

# 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>		<p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p> <p>Mico Pipelines</p>
AM-1.1.11.2	Warning / Detector Tape	Open Cut Installation		<ul style="list-style-type: none"> <li>Width – 100mm (min.)</li> <li>Thickness – 80µm</li> <li>Printing – TBC</li> <li>Printing Height – 80mm</li> <li>Tape Colour – TBC</li> </ul>	Polymark Packaging	<p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p> <p>Mico Pipelines</p>
AM-1.2	Seal Rings		Comply with AS 1646.1	<ul style="list-style-type: none"> <li>Elastomeric seals</li> <li>IPLIX Licence #SMK1174</li> </ul>	IPLIX 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>▪ Agru 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>	<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 and Farr</p>	<p>Hygrade Products Ltd</p> <p>Humes Pipeline Systems</p> <p>RX Plastics Ltd</p> <p>Mico Pipelines</p>

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				<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>▪ IPLEX Licence #SMK1174</li> <li>▪ Marley Licence #WMKA20224</li> </ul>	IPLEX 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

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	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>		<p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p> <p>Mico Pipelines</p>
AM-1.5.2	Cast-Iron Cover and Frames 545mm Nominal Diameter Minimum		BS EN 124 vehicle loading or AS 3996 80kN load rating			<p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p> <p>Hygrade Products Ltd</p> <p>Pipe &amp; Infrastructure Ltd</p>

	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>		<p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p>
AM-1.6.2	Precast Concrete Wingwalls					<p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p>
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	<p>Hynds Pipe Systems Ltd</p> <p>Humes Pipeline Systems</p>
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>		<p>Hynds Pipe Systems Ltd</p> <p>Humes Pipeline Systems</p> <p>Hygrade Products Ltd</p> <p>Pipe &amp; Infrastructure Ltd</p>

	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>		<p>Humes Pipeline Systems</p> <p>Hynds Pipe Systems Ltd</p> <p>Hygrade Products Ltd</p>