

Water Supply Project Eastern and Midlands Region

Ancillary Pipeline Features and Flow Control Valve

Overview

The ancillary features of the pipeline are needed to facilitate the operation of the pipeline including any planned maintenance.



What are the ancillary features of the pipeline?

System Control – the overall pipeline system control will be located at the Control Building at the Water Treatment Plant in Birdhill and monitored remotely by Uisce Éireann National Operations Management Centre.



Example of a valve control kiosk

Line Valves – There will be approximately 50 line valves along the length of the pipeline. They will be below ground and will enable sections of the pipeline to be isolated, drained and refilled for maintenance purposes. There will be an above ground kiosk at each line valve containing an actuator, power connection and telemetry.



Example of below ground valves

Lay-Bys – At each of the line valves there will be a lay-by to provide safe parking for planned periodic maintenance. The above ground kiosk will be adjacent to the lay-by.



Example of a kiosk and lay-by



Washout Valves – The washout valves will be located at every low point along the pipeline. There are approximately 200 of these along the route of the pipeline. These will be used to empty sections of the pipeline, if this is required. This is expected to be a very rare occurrence and will only be for emergency repairs or possibly for cleaning, perhaps every 20 to 30 years.



Example of a washout

Air Valves – These will be located at high points along the pipeline to allow air to be managed for efficient operation. There are approximately 300 of these proposed along the pipeline.



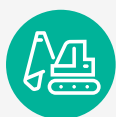
Example of a typical air valve

Flow Control Valve (FCV) – There will be one larger, specific valve approximately 5km west of the Termination Point Reservoir, at Newtown, County Kildare. The purpose of the FCV is to control the flow of water arriving at the Termination Point Reservoir.

The FCV site will consist of three 700mm diameter valves and three flow meters installed in parallel with the line valve, housed within an underground chamber. These will provide fine control of the flows in the Treated Water Pipeline.

There will be a permanent power supply to the site via a combination of overhead lines and buried cables routed to a control kiosk on the site. Two other kiosks at the FCV site will house the control Programmable Logic Controller, telemetry and the actuators for the Line Valve. This site will have a permanent above ground compound with 2.4m high palisade fencing. Permanent access will be from the L1016 Commons Road Upper. The permanent land take for the proposed site will be approximately 0.4 hectares.

Power connections – There will be a permanent power connection to each line valve and to the Infrastructure Sites. Two of these connections are larger than the others. For the Raw Water Intake and Pumping Station Site and the Water Treatment Plant there will be an upgrade of the existing overhead 38kV power line between Ardnacrusha and Birdhill and the Ardnacrusha – Birdhill – Nenagh line. For the Booster Pumping Station there will be a new connection to Birr electricity substation.



How will the ancillary features of the pipeline be built?

The ancillary pipeline features will be constructed as part of the overall construction of the pipeline. Generally the valves will be installed after the pipeline has been put in place toward the end of the process. Power connections are

expected to be constructed by the Electricity Supply Board after the main infrastructure elements have been built.

The ancillary pipeline features will usually be constructed within the 50m Construction Working Width required to build the pipeline. There will be permanent land take associated with some of the ancillary pipeline features such as the lay-bys, kiosks and in some instances the valves.

The FCV will be built as part of the overall construction of the pipeline. The extent of the total area of land required temporarily during construction of the FCV will be approximately 0.9 hectares.