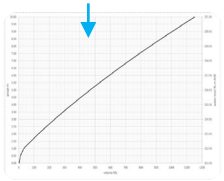
Process map - **storage metering 1**

Radar sensors, both primary and secondary, can be installed before storage curves and survey benchmarks are established. They only require one surveyor visit. **(Steps 1-3)**

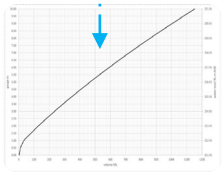
Pressure sensors (primary) and gauge boards (secondary) need storage curves and survey benchmarks established beforehand to ensure they're placed at the lowest dam level and set to zero. A second surveyor visit is required to level the devices to AHD.**(Steps 2 – 6)**

	Phase 1 Establishment							Phase 2 Operation & Maintenance		Phase 3 Revalidation
Customer Steps										
	Receive WSWA All storages on your work approval need measurement.	**Step 1** **Engage CSV (installer)** Installing RADAR sensors - primary and optional secondary together	**Step 2** **Storage curve**	**Step 3** **Survey benchmarks**	**Step 4** **Engage CSV (installer)** Installing SUBMERSIBLE sensors – primary only	**Step 5** **Install gauge board** – optional secondary	**Step 6** **Surveyor** Levels /calibrates pressure sensors & gauge board	**Step 1** Nominating measurement period	**Step 2** Report faulty equipment & repair	**Step 1** Engage CSV to revalidate measurement devices
Prerequisites	FPH conditions apply to water supply work approval - s238A Mandatory floodplains condition - s238B FPH exemptions - s238C	Find CSV on IAL website. See the list of approved devices (sensors and LIDs).	• Default storage curves created by the department (2009-14) are used to calculate your FPH take. • Ask your DQP for a copy or email the department at metering.reform@dpie.nsw.gov.au	A registered surveyor must establish your survey benchmarks - s238K(4)(5) • Surveyor checks the storage curve is linked to site benchmarks so your devices can accurately calculate volume changes.	•Submersible sensors need storage surveys upfront for correct installation depth. • See the list of approved sensors and LIDs. Storages without a gantry - approved method using pressure sensor.	• Guage boards need storage surveys upfront for correct installation depth. • Secondary devices enable take before rollout date or if primary device is faulty - s238Q. • See list approved secondary devices	If you are using a pressure sensor or gauge board, your surveyor will need to come back and level-in / calibrate these devices to AHD.	All storages on your WSWA must have compliant measurement devices. When a measurement period starts and ends – s238F	If primary device fails, you will require an approved secondary device to continue FPH. Records to be kept when equipment faulty- s242	Devices must be maintained in accordance with the storage metering equipment standards Every 5 yrs for radar sensors and gauge boards. Every 3 years for pressure sensors.
Systems	FPH licensing rules per valley	• DQP/CSV must install your primary device. • CSV registers your storage devices on the DQP Portal.	• Landholder must ensure their storage curve in the DQP Portal is accurate • If your storage curve is out by +/-5%, you must update it using a registered surveyor - s238L	Reg surveyor sends survey benchmarks to WaterNSW for upload to DQP Portal. Surveyor uploads device calibration in DQP Portal.	DQP/CSV must install your primary device. • CSV registers your storage devices on DQP Portal.	A landholder can install a gauge board, but it must be validated by a DQP. All automated secondary devices must be installed and validated by DQP/CSV	Your surveyor or meter installer will upload the calibration data to the DQP Portal.	DAS guideline. Check DAS is reading volume changes. Register for iWAS. Login to iWAS. iWAS - view available water balance	s91i - faulty meter report form	Maintenance is undertaken by CSV. Revalidation uploaded to the DQP Portal.

