



# Leakage Investigation Survey

**Client: Beverley, HU1**

## Mains water meter information

|               |   |  |       |   |        |                  |         |  |             |  |
|---------------|---|--|-------|---|--------|------------------|---------|--|-------------|--|
| Size (mm)     | 15-28   |  | 32-50 | ✓ | 75-100 |                  | 125-200 |  | Above 200mm |  |
| Serial number | 12KE023142                                    |  |       |   |        |                  |         |  |             |  |
| Readings (1)  | 17871.873                                     |  |       |   | Time:  | 10.33 27/10/2019 |         |  |             |  |
| Readings (2)  | 17872.028                                     |  |       |   | Time:  | 10.38 27/10/2019 |         |  |             |  |
| Location      | Meter located left of entrance road in verge. |  |       |   |        |                  |         |  |             |  |

## Leakage Activities

|                   |                          |             |  |                   |          |                          |   |
|-------------------|--------------------------|-------------|--|-------------------|----------|--------------------------|---|
| Acoustic sounding | ✓                        | Correlation |  | Ground microphone |          | Environmental Inspection | ✓ |
| Other             | Isolation of rising main |             |  |                   |          |                          |   |
| Pipe traced       |                          | CAT & Genny |  |                   | Distance |                          |   |
| Pipe correlated   | Accelerometer            |             |  | Hydrophones       | Distance |                          |   |

## Background Information

High water bills and continuous use recorded on meter when isolated internally.

## Activity Summary

### Pipework & Metering



Pic 1



Pic 2



Pic 3



Pic 4



Pic 5



Pic 6

### **Leakage Survey Activities**

After signing in at site I met up with Nicki who showed me around the site, the internal riser (pic 6) was pointed out and the main meter (Pic 5) was also pointed out.

I began the survey by closing the internal riser and sounding it for leak noise, there was a very small noise but not related to the presumed leak I was looking for.

On a quick inspection of one of the male washrooms close by it was noted that the urinal control was not working and the cistern was constantly filling, consideration should be given to have this repaired or replaced.

I continued with the leak survey and went to take a read from the meter (pic 5), on opening the chamber it was half full of clear water. Firstly I took a water sample from the chamber and tested it for chlorine, this proved positive so I then pumped out the water and noted that the water was rising quite quickly.

I shut the stop tap located inside the chamber, the meter had stopped recording at this point. I pump out the water once more and noted that the water was no longer rising in the chamber, I then opened the stop tap and in just a few seconds the chamber started to fill again confirming that there was a mains water leak not too far from the meter chamber. I set up the ground microphone soft ground probe and tested the area around the chamber, a very strong reading was recorded (pic 4) only half a meter from the outlet of the meter.

On checking this further with a longer probe water was being pulled up, based on the finding it confirmed that there is a mains water leak just half a metre from the outlet of the meter in the grass verge area. The leak has been marked in blue (pic 5).

If consumption is still high after the repair it is recommended that a further survey be carried out as there maybe another leak as it was not possible to check any more of the supply during this survey as the leak found was making too much noise to allow this.

The leak was measured at 31 litres per minute = **1.8m<sup>3</sup> per hour and 44m<sup>3</sup> per day at a cost of £136.40 per day x 365 days = £49,786 per annum.**

### **Summary & Recommendations**

Summary:

Underground leak located near main meter.

Recommendations:

**Urgent repairs to supply**

### **Survey carried out by**

|          |                       |      |                   |
|----------|-----------------------|------|-------------------|
| Engineer | H2O Building Services | Date | 27th October 2019 |
|----------|-----------------------|------|-------------------|