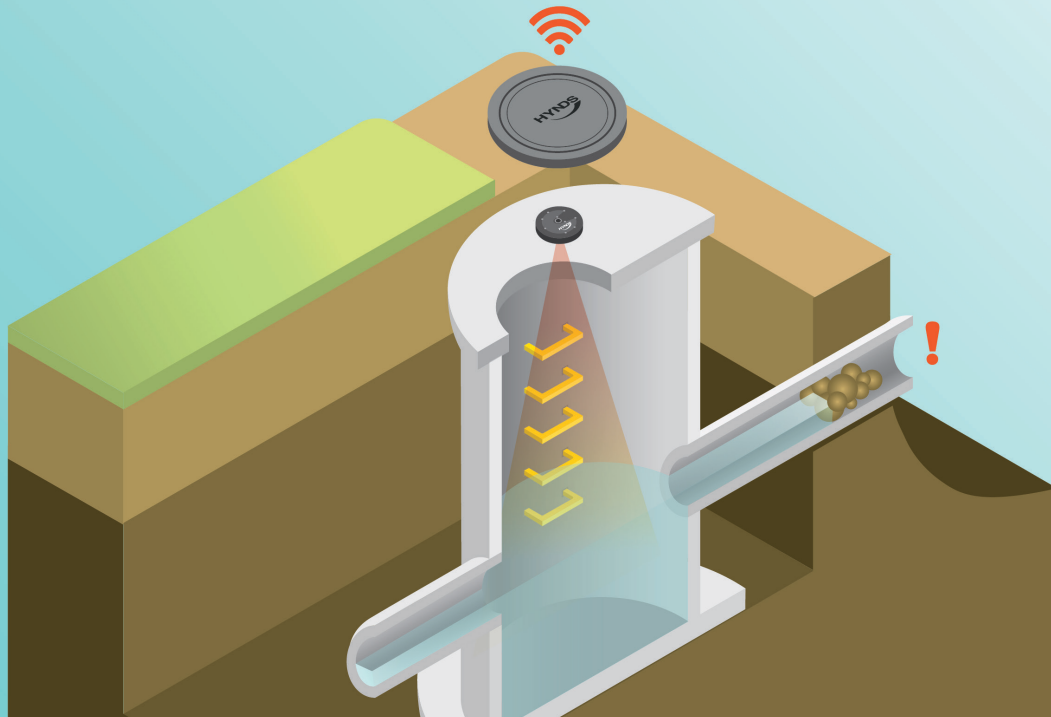


Smarterwater[®] Manhole Sensor



Blocked Manhole Pipe

Sensor

The Smarter Manhole sensor is a product 100% developed in New Zealand by Hynds Smarterwater to respond to the need for measurement of water in gravity infrastructure so that the various water resources can be managed. Measure to Manage, Measure to Act.

The Smart Manhole Sensor is the first of its kind, being an in-manhole IoT level measurement sensor that does not diminish the effectiveness of the access point to measure levels and transmit the data back to the asset owner. We developed the sensor to discretely fit into the manhole cover itself, automatically measure level and tamper events and transmit them seamlessly.

Application

In most gravity systems, the manhole acts as a detention device and provides added capacity to the network. When a pipe suddenly becomes blocked, the surge levels in the manhole increase beyond what is normal. When this blockage goes unnoticed, the first sign of trouble is usually a flood of either stormwater or wastewater. These can occur in the street, on properties, or anywhere manhole access has been provided.

This not only poses a risk to public health, environment, and property, but also means the work teams need to operate in more hazardous environments or cannot resolve the problem until after it subsides, leaving communities in distress.

Application (continued)

Knowing when a manhole is blocked currently requires work teams to systematically inspect every access point, including traffic management when necessary or wait for a reported failure. While some issues will be detected with a systematic approach, it is not efficient or completely effective.

By utilising the smart manhole sensor in various locations, the sensor can tell the work teams where to look, and when to look. Measure to Manage, Measure to Act. With more information about the parts of the system that need attention, the work teams become more effective, flooding events may be reduced, and the risks to people, environment and property can be improved.

Solution

As we rarely know what the “normal” level is for any specific part of the network, the smart manhole sensor can learn what the typical or normal levels are over time. It then sets a high-level point alarm and provides a high-level warning when levels exceed normal.

As standard, level data is measured and sent every 15 minutes. The levels along with alarms can be sent to the client data lake, client user interface, or the Hynds Aquanect interface depending on customer requirements. Smarterwater do not store the data, as this belongs to the client and once delivered, the client can manage it to suit their needs.

Any tamper alarms requested are transmitted instantaneously and do not require a 15-minute measurement interval to occur.

