

Document Owner: Manager Customer Planning

## Installation and Commissioning of New Water Connections

**Scope/Purpose:** This process covers the installation of domestic water meters, relocations, disconnections and pop-on jobs.

### Health & Safety and Operational Information

#### Hazard Indicators



#### Personal Protection



U/G Services



Asbestos Pipes



Concrete Saws

#### Health and Safety Information

- Health and Safety documentation.
- Generic Traffic Management Plans or site-specific Traffic Management plan.

#### Operation's & Maintenance Documentation

- Corridor Access Requests (CAR) and WIP Permits (site specific or generic/global)
- Service plans (B4uDig)
- Design drawings
- Site plans
- Notification Calling Cards

#### Customer Information (Confidential)

- Vulnerable customers (DHB supplied list)
- Priority customers (WVL)

#### Priority Customer Categories

- Schools and Childcare
- Commercial premises
- Hospitals
- Retirement Homes/Villages
- Correction Facilities
- Military Installations
- Oil and Gas Refinery

#### Emergency Procedure / Escalation

- Make "Site Safe" and isolate risks to people or property with resources at hand
- In event of service strike to utility/energy source (e.g. fuel, Gas, Power, Water etc.) report immediately to team leader
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#### Additional Documentation

- Fulton Hogan Work Instructions for Disinfection of Water Systems, Service Location,
- Water supplier's standard specification and drawings
- FH SOP 3W\_GEN\_015 – Avoiding electrical shocks when working on metal pipes.

#### Escalate if extra resources required or problems occur!

- Escalate to Team Leader and inform of the issues faced and/or expected resources required if necessary.

### Required Skills, Competencies (Qualifications and/or Certifications)

Competent persons only – NZ Certificate in Infrastructure Works Level 3 or higher (or similar) with Strand in Water.  
Qualified/competent welder for PE pipes > 180mm

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### Standard Operating Procedure

#### Required Equipment

Equipment and Information	Details
Fully Equipped Vehicle	Correct fittings for week Check supplies of metal, topsoil, grass seed, cold mix, isopropanol wipes/chlorine spray. Check enough room for daily spoil expected.
Specialist Equipment	As required – see HOLD POINTS below
Notifications	As detailed below


#### Prepare to do the work

Action	Action Details
Pre Start Process	Complete the Daily Pre Start Planned Maintenance, 'Sync' Mobile Maximo.
Compliance	<b>Traffic Management Plan</b> - Where required, TMP to be in place prior to work starting. TMP to be accessible on site.
Environmental	Ensure all necessary environmental controls are in place.
Customer Notification/Communication	Attempt to contact customer prior to undertaking investigation. If contactable inform of situation and seek access approval prior to commencing works
Arrival to site	Confirm correct address on construction plans. Ensure have Watercare ID visible. Confirm if able to park in customer driveway (move immediately to access required).
Site set up	Mark-out the area of the required excavation and install candy bars and cones around the works area (minimum of 1.0m from excavation). Location plans for the service connection and associated supporting assets

#### Perform the work




Action	Trade	Action Details
Compliance	Serviceperson	Implement TMP if needed. Update to suit site conditions if required.
Excavation	Serviceperson	Excavate to locate water main and other services. If trench deeper than 1.5m <b>STOP</b> and contact supervisor for Permit to Work. <b>HOLD POINT</b> - If Hydrovac is required, notify your supervisor to get approval. <b>HOLD POINT</b> - If rock is found and a rock breaker is required, notify your supervisor straight away. <b>HOLD POINT</b> – If pipe is a different size or material to that expected follow WI-01 to determine if correct pipe – if unsure – contact supervisor. It is expected that the trench width for the service pipe (in grass or footpath) should be 300mm wide.
Disconnections	Serviceperson	Water meter disconnections must be done at the watermain (if not possible contact supervisor to confirm how to proceed). If the water meter was not found for a disconnection request, contact your Supervisor and put a note in Maximo explaining your investigation process.
New Connections	Serviceperson	Ensure minimum of 50mm all around the pipe (so sufficient room to install tapping band/saddle).
	Serviceperson	Ensure correct tapping band.

