

# Irish Water Self Lay Quality Assurance

## Toolbox Talk 7 of 8: Water Main Pipe Laying

### 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 should be in accordance with the Irish Water Codes of Practice (CoP), and should 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 Water 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 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/)

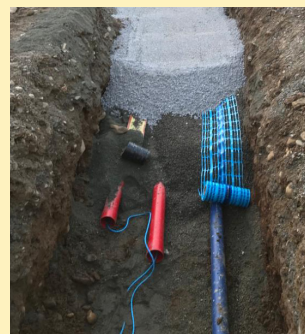
### Step 2 – General

- Watermains can be either Ductile Iron (DI) or Polyethylene (PE) (blue in colour).
- PE pipes can be either PE 80 or PE 100, SDR-11 or SDR-17.
- DI pipes shall comply with IS EN 545 and shall have a minimum C40 pressure rating.
- Transport, store and handle materials in accordance with water CoP Section 4.2.
- All materials should be stored in a secure clean environment and free from contaminants, and as per manufacturer's instructions.
- Do not use damaged materials. If any damaged materials are found, mark them up and discard them.



### Step 3 – Water Main Pipe Laying

- Maintain required separation distances in all directions from all utility services pipework.
- Watermains should be installed to ensure adequate depth of cover. Refer to STD-W-13 Note 2 for minimum depth requirements.
- The minimum trench width is dependent on the pipe diameter. Refer to STD-W-13 for minimum trench width dimensions.
- Place pipe bedding below & surround above the crown of the pipe. Refer to STD-W-13 for minimum depths.
- Refer to STD-W-13 Note 5 for pipe bedding material.
- Lay pipe marker tape with trace wire on top of pipe surround.
- Refer to STD-W-13 Note 3 for trench backfill materials requirements.
- If the pipe is installed without the adequate depth of cover, a concrete protection slab to protect the pipe is required.
- Ensure all pipes are capped and protected during installation and construction.
- Remove and replace any damaged or contaminated pipework.



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### Step 4 - Thrust Blocks

- Refer to water CoP Section 4.6 and STD-W-28 for details of anchor/thrust blocks.
- Concrete thrust blocks are to be cast in contact with undisturbed ground.
- Use secure and appropriate formwork to support placement of concrete.
- Allow time for the concrete to develop adequate strength.
- A compressible filler material is required between concrete and PE pipe.
- Remove all concrete splashes from valves / fittings / PE pipe.



### Step 6 - Testing & Commissioning

- Testing and commissioning is to be in accordance with water CoP Section 4.10, and consists of:
  - cleansing of pipes.
  - pressure testing.
  - swabbing after testing.
  - disinfection.
  - disposal of water.
  - flushing.
  - water quality sampling and testing.



### Step 5 - Root Protection

- Adhere to STD-W-12 & 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, cover levels and sizes of each pipe.
  - 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.