

# Inspection and Test Plan



Project:	Korimako Avenue Stormwater Main Renewal				R0: 10/06/25	Role	Person(s) Responsible
Job nr	25049					Project Engineer	Norbert Jacsek
Location:	Korimako Avenue Otatara, Invercargill					Operations Manager	Bryan Duggan
Action	Witness	W	WCL	Wilson Contractors (2003) Ltd	Activity by	Contract Manager	Hamish Lindsay
	Hold Point	H	ICC	Invercargill City Council		ICC Engineers Representative	Tom Andersen
	Monitor	M	Lab	Independent testing agent		ICC Engineer	Rob Hayes

Print, sign and date

No	Contract Spec #	Inspection / Test Point	ACTION (W, M, H)	Activity by	Conformance Criteria (What's Required)	Quantity	Frequency / When?	Inspection / Test Method	Records / evidence, WCL form	Standard	Wilson	ICC
Contract												
1	D1.3	Site Management Plan (QEHS, SSST, KSA)	H	WCL	Ensure Quality, Environment, Health & Safety Management Systems Plan Site Specific Safety Plan and Key Step Analysis are approved. Living document to be adjusted and updated as required. A copy of QEHS plan, SSSP and KSA to be on site at all times.		Prior to commencement	Submission (NTE)	Sign This ITP LN-01, FM-83, FM-69	ICC STANDARD SPECIFICATIONS	YES	YES
2	D1.18	TMP	H	WCL	traffic management plan to be submitted and approved by Road Controlling Authority		Prior to commencement	Sumission (NTE)	Sign This ITP TMP	Code of practice for temporary traffic management (CoPTTM)	YES	YES
3	D1.4	Works Access Permit	H	WCL	TMP and Corridor Access Request to be submittied on myWorksites		Prior to commencement	Document	Sign This ITP WAP		YES	YES
4	D1.14	Client start-up meeting	H	ICC, WCL			Prior to commencement	Document	Sign This ITP MoM	ICC STANDARD SPECIFICATIONS	YES	YES
Production												
5	D2.4.2	Bedding material	W	Lab	Material to comply with contract specification	280 m <sup>3</sup>	Prior to commencement	Lab report	Grading Results	ICC STANDARD SPECIFICATIONS G3 of AS/NZS 2566.2	YES	YES
6	D1.29.3	Sub Base Aggregate AP65	W	Lab	Materials to comply with contract specification	90 m <sup>3</sup>	Prior to commencement	Lab report	MDD and Grading Results	ICC STANDARD SPECIFICATIONS	YES	YES
7	D1.29.4	Crushed Basecourse Aggregate M/4 AP40	W	Lab	Materials to comply with contract specification	22 m <sup>3</sup>	Prior to commencement	Lab report	MDD and Grading Results	ICC STANDARD SPECIFICATIONS NZTA M/4	YES	YES
Pre Construction												
8	D1.5	Pre-work site inspection	H	WCL	Video or photos near the construction zone to determine their pre construction condition. (landowners property)		Prior to commencement	Inspection Document	Sign This ITP Video Photo	ICC STANDARD SPECIFICATIONS	YES	YES
9	D1.18	Temporary traffic management	H	WCL	Signs set up as per TMP, with a copy on site with STMS. TMP monitored for practicality. If changes are required these are to be agreed upon with the engineer.		Prior to commencement	Visual inspection Document	Sign This ITP On-site record	ICC STANDARD SPECIFICATIONS CoPTTM	YES	YES
10	D2.7.1	Set out	W	ICC, WCL	Mark out of alignment for mains and laterals		Prior to commencement	Surface marking	Sign This ITP	ICC STANDARD SPECIFICATIONS	YES	YES
11	D1.8	Protection and identification of other Services	H	WCL, asset owners	Mark out on site of all services. Services to be potholed for as per Wilsons company policy		Prior to commencement	Surface marking Visual inspection	Sign This ITP	ICC STANDARD SPECIFICATIONS Wilson's prior to excavate policy	YES	YES