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		Plasson tapping bands used on 125mm-180mm PE pipes, Greater sizes require a welded saddle (requires qualified/competent welder). Take clear photos of tapping band.
	Serviceperson	Ensure that the following requirements are met for new meter connections: <ul style="list-style-type: none"> <li>• At right angles to watermain and pipe is in a straight line</li> <li>• New meters for rear sites to be installed adjacent to the site property boundary</li> <li>• Water meters and surface boxes ideally clear of driveways, vehicle crossings, vehicle tracks, trees, bushes or root systems.</li> <li>• <b>HOLD POINT</b> - If watermain found to not be live, notify supervisor. If tapping band already installed – blank it.</li> <li>• Water meters 200mm from boundary line in the road reserve (berm, footpath etc)</li> </ul>
<b>Relocation</b>	Serviceperson	Three ways to do: <ul style="list-style-type: none"> <li>A- Relocation within 2m sideways of the existing position</li> <li>B- Relocation from inside to outside the property</li> <li>C- Relocation is more than 2m sideways from the existing position</li> </ul> (See details below)
<b>Operational requirements (disconnection, new connection or relocation)</b>	Serviceperson	All fittings must be sprayed or wiped from the inside (prior to installation) using approved chlorine mix or isopropanol wipes. After installing all fittings and the connection to the waterman is done, check that there are no issues or any signs of leakage when the water is operating. Plastic or metal tags shall be securely attached to each individual meter, when more than one water meter is installed on a property or in a meter box.
	Serviceperson	Check the flow using the flow measuring device. The minimum flow for 20mm and 25mm meters should be 25 L/min. If it is less, then notify your supervisor.
	Serviceperson	Gap 7 is to be placed around the tapping band, watermain and any other existing services. Gap 7 should also be used underneath the new water meter. For works within the berm, backfill the hole with the existing spoil that had been excavated from the trench
	Serviceperson	For all pop-on jobs, a <b>new gate valve must be installed.</b>
<b>Works in Footpath</b> <b>Good example</b>  <b>Bad example</b>	Serviceperson	Concrete cutting only to be undertaken by competent saw operator. Minimum cut in footpath = 300mm, cut into small pieces so can easily remove. All spoil to be removed to yard or licenced tip site.
	Serviceperson	Ensure environmental controls in place, always sweep towards grass area if possible
	Serviceperson	Once work completed, backfill footpath with Gap20, compact well and apply thin layer of cold mix (approximately 25mm). After temporary reinstatement completed, sweep footpath towards fence or berm (if possible) do not wash off with water as will cause run off.

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	Serviceperson	<p>If water meter box is also located within the footpath ensure that lid/box is level with the concrete and square to the boundary line (see examples shown)</p>
<b>Disestablishment from Site</b>	Serviceperson	<ul style="list-style-type: none"> <li>After all works are completed, ensure all berms have been top soiled, grass seeded and no spoil is left onsite. The footpath should be swept and left tidy.</li> <li>For new meter installs, adequate Gap7 should be placed underneath the meter, ensuring there is no dirt inside the meter box or on the water meter.</li> <li>Ensure the water meter box lid is kept closed at all times to prevent dirt entering the box and to avoid any deformation of the water meter box wall.</li> <li>As soon as the reinstatement is completed, ensure all fittings and equipment are placed back into the work vehicles and remove all hazards from the site. The STMS can then start disestablishment and the removal of all traffic controls</li> </ul>
<b>Examples of good jobs</b>		
<div style="display: flex; justify-content: space-around; align-items: center;">   </div>		
<b>Close Out</b>	•	<ul style="list-style-type: none"> <li>Inform supervisor if scheduled work unable to be completed</li> <li>Data capture – Complete all required fields in Mobile Maximo to allow job to be closed out – include all fittings used, reinstatement required and start/finish times. See additional information below</li> </ul>
<b>Disconnected meters</b>	•	<ul style="list-style-type: none"> <li>If required store removed meters for at least 6 months in the FH yard (in barrels provided)</li> <li>Write the date of when the meter is disconnected on the actual water meter (using a permanent marker pen), so we can determine when the meter is over 6 months old.</li> </ul>
<b>Common Problems</b>		
<b>Excavation adjacent to Trees</b>	•	<ul style="list-style-type: none"> <li>If excavation is being undertaken near any trees, check to see whether the excavation will be within the drip line of a tree.</li> </ul>

