

Safe Work Instruction - Installation of, Repairs and Cut-ins to Wastewater and Water Mains

DO NOT use this plant* unless you have been inducted in its safe use and operation by an Authorised Experienced Operator

This SWI may not cover all possible hazards and risks and should be referred to as a control measure in the risk assessment process. Additional training may be required for high risk plant. Site and task may change required PPE.

PERSONAL PROTECTIVE EQUIPMENT



Eye protection must be worn



Long and loose hair must be contained or covered.



Hearing protection must be worn



Foot protection must be worn



Hand protection must be worn



Half face mask respiratory protection fitted with a P2 filter cartridge must be worn



Head protection must be worn



High visibility clothing must be worn



Protective body clothing must be worn

POTENTIAL HAZARDS AND RISKS

- Crushing**
 - Crushing due to plant tipping or rolling over
 - Crushing due to collapse of trench
- Manual Task Injury**
 - Manual task injury from incorrect manual handling techniques
- Electrical Shock or Burn**
 - Electrical shock or burn from plant contact with live electrical conductors
 - Burn injury from acute exposure to high power laser beams
- Slip, Trips, Falls**
 - Slip, trip, fall due to uneven or slippery work surfaces
 - Slip, trip, fall due to steep working surfaces
- Struck by Moving Object**
 - Struck by moving object due to work pieces being ejected
 - Struck by moving traffic or plant
- Other**
 - Exposure to asbestos
 - Injury due to plant malfunction or misuse
 - Irritation from excessive dust
 - Confined space entry

PRE-OPERATIONAL SAFETY CHECKS

- ✓ Obtain the relevant plans and paperwork before proceeding to the site (service locations) and identify the type and size of the main to be worked on
- ✓ Complete site specific risk assessment
- ✓ If it is suspected utility lines are in the area, ensure you have the correct "Dial Before You Dig" plans available BEFORE you start work
- ✓ Obtain the permission from property owners if conducting planned work on private property. Ensure owners are aware of the extent of work and how it will impact them and their property. Advise owners of commencement and completion of work before leaving the property
- ✓ For minor water repairs and planned work, all potentially affected customers as well as Shoalhaven Waters customer service staff should be notified 24 hours in advance
- ✓ In case of emergency water repair, notify the Councils after hours service or Shoalhaven Water customer service staff before isolating the relevant section of main. Ensuring to only isolate the smallest possible area to have the least effect on customers water supply

- ✓ If the leak is determined to be a broken back and the extent of the leak is minor, the repair may proceed under pressure
- ✓ Complete the appropriate pre-operational plant checklist
- ✓ If a Traffic Control Plan is required, both standard and modified TCP's used must be documented as per Traffic Control Plans Procedure. If there is any unforeseen difficulty with the use of the generic TCP, the worker should consult with the co-ordinator to design a specific TCP for the job

Note: At a minimum, the truck's 'Workmen Ahead' sign and flashing lights are to be used. Alternatively if at all possible, the truck should be parked off the road reserve (Road Reserve is the area from the property boundary to property boundary which includes the road and footpath areas)

OPERATING PROCEDURES

- ✓ Keep clear of moving plant parts
- ✓ Operate plant to the conditions of the work area
- ✓ Take photos of the proposed worksite prior to and upon completion of work, highlighting existing problems and defects (cracked concrete, broken tree limbs etc.)

- ✓ Install erosion and sedimentation controls as required
- ✓ Isolate and apply appropriate tagging/lockout systems to any Valves, Pump Stations and Gravity Mains etc. Refer to Energy Isolation Procedure P29. Contact co-ordinator to organise pump out trucks if necessary
- ✓ Excavate the minimum size and depth necessary to safely conduct the work. If necessary install shoring etc. Refer to SafeWork NSW Excavation Work Code Of Practice and SWI Trenching and Ground Support
- ✓ For a main with a broken back –
Excavate the minimum size trench required in order to fit a stainless steel band around the break. Clean the area immediately around the split with water and place a stainless steel band around the pipe and tighten as per manufacturers specifications
- ✓ For a main with a longitudinal split –
 - For Asbestos Cement (AC) pipe excavate the entire length (including collars), of the section of pipe requiring repair unless the situation prohibits otherwise. For all other type of pipe a section extending a minimum of 1.0 m either side of the damaged area should be removed and replaced

ASBESTOS CEMENT (AC) PIPES & MILD STEEL CEMENT LINED (MSCL) BITUMINOUS COATED PIPES

- ✓ Refer to Asbestos Management Procedure P19
- ✓ Fence off the area using para-webbing and “Hazardous Materials – Do Not Enter” tape to restrict access of all non-approved persons to the worksite
- ✓ Arrange all necessary equipment to be utilised during the procedure to be situated inside the designated work area i.e. all tools, fittings and clean up materials
- ✓ **For AC pipe** - manually excavate around the collars and use one of the following preferred techniques to remove the damaged length of pipe:
 - For smaller diameter AC pipes it is preferable to wrap the collars and wet rags before breaking the collars using a crow bar or cut using a handsaw. If this procedure is used, the pipe should be kept wet with water to eliminate dust.
 - When a full length of AC pipe cannot be removed, snap cutters may be used to achieve a smooth square- cut end. Again if this method is used, the pipe and fittings should be kept wet with water to eliminate dust
 - In extreme circumstances such as where manual tools are ineffective (on larger couplings), or the repair access is limited, the use of a quick cut saw **with a continuous water flow** is permissible. However, other safety considerations such as location and wind direction etc. may need to be assessed

and taken into account prior to adopting this method

- ✓ **For Asbestos Containing Material (ACM) coated MSCL pipe** – when removing the outer coating it must be kept wet to minimize dust. Various tools may be required to get it back to the clean steel surface for welding or installing Gibaults.

Note: Broken Asbestos materials, pieces and coatings shall be secured in plastic bags in accordance with the NSW EPA requirements, identified and disposed of at an approved site. Proprietary tape and bags already identified for asbestos are available for this purpose. Full length asbestos concrete pipes shall be wrapped and secured in heavy duty plastic, identified and disposed of at an appropriate site

ENDING OPERATIONS

- ✓ Fill in excavations and compact as required
- ✓ Install covers, markers etc. as required. Refer to relevant Standard, Code of Practice or SWI
- ✓ Restore the excavation as near as possible to the original condition (topsoil, seed and/or turf if required)
- ✓ Remove all fencing and warning tape
- ✓ All PPE and equipment used during the process should then be meticulously cleaned down with water or “wet wipes”. The used wipes, disposal gloves, respirator cartridges and disposal coveralls should then be discarded immediately into AC waste bags prior to sealing ready for disposal
- ✓ Clothing worn in asbestos removal procedure should be regarded as being potentially contaminated with asbestos. Contaminated clothing may be safely laundered in a conventional washing machine separate from other laundry, provided