12	D1.11 D9.5	Notification to residents and businesses	M	WCL	Letter drop / business visits		Prior to commencement (min. two working days prior to water shutoff or access restriction)	Document delivered	Sign This ITP Notification letter	ICC STANDARD SPECIFICATIONS	YES	YES
Stormwater main												
13	C1.4 D2.4.1	Pipe material (main)	M	WCL, ICC	DN450 RC JR Class 4 ICC to inspect pipe deliveries as required	360 m	1 / delivery	Visual inspection	Sign This ITP	ICC STANDARD SPECIFICATIONS AS/NZS 4058:2007	YES	YES
14	D4.3.1	Pipe material (lateral)	M	WCL, ICC	DN100 uPVC SN6 RRJ	32 m	1 / delivery	Visual inspection	Sign This ITP	AS/NZS 1260:2017	YES	YES
15	D4.3.1	Pipe material (sump lead)	M	WCL, ICC	DN150 uPVC SN8 RRJ DN225 uPVC SN8 RRJ	45 m 35 m	1 / delivery	Visual inspection	Sign This ITP	AS/NZS 1260:2017	YES	YES
16	D2.7.2	Excavation	M	WCL	The finished excavation surface shall be a smooth consistent surface at the appropriate grade. No tolerance on the excavation base level that reduces the depth of the bedding will be allowed.	472 m	continuous	Visual inspection Levelling	Sign This ITP	ICC STANDARD SPECIFICATIONS	YES	YES

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17	D13.4.3	Subgrade inspection	M	WCL, ICC	To determine if improvements are required	472 m	Prior to placement of bedding	Visual inspection	Sign This ITP	ICC STANDARD SPECIFICATIONS	YES	YES
18	D2.4.2	Free draining material	M	WCL	pea gravel wrapped in a suitable geotextile up to 100 mm over the trench bed	0 - 360 m	Continuous, in accordance with observed groundwater conditions	Secific approval should be given by the Engineer	NTE, NTC	ICC STANDARD SPECIFICATIONS	YES	YES
19	D2.7.3	Pipe installation (main)	M	WCL	+/- 30mm (horizontal) +/- 5mm (vertical)	360 m	Continuous (pipe laser) 1/20 m (independent optical level)	Using calibrated pipe laser Optical levelling	Sign this ITP leveling record	ICC STANDARD SPECIFICATIONS	YES	YES
20	D4.4	Pipe installation (lateral)	M	WCL	grade: min 1.00 % Connection to the main: 90° saddle Connection to D600 manhole: gritted manhole finisher Connection at boundary: slip coupler/plumbqwik	3 (to 600 mh) 7 (to main) 1 (to 1050 mh)	Continuous	Measurement Document	Sign this ITP Detailed Drainage Connection Sheet	ICC STANDARD SPECIFICATIONS	YES	YES
21	D4.4	Pipe installation (sump lead)	M	WCL	grade: min 1.00 % Connection to the main: 90° saddle Connection to D600 mh / yard sump: gritted manhole starter / finisher	3 (to 600 MH) 3 (to main)	continuous	Measurement Visual inspection	Sign This ITP		YES	YES
22	D2.7.6	Bedding (main)	M	WCL	l <sub>b</sub> (depth below): min 150 mm l <sub>c</sub> (width beside): min 300 mm l <sub>o</sub> (depth above): min 150 mm compacted layers not exceeding ⅓ of the pipe OD	360 m	continuous	Measurement Levelling	Sign this ITP	AS/NZS 2566 table 4.2.	YES	YES
23	D2.7.6	Bedding (lateral)	M	WCL	l <sub>b</sub> (depth below): min 75 mm l <sub>c</sub> (width beside): min 100 mm l <sub>o</sub> (depth above): min 100 mm compacted layers not exceeding ⅓ of the pipe OD	32 m	continuous	Measurement Levelling	Sign this ITP	AS/NZS 2566 table 4.2.	YES	YES