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		<ul style="list-style-type: none"> <li><b>No excavation</b> is to be done under the drip lines of a scheduled tree. If the excavation is in accordance with the consents below, then works can proceed.</li> </ul> <p><b>Tree Consents: Works within protected root zone</b></p> <div style="border: 1px solid black; padding: 5px;"> <p><b>PERMITTED ACTIVITIES</b></p> <p>For roots under 60mm</p> <ul style="list-style-type: none"> <li>- Hand digging excavation</li> <li>- Single excavation area of 1m<sup>2</sup></li> <li>- Roots pruning must be less than 35mm in diameter at severance</li> <li>- Works must not disturb more than 10% of protected root zone</li> </ul> </div> <p style="background-color: red; color: white; padding: 2px; text-align: center;">No arborist supervision is required if you conform to these limits.</p>
<b>Data Capture</b>		<p>Take clear photos</p> <p>For new meter installs or relocations, the location description must be provided. This is the distance from the left hand boundary or right boundary. Below are examples of where to take the boundary measurements;</p> <p>The left and right boundary is determined by standing in front of the property (e.g. from the roadside) and looking straight at the property. As per the picture below, the RHB is on the right side and the LHB is on the left side.</p> <p>The below picture shows an example of the boundary distance for a new meter which has been installed. The measurement must be taken from the centre of the water meter box and measured to the nearest boundary (LHB or RHB). For the example below; the location description on the eform will be entered as 5.0m RHB.</p>



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Action	Trade	Action Details
<p style="text-align: center; color: red; font-weight: bold;">Location Description: 5.0m RHB</p>		
<b>Additional Information</b>	Serviceperson	
<b>Relocations – A Within 2m sideways of existing position</b>	Serviceperson	FH crew to call customer 24hrs prior to attending site to confirm that internal pipe installed and ready to be connected at new location as per plan (expect new pipe to be buried inside the property and exposed at the boundary line)
<b>On arrival</b>	Serviceperson	FH crew advise customer that water supply will be off for approximately 1 hr. If no one home can also proceed.
<b>Complete work</b>	Serviceperson	Expose the existing WSL service pipe and install 90 degree elbow, lay the service pipe sideways and install another 90 degree elbow towards the new meter location.
	Serviceperson	Replace watermeter if it is older than 10 years or 15mm in size (regardless of the age) and replace the box if unusable.
	Serviceperson	Carry out the reconnection, even if the internal pipe is not completed to avoid customers being left with no water supply. If the customer has confirmed that the internal pipe is installed but not found on arrival to site, FH crew to lay a temporary overland pipe and connect at the tail of the existing location of the water meter to avoid any water disruption to customer (If the overland pipe installation is not possible, then abandon the job and notify the supervisor, so we are able to charge Watercare for a site visit)
	Serviceperson	Turn on the garden tap and let water flow for a few minutes and record flow.
<b>Relocation– B Relocation from inside to outside the property</b>	Serviceperson	FH crew to call the customer 24 hrs prior to attending the site.

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Action	Trade	Action Details
On arrival	Serviceperson	FH crew advise customer that water supply will be off for approximately 1 hr. If no one home can also proceed
Complete work	Serviceperson	<p>Remove the existing meter, fittings and box and replace it with the same size pipe and connect, then reinstate.</p> <p>Re-install meter and box outside the property as per WSL standards and reinstate.</p> <p>Replace watermeter if it is older than 10 years or 15mm in size (regardless of the age) and replace the box if unusable.</p> <p>While relocating a watermeter less than 10 years old, check that the ID Number is clear and readable. If it is not, then replace it with a new watermeter and take photos.</p> <p>Turn on the garden tap and let water flow for a few minutes and record flow.</p>
<b>Relocation - C Relocation is more than 2m sideways from the existing position</b>		This is the normal new connection and disconnection works If the customer is not ready to disconnect the meter, then do not carry out the disconnection and let your supervisor know.

Approved to Issue for Testing: Planner Name .....	Tested by: Serviceperson Name .....	SOP Finalised Team Leader Name .....
Signed .....	Signed .....	Signed .....
Date .....	Date .....	Date .....

