Excavation for Repairs and Opening of Pipes

1.0 Objective:

- To prevent contamination of wholesale water pipes from outside matter entering the pipes.

2.0 Purpose

- To prevent groundwater and foreign material from entering wholesale water pipelines.

3.0 Responsibility

- Team Leader, Pipelines and nominated persons

4.0 Procedure

All maintenance, planned or unplanned, is recorded in the asset management system and is maintained by the Information Directorate Team. Ensure all relevant Team Leaders sign off each action plan to confirm all tasks have been completed satisfactorily.

Leaks

There is a 24 hour on-call roster published, with copies at the territorial authorities and within Wellington Water. If a burst main is reported, a staff member will inspect the site to assess if backup help is required. Wellington Water Pipelines Team staff members will be contacted and the pipework repaired. Outside contractors may be called in to assist Pipelines Team staff members if necessary.

Firstly, a decision to shut the pipeline down or keep it going must be made. Large bursts must be shut down as soon as possible for safety reasons and to minimise damage. This decision determines the procedure used.

(1) ***Excavations when pipeline is pressurised***

Leak to continue until a dewatering point is established well ***below*** the bottom of the leak, when practical. Dewatering pump capacity shall be greater than leak flow rate. Check that there is not another leak below the obvious leak. Another leak will show by water flowing

up through the earth into the excavation floor. When the excavation floor is well below the bottom of the leak and the water level in the excavation is below the bottom of the leak, the isolating valves can be shut. Scour valves can then be opened.

(2) ***Excavations when pipeline is shut down***

When the excavation floor is below the bottom of the whole length of pipe to be repaired and the water level in the excavation is below the bottom of the leak, the scour valves can then be opened.

Opening pipes

Joints "cracked" to allow water to exit shall be handled as set out in 'Leaks" section of this procedure.

The joint(s) must not be dismantled and a section of pipe removed, ***unless***:

- There is a dewatering point below the bottom of the pipe
- The pumps keep the water level below the bottom of the pipe.
- The excavation floor is well below the bottom of the pipe.

If the joints are dismantled and the criteria above are not meet, the pipe must be flushed and disinfected.

Disinfection of clothing of personnel working inside pipe

People working inside pipes shall wear clean footwear and overalls. Footwear shall be disinfected by people placing their footwear in a tray containing a solution of 2 teaspoons of HTH powder in 5 litres of water and scrubbing the footwear.

If it is unsafe to do so (gas build up from chlorine inside confined space), the pipe must be flushed and disinfected.

Cleaning of equipment

Welding and other equipment shall be cleaned with a solution of 2 teaspoons of HTH powder in 5 litres of water before being used in a pipeline.

If it is unsafe to do so (gas build up from chlorine inside confined space), the pipe must be flushed and disinfected.

Video cameras

Video cameras shall be cleaned and dunked in a bucket containing a solution of 2 teaspoons of HTH powder in 5 litres of water. The camera wheels should be removed, cleaned and disinfected separately if necessary. If a camera has

been used in a sewer, extra thorough cleaning is required. Cables should be fed through a cloth soaked in the HTH solution.

Disinfection of pipe at repair

After repair, pipes shall be disinfected thoroughly, see OPLP-09 Disinfection and use of High Test Hypochlorite