)	Keyplas  Humes Pipeline Systems  Hynds Pipe Systems Ltd  Mico Pipelines
AM-1.5.5	Concrete	Lid surround	NZS 3104	<ul style="list-style-type: none"> <li>17.5MPa</li> </ul>	Manufacturers who can supply to the relevant standards	
AM-1.5.6	Reinforcing Steel	Lid surround	AS/NZS 4671	<ul style="list-style-type: none"> <li>D10 Grade 300</li> </ul>	Pacific Steel Group	

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AM-1.6	Inlet/Outlet					
AM-1.6.1	Scruffy Dome			<ul style="list-style-type: none"> <li>Specific design and approval</li> </ul>		Humes Pipeline Systems  Hynds Pipe Systems Ltd
AM-1.6.2	Precast Concrete Wingwalls					Humes Pipeline Systems  Hynds Pipe Systems Ltd
AM-1.7	Sumps	Precast concrete Components Sump flat top Sump top (back entry) Rectangular sump barrel		<ul style="list-style-type: none"> <li>675mm x 450mm x 1650mm</li> <li>675mm x 580mm x 1650mm</li> <li>675mm x 450mm x 1200mm</li> <li>"Ike" type</li> </ul>	Specific approval required for circular sumps	Hynds Pipe Systems Ltd  Humes Pipeline Systems
AM-1.7.1	Sump for ROW			<ul style="list-style-type: none"> <li>450mm x 450mm x 950mm</li> </ul>		
AM-1.7.2	Frames and Grates			<ul style="list-style-type: none"> <li>675mm x 450mm cast-iron grate and frame</li> <li>300mm Ø cast-iron grate to suit socket of 225mm Ø culvert pipe</li> <li>300mm Ø cast-iron grate to suit socket of 225mm Ø culvert pipe</li> <li>610mm x 310mm galvanised web grate and frame</li> <li>610mm x 310mm galvanised web grate and frame</li> </ul>		Hynds Pipe Systems Ltd  Humes Pipeline Systems  Hygrade Products Ltd  Pipe & Infrastructure Ltd

	Category / Material	Application	Standard	Product / Comment	Recommended Manufacturer	Recommended Supplier
AM-1.7.3	High-Capacity Sumps	Where carriageway longitudinal gradient exceeds 12%		<ul style="list-style-type: none"> <li>▪ Super pits, mega pits, max pits</li> <li>▪ 610mm x 310mm galvanised web grate and frame</li> </ul>		Humes Pipeline Systems  Hynds Pipe Systems Ltd  Hygrade Products Ltd