24	D2.7.6	Bedding (sump lead)	M	WCL	l <sub>b</sub> (depth below): min 100 mm l <sub>c</sub> (width beside): min 150 mm l <sub>o</sub> (depth above): min 150 mm compacted layers not exceeding ⅓ of the pipe OD	80 m	continuous	Measurements Levelling	Sign this ITP	AS/NZS 2566 table 4.2.	YES	YES
25	D18 Fig. D12	Manhole (D1050)	M	WCL	1050mm The sump shall be at least 300 mm from the underside of the lowest invert level. neck depth ≤ 315 mm in-situ concrete packing	7	1 / manhole	Measurement Levelling Document	Sign this ITP Manhole Inspection Sheet	NZS 3109:1997	YES	YES
26	D18	Manhole (D600)	M	WCL	CIRCULAR SUMP+INTERNAL BASE 600.900.100MM 600 mm cover Class D connection to the main: D225 uPVC	3	1 / manhole	Measurement Levelling Document	Sign this ITP Manhole Inspection Sheet	ICC STANDARD SPECIFICATIONS	YES	YES
27	D18	Yard sumps	M	WCL	Flat top concrete sump box 450x450x1200 Cast Iron sump grate + frame 450x450 D150 sump lead	5 (1 existing is to be reconnected)	1 / yard sump	Measurement Levelling Document	Sign this ITP Manhole Inspection Sheet	ICC STANDARD SPECIFICATIONS	YES	YES
28	D15	Service covers	W	WCL, ICC	HN-HO-72 d600 mm, 450x450 mm Cover levels to be adjusted to existing ground levels	7 grated 600 3 solid 600 5 grated 450x450	before surface reinstatement, landscaping	Visual inspection Measurement	Sign this ITP	ICC STANDARD SPECIFICATIONS	YES	YES
29	D2.9.3	CCTV Inspection and Cleaning	H	WCL	to confirm that the lines are free from debris and have no defects	360 m (main)	prior to the final surface reinstatement	CCTV inspection	Sign this ITP CCTV survey	New Zealand Pipe Inspection Manual AS/NZS 2566:2	YES	YES
30		Removal of existing pipelines and manholes	W	WCL	DN150 EW Excavation may include the removal of existing redundant mains located within the trench extents.	max 360 m + 10 manholes	during main installation (parts of Southern Korimako alignment)	Visual inspection	Sign this ITP	ICC STANDARD SPECIFICATIONS	YES	YES
31	D2.10	Abandonement of existing pipelines by filling		WCL	DN150 EW Filling material and methodology for execution shall be approved by the Engineer. Ensure there are no active connections to the main	15 m <sup>3</sup>	following new main installation (Northern Korimako alignment)	Visual inspection Document	Sign this ITP Delivery docket	ICC STANDARD SPECIFICATIONS	YES	YES
32	D2.7.7	Backfilling and compaction (existing, excavated material in berm)	M	WCL	All backfill material layers shall be placed and compacted in layers with appropriately sized mechanical compaction equipment to achieve uniform compaction for the full depth. This shall be in compacted layers not exceeding 200mm depth	240 m	continuous	NDM testing: not required Clegg testing: not required	Sign this ITP	ICC STANDARD SPECIFICATIONS	YES	YES

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Surface reinstatement												
33	D13	Landscaping	W	WCL	The final surface in the berm area is to be re-graded, with new sump manholes and yard sumps established as the low points.	240 m	following new main and lateral installation	Visual inspection Levelling	Sign this ITP	ICC STANDARD SPECIFICATIONS	YES	YES
34	D13.7	Grass seeding	W	WCL	approved seed mixture, 35 g/m <sup>2</sup>	240 m	following landscaping between the months of September - April	Visual inspection	Sign this ITP Blending docket	ICC STANDARD SPECIFICATIONS	YES	YES
