

# Advanced Condition Assessment & Pipe Failure Prediction

## Optimal management of water infrastructure

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Progress on Activity 3



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### *Pilot program for data collection*

Partners in the Advanced Condition Assessment and Pipe failure Prediction Project met in November 2012 in a workshop at the University of Newcastle hosted by Professor Robert Melchers to discuss development of a corrosion model for critical pipes. Attendees discussed the need for a predictive model, explored the scientific underpinnings of the proposed model, determined an approach for calibrating the model and identified what field data would be required for this.



Figure 1. Collecting soil and other data at an open pit in the Hunter Water network (Photo courtesy of Hunter Water)

One outcome of the workshop was agreement to develop a pilot program for data collection with Hunter Water. The objectives of the pilot program include to:

- Collect data required for model calibration
- Assess the quantitative influence of soil parameters for selected condition assessment sites
- Use collected data to calibrate the model at these sites
- Use experience and results to refine the data collection protocol for future work.

The expected results of the pilot program are:

- Data sets obtained for measured pit depths, corrosion losses, associated soil conditions and exposure times for a range of sites
- A first pass calibrated corrosion loss model developed for typical sites in the Hunter Water network
- A completed pilot program with results that can be assessed.

The pilot study for data collection includes:

- Data collection at 29 pre-scheduled Hunter Water condition assessment sites
- Exhumation of pipes plus in-situ abrasive blasting of exposed pipe.

Work has already begun on the data collection. (See Figure 1)

### **Partners**

The partners in this research project include Sydney Water Corporation, UK Water Industry Research Ltd, Water Research Foundation of the USA, Water Corporation (WA), City West Water, Melbourne Water, South Australia Water Corporation, South East Water Ltd and Hunter Water Corporation. Monash University leads the research supported by University of Technology Sydney and the University of Newcastle. Other collaborators include Dr Balvant Rajani from Canada.

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