

# Form ES1 Piped takes, water meter, datalogger installation/commissioning and verification



**Post to:**  
Environment Southland  
Private Bag 90116  
Invercargill 9840  
Attn: Compliance Water Metering

**or Email to:**  
escompliance@es.govt.nz

Phone: 0800 76 88 45  
www.es.govt.nz

**This form must be completed by the equipment installer**

What is this form for: ☐ Installation certificate ☐ Water meter verification

Consent number:			
Well number(s):			
Name of consent holder:			Phone:
Address of consent holder:			Email:
GPS location of meter (NZTM format):	Easting:	Northing:	
GPS location of take (NZTM format):	Easting:	Northing:	
Location of take (written description):			

## Water meter details

Make:		Meter size (mm diameter):	
Model:		Pulse output?	<input type="radio"/> Yes <input type="radio"/> No
Serial number:		Volume per pulse:	m <sup>3</sup> /pulse
(Start) meter reading volume:	m <sup>3</sup> (state units if different)	Type of meter (e.g. electromagnetic, mechanical):	
Time meter read:			
Installer:			

## Datalogger details

Installed?	<input type="radio"/> Yes <input type="radio"/> No	Installer:	
Make:		Model:	
Serial number:		Telemetry installed for consent compliance?	<input type="radio"/> Yes <input type="radio"/> No
Data hosted by:		Telemetered daily to ES?	<input type="radio"/> Yes <input type="radio"/> No

## Installation details

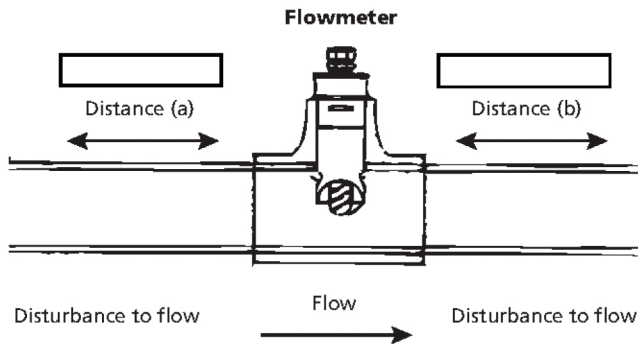
Pipe external diameter:	mm	
Pipe wall thickness:	mm	
Pipe material (eg. polyethylene, PVC, aluminium, mild steel, ductile iron, other) :		
Distance of straight, unobstructed pipe <b>upstream</b> of water meter:	mm	(distance (a) in Figure 1)
Distance of straight, unobstructed pipe <b>downstream</b> of water meter:	mm	(distance (b) in Figure 1)

Is there a straight unobstructed accessible pipe in the system of at least 15 diameters length to verify the flow with a clamp-on water meter?

☐ Yes ☐ No

Location of meter in the system (e.g. 2m from bore):

**Figure 1: Installation diagram** - Please mark any disturbances upstream of the water meter e.g. pipe size reduction, gate valves, pipe bends. Refer to Figure 2 for an example of a good installation.



#### Insertion meters only

Insertion depth:

K-factor:

#### Ultrasonic meters only

Transducer size:

Transducer spacing:

Transducer mounting:

(V = Reflect or Z = Direct)

#### Accuracy details

Do you have a water meter calibration certificate?

☐ Yes ☐ No

(If yes, please submit the certificate)

Has the meter been checked against a portable water meter?

☐ Yes ☐ No

#### Verification details

Is a clamp-on water meter used for verification?

☐ Yes ☐ No

If no, describe the method used e.g. reservoir/time calculation, volumetric etc

Verification flow meter brand and type:

Last calibration date of the flow meter used for verification:

DD / MM / YYYY

**Calibration certificates must be sent in (once) to the Environment Southland, after every required calibration**

**Verification parameters**

Pipe diameter (mm):		Pipe wall thickness (mm):	
Pipe material (eg. polyethylene, PVC, aluminium, mild steel, ductile iron, other):		Location in system where the clamp-on was attached:	<input type="radio"/> Yes <input type="radio"/> No

**Measured flows**

Undertake three separate observations, and record and average the results in the table below.  
 Verification flows should be taken at or around the consented flow rate and/or the flow rate the well is usually pumped at.  
 If flows don't verify within 5% a second clamp-on location can/should be attempted.

	Location 1 Observation 1	Location 1 Observation 2	Location 1 Observation 3	Location 2 Observation 1	Location 2 Observation 2	Location 2 Observation 3	Average
Installed meter flow (L/s):							
Verification flow meter (L/s):							
% Difference:							

**Certification**

(Select one):

- ☐ I/we certify that the above water meter/measuring device has been verified and the measured flow is within 5% of the verification device.
- ☐ I/we have found that the installed water meter/measuring device deviates more than 5% from the verified flow.

Recommend remedial action:

If unable to be verified at the time of the installation/commission please advise date this will be completed by:

I/we certify that the above water meter and datalogger have been installed in accordance with Environment Southland and Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 requirements and that:

a water meter calibration certificate from the manufacturer is attached to this form

a picture or photo of the installation is attached to this form.

Verified by:		Signed:	
Company:		Date of verification:	DD / MM / YYYY

Figure 2: An example of an Ideal installation of a water meter, including obstructions in pipework.

