Irish Water Self Lay Quality Assurance

Toolbox Talk 2 of 8: Chambers & Marker Posts

Step 1 – Before You Start

- Ensure safety is considered during the planning and execution of the works. If working on behalf of Irish Water, adhere to Irish Water's HSQE requirements.
- All operatives should complete Water Hygiene Training and adhere to the requirements.
- Materials are to be in accordance with the Irish Water Codes of Practice (CoP) and have CE marking.
- All equipment should be in good working order and, where applicable, have a relevant calibration certificate and CE marking.
- When setting out the works on site, consideration should be given to the size and location of chambers to ensure their installation complies with Irish Waters' requirements, particularly relating to separation and/or set-back distances.
- Before installation of any water or wastewater infrastructure works refer to Irish Water's Codes of Practice and Standard Details which are available, along with the full library of Quality Assurance Toolbox Talks, on the Irish Water website **water.ie/connections/**
- Refer to Toolbox Talk 8 for information on water main fittings.

Step 2 – Bearing Slab

- Install a C25/30 precast concrete bearing slab on a minimum 150mm of the granular pipe surround material or on trench granular backfill material.
- Align all chambers correctly on bearing slab and centred over valves/hydrant.
- Provide a drain hole in the base slab to allow free drainage of liquid from the chamber to free draining granular material below.

Step 3 – Chambers

- Install Sluice Valves in accordance with STD-W-14 & 15, Hydrants in accordance with STD-W-16 to 19 & Air Valves in accordance with STD-W-20 to 23.
- The typical internal chamber dimensions for Air Valves, Fire Hydrants and Sluice Valves is 600mm x 600mm. Refer to water CoP section 3.18.
- Reduced internal dimensions for Air Valves and Fire Hydrants in non trafficked areas are acceptable.
- Chambers can be constructed of the following:
  - Precast – Minimum 100mm thick Reinforced Concrete Walls. Single height precast units are acceptable. Interlocking modular units are also acceptable. Bed the modular precast units in mortar if required.
  - Blockwork – 215mm high strength (20N/mm²), solid concrete block, laid on flat, bedded in mortar, and flush pointed.
  - Subject to review and approval by Irish Water, proprietary prefabricated units may be installed to manufacturer's instructions.
- Surround manholes in Clause 808 material, compacted in layers no more than 200mm, to the underside of the road/footpath structure in accordance with water CoP Section 4.9.
- Clean all chambers and remove any debris.

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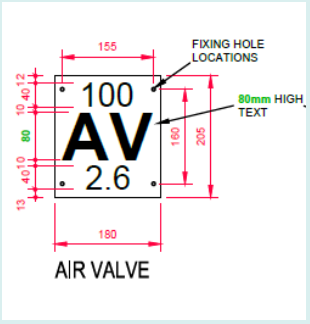
Step 4 – Roof Slab

- Sluice valve, scour valve and hydrant chambers require a reinforced concrete (grade C30/37), roof slab with a minimum thickness of 150mm.
- Chamber roofs are to be approved pre-cast concrete roof slabs or cast in-situ concrete roofs and are to be submitted to Irish Water for review.
- Air valve chambers will not require a roof slab due to the size of the air valve chamber cover and frame.

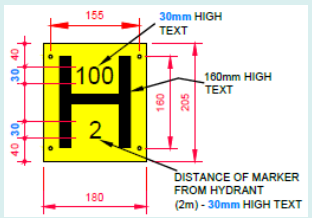
Step 5 – Covers/Lids

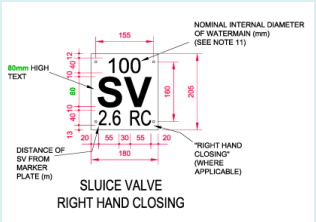
- Set cover frames in cementitious epoxy resin/polyester mortar 30N/mm2, supported on 1 to 2 courses of Class B engineering brick set in M30 mortar, flush pointed.
- Provide heavy duty iron covers and frames to IS 261, class D400 (suitable for road and traffic conditions).
- Lid dimensions are as follows:
  - Fire Hydrant/ Sluice Valve – 445mm x 280mm plan area.
  - Air Valve Covers/Lids – 600mm x 600mm plan area.
- Install a 200mm all around, 100mm deep concrete plinth around covers in green areas.
- Set frames and covers square over roof slab opening.



Step 6 – Marker Plates and Posts

- Refer to STD-W-27 for details.
- Mount marker plates on marker posts at the back of footpaths or on the boundary wall of the public thoroughfare nearest to the hydrant or valve.
- Marker posts should be of concrete construction.
- Marker plates should be metal and shall be fixed with appropriate non-retractable screws.
- Hydrant indicator plates should have fixed black letter H on a canary yellow background.
- Indicator plates for all valves, meters and bulk meters should have fixed black letters (AV, SV, ScV, WO, PRV/PSV, Me and BM) on a white background.
- Marker plates should show: the diameter of the Main in “mm”; the distance from the marker to the fitting in “m”; and the direction of closing.





Step 7 – As-Constructed Records

- Record and maintain as-constructed Irish National Grid (ING) locations of all valves, hydrants and fittings.
- As-constructed records are to be included in the final documents which are submitted to Irish Water prior to connection.

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