

CASE STUDY



Project: Chamber survey
Client: H₂O Utilities

Sector: Education
Location: Feltham, West London



THE CHALLENGE

Facilities management company H₂O Utilities needed to survey a large chamber which was part of a foul water pumping system at Bedfont Primary School, in Feltham, West London.

There was evidence that ground water was getting into the pumping system. The conventional survey method would have been to carry out a confined space entry. This would have needed a large team to counter health and safety risks, making the survey costly and potentially problematic to schedule.

THE SOLUTION

UKDN Waterflow (LG) Ltd advised H₂O Utilities that there was a safer, faster, and potentially less costly survey solution. This was to use the innovative Panoramio SI chamber inspection system. It has been pioneered in the UK by UKDN Waterflow (LG)'s parent company, Lanes Group plc.

- ▶ Remote access surveying and inspection of large chambers
- ▶ No need for confined space entry
- ▶ Quick set-up and fast operation, reduced impact on worksite operations
- ▶ Single-person operation, instead of large teams needed for confined space entry.

“The Panoramio SI camera is an impressive piece of kit. It avoids the need for personnel to enter a chamber, a task that always carries risk. As such, the Panoramio has significant safety benefits. Technology like this has to be the way forward, in that it allows us to complete these tasks quickly and efficiently without a confined space entry.”

Richard Scott, Director, H₂O Utilities



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We are UKDN Waterflow (LG) Ltd

We are part of Lanes Group plc, the UK's largest independent supplier of specialist drainage and structure maintenance solutions.

We have two operational hubs, in Birmingham and Slough, Berkshire, and 10 depots delivering a national clean water and drainage maintenance and engineering service.



CASE STUDY CONT.

Chamber survey

THE IMPLEMENTATION

The chamber that needed to be surveyed was 2.5m wide and 4.5m deep, and part of a two-chamber wet well system that pumps waste water from the school into the main sewer system.

A conventional confined space entry places personnel at risk from falls and potentially deadly gases that can build up in sewers and chambers. These include hydrogen sulphide and carbon monoxide.

For these reasons, carrying out a confined space entry survey of the chamber would have required up to five personnel, including a two-person rescue team.

Also, if levels of sewer gases had been high, the survey could have been delayed, adding to the cost and inconvenience for the school.

Panoramo SI

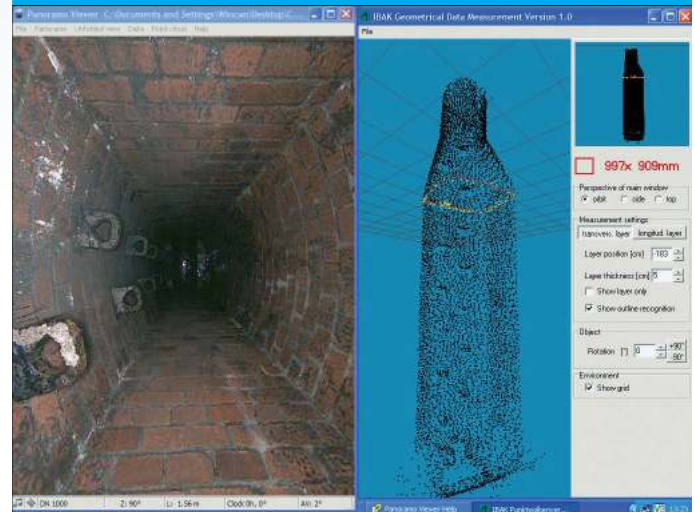
The IBAK Panoram SI survey camera overcomes these problems. It has a 3D optoscanner, which has two high-resolution digital cameras. These capture high definition 360° images of the inside of a structure.

The Panoram SI camera was lowered into the chamber from a winch on the back of a specially kitted out van. The camera records footage at a rate of one metre every three seconds, so the survey was completed in less than one minute.

Data was also gathered during the survey that the client could use to create a highly-accurate point cloud image, for additional structural analysis.

THE RESULTS

- ▶ The remote access survey was successfully completed
- ▶ A conventional confined space entry places personnel at risk from falls and potentially deadly gases that can build up in sewers and chambers. These include hydrogen sulphide and carbon monoxide.
- ▶ Access was needed for less than half a day
- ▶ The speed and low impact of the Panoram SI system meant the survey could be carried out in term-time: there was no need to wait to carry out the survey during a school holiday
- ▶ H₂O Utilities received enhanced survey data to support more effective maintenance plans.



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Front cover – 1. The Panoram SI system in action; 2. The equipment is stowed in a van that can also be positioned directly over a chamber.
This page – The camera records HD quality images and can also create a point cloud of the structure.