Process map - **storage metering 2**

Radar sensors, both primary and secondary, can be installed before new storage curves and survey benchmarks are established. They only require one surveyor visit. **(Steps 1-3)**

Pressure sensors (primary) and gauge boards (secondary) need storage curves and survey benchmarks established beforehand to ensure they're placed at the lowest dam level and set to zero. A second surveyor visit is required to level-in the devices to AHD.**(Steps 2 – 6)**

	Phase 1 Establishment							Phase 2 Operation & Maintenance		Phase 3 Revalidation
Customer Steps										
	Receive WSWA	**Step 1** **Engage CSV** Installing RADAR sensors - primary and optional secondary together	**Step 2** **Storage curve**	**Step 3** **Survey benchmarks**	**Step 4** **Engage CSV** Install SUBMERSIBLE sensor - primary	**Step 5** **Install gauge board** – secondary (optional)	**Step 6** **Surveyor** Levels /calibrates pressure sensors & gauge board	**Step 1** Nominating measurement period	**Step 2** Report faulty equipment & repair	**Step 1** Engage CSV to revalidate measurement devices
Outputs	• Statement of Approval • Water Infrastructure Plan (WIP) • Water account is credited	Certificate for primary device installation provided to water user under the Regulation - s238S(1)(a)(ii)	Certificate for updated storage curve provided to water user under the Regulation - s238(1)(a)(iv)	Certificate for survey benchmarks provided to water user under the Regulation - s238(1)(a)(iii)	Certificate for primary installation provided to water user under the Regulation - s238S(1)(a)(ii)	Certificate for secondary metering provided to water user under the Regulation - s238S(1)(a)(v)	Calibration and installation lists are uploaded to the DQP Portal.	Measurement record - 14 days to finalise - s238G Keeping measurement records 5years - s238	Repairs to faulty metering equipment/ process and information - s243	Maintenance certificate provided to water user - obligations of DQP - s238O
Process	• You do not need to meter a storage that is inactive. • You may divide your approval to create different areas of measurement. • Apply to amend your water supply works or make a work inactive through WaterNSW	• Installation in accordance Metering Equipment Standards (schedules 1-3) • See telemetry exemption – for poor connectivity. See transitional provisions for equipment installed before 14/2/2020	• Meets schedule 3 (storage curves) Metering Equipment Standards • Meets Storage Curve Guideline • DQP or landholder can request WaterNSW to update storage curve in DQP Portal. • DAS updated.	Meets schedule 2 (survey benchmarks) Metering Equipment Standards Meets Survey Benchmark Guideline	• Installation in accordance Metering Equipment Standards (schedules 1-3) • See telemetry exemption – for poor connectivity. See transitional provisions for equipment installed before 14/2/2020	Meets schedule 4 (secondary devices) Metering Equipment Standards Meets Secondary Devices Guideline	Storage metering equipment must be calibrated by a duly qualified person in accordance with the storage metering equipment standards, and by reference to a survey benchmark S238K.	Using secondary metering device if primary is faulty - s238R WaterNSW Water Insights - rules/triggers/trading DAS is reading correct storage volume changes.	Using secondary metering device if primary is faulty - s238R	FPH storage metering equipment standards - maintenance schedule 1

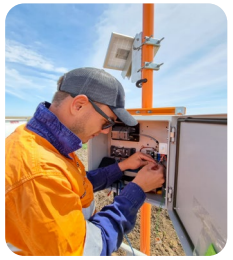
Surveyor

- Establish survey benchmark
- Updates storage curve
- Level and calibrates devices

Complete Certificate

DQP

- Installs primary and secondary metering equipment
- Maintains equipment



Complete Certificate

Customer

- Nominates measurement period
- Water Take
- Submits s91i - Faulty equipment

Inputs to

DQP Portal

This system allows DQPs to:

- Register your site for primary and secondary measurement
- Update storage curves
- Submit survey benchmark details
- Generates customer certificates
- Enables revalidation of devices as part of maintenance requirements

Sends data to

Customer Interface iWAS

Allows a customer to nominate their measurement period and submit key usage information when using secondary measurement methods.

Inputs to

Data Acquisition Service (DAS)

The DAS takes DQP submitted data and uses the storage curve and LID configuration information to calculate how much water a customer has harvested. Customers can also view their usage.

Connects to

WaterNSW Systems

Allows WaterNSW to

- Manage water usage
- Bill customers