

# Irish Water Self Lay Quality Assurance

## Toolbox Talk 6 of 8: Line and Level

### 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.
- 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.
- All workers should be familiar with and adhere to the approved Layout and Long Section Drawings. If any changes are required, consult with Irish Water before doing so.
- Before installation of any water or wastewater infrastructure works refer to Irish Water's Codes of Practice (CoP) and Standard Details which are available, along with the full library of Quality Assurance Toolbox Talks, on the Irish Water website [water.ie/connections/](http://water.ie/connections/)

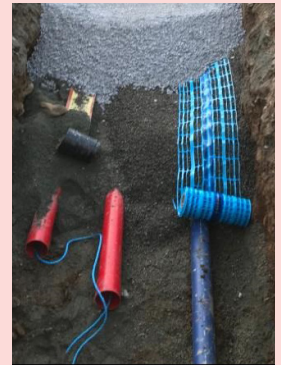
### Step 2 – Setting Out

- When setting out the works on site, consideration should be given to the location of the infrastructure such as pipes, manholes, boundary boxes and chambers to ensure they have adequate separation distance from other services and correct set-back distances from structures.
- Manholes are required at all changes in direction, changes of gradients, changes of pipe type and changes of pipe size on all sewers.
- Lay wastewater service connections in a straight line from the private side inspection chamber to the sewer branch connection. Use long radius 45° bends to turn down and direct service connection towards the Y-branch. Refer to STD-WW-03.
- Lay water service connection pipes in a straight line from the connection point to the boundary box. Do not use mechanical joints between the connection point and the boundary box. Refer to STD-W-03.



### Step 3 – Separation Distances

- Ensure adequate separation distances are achieved from other services and structures. Refer to STW-WW-05 (wastewater) and STD-W-11 (water) for minimum separation distances.
- Notify Irish Water if there are existing Irish Water assets which are within the criteria as outlined in STW-WW-05 and STD-W-11.
- Other utilities' (e.g. gas, electricity) separation distance requirements must be complied with.
- A storm water sewer or a wastewater sewer should generally not be installed to cross over a water main. Any proposed pipe crossing of the water main shall do so at right angles, or as near to as possible.
- Crossings should be located midway between the water main joints.
- All such crossings shall be to Irish Water approval and shall not be undertaken until Irish Water or its agents have examined the work at the crossing point and deemed it fit for backfilling.
- Refer to STD-WW-05a for vertical separation distances required between Irish Water services.



### Step 4 – Existing Irish Water Services

- When undertaking work in close proximity to Irish Water assets, refer to water CoP Section 3.27 and to wastewater COP Section 3.20.

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### Step 5 - Grade

- The minimum sewer grade depends on the size of the sewer and the flow. Refer to wastewater CoP Section 3.6.
- Adhere to the specific design gradient.
- Lay pipe bedding to the correct grade and depth.
- Install sewer pipes using a pipe laser to ensure correct gradient and alignment.
- Install water mains in straight lines horizontally and vertically.
- Refer to water CoP section 3.11 and wastewater CoP section 3.9 for minimum cover requirements.



### Step 6 - Tree Root Protection

- Adhere to STD-WW-06, STD-WW-06A, STD-W-12 and STD-W-12A and maintain a sufficient distance from existing trees.
- Where there is a risk of root infiltration, use root protection measures such as appropriate barriers, high performance joints or PE pipes with welded joints.

### Step 7 - As-Constructed Records

- Record and maintain:
  - as-constructed Irish National Grid (ING) co-ordinates, invert levels and cover levels of each pipe at manhole locations.
  - as-constructed ING co-ordinates of private side inspection chamber location for each service connection.
  - as-constructed ING locations of all boundary boxes, valves, hydrants and fittings.
  - as-constructed ING co-ordinates of connection location to existing network.
- As-constructed records are to be included in the final documents which are submitted to Irish Water prior to connection.

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