35	D2.7.7	Subbase (AP65) compaction	H	WCL	<u>Carriageway</u> : 0.3 - 1.5 m deep: min 35 CIV > 1.5 m deep : min 25 CIV	Culvert + ch 240 - 329 ch 87, 139, 220, 224, 253, 295	During installation, every 200 mm layers at 5 m intervals for all trenches in carriageway above main and connections	Clegg test	Sign This ITP Clegg Test Result Sheet	ICC STANDARD SPECIFICATIONS	YES	YES
36	D2.11.5	Subbase (AP65) compaction	H	WCL / Lab ICC	95% compaction rate It is not required to complete NDM testing on connections.	Culvert + ch 240 - 329 = 95 m	At pipe laying commencement and reconfirmed at 120m intervals for open trench every 200 mm layers	NDM test (direct transmission)	Sign This ITP NDM Test Result Sheet	ICC STANDARD SPECIFICATIONS	YES	YES
37	D2.7	Basecourse (AP40) compaction	H	WCL / Lab ICC	98% compaction rate It is not required to complete NDM testing on connections	Culvert + ch 240 - 329 = 95 m	1 / 20 m of trench including one test at the start and end of the trench	NDM test	Sign This ITP NDM Test Result Sheet	ICC STANDARD SPECIFICATIONS	YES	YES
38	D2.8.3	Trench reinstatement - marking out saw cutting	H	ICC	Engineers rep to mark out saw cutting required (overcuts)	6 m: Marama 79 m: Kori	Prior to sealing	Visual inspection, measurements (1 m rule)	Sign This ITP	ICC STANDARD SPECIFICATIONS National Code of Practise for Utility Operators' Access to Transport Corridors	YES	YES
39	D2.7.7.2	Basecourse (AP40) geometry	H	WCL, ICC	-5 mm +15 mm h = 45-65 mm (carriageways) h = 25-45 mm (footpath)	Culvert + ch 240 - 319 = 85 m +5 cross	Prior to sealing	Visual inspection String line / straight edge inspection	Sign This ITP Pre seal inspection record (FM-114)	ICC STANDARD SPECIFICATIONS NZTA B/2	YES	YES
40	D11.4.3	Membrane Seal	H	WCL, ICC	Residual bitumen application rate ≥ 1.5 l/m <sup>2</sup>	Culvert + ch 240 - 319 = 85 m	Prior to asphaltting	Visual inspection	Sign This ITP, Delivery docket	ICC STANDARD SPECIFICATIONS	YES	YES
41	D12.5	Asphalt paving geometry	H	WCL, ICC	5 mm from a 3 m straight edge laid longitudinally 5 mm from a 1 m straight edge laid transversely	85 m	1 / finished surface	Post seal surface inspection	Sign This ITP	ICC STANDARD SPECIFICATIONS	YES	YES
42	D2.8.3 D12.3.1	Asphalt paving material	W	WCL, ICC	DG10 (carriageways)	13 t		Document	Sign This ITP Delivery docket	ICC STANDARD SPECIFICATIONS	YES	YES
43		Road markings	W	WCL, ICC	Reinstatement of the existing markings		1 / finished surface	Post seal surface inspection	Sign This ITP	ICC STANDARD SPECIFICATIONS	N/A	N/A
Completion												
44	D17	As-built information	H	WCL	Encountered Services Record Sheet Detailed Water Connection Sheet As-built drawings as per D17		Following/during completion of works	Document	Sign This ITP DWCS, ESRS, As-built	ICC STANDARD SPECIFICATIONS	YES	YES
45		Site walkover	H	WCL, ICC	Snag list to be compiled, and completed		At Completion	Review	Sign This ITP SNAG List		YES	YES
<div><div><div>Wilsons Engineer</div><div>Signed By : Norbert Jacsek</div><div>Signature:</div></div><div><div>Wilsons Contract Manager</div><div>Accepted By : Hamish Lindsay</div><div>Signature:</div></div><div><div>ICC Engineers Representative</div><div>Accepted By : Tom Andersen</div><div>Signature:</div></div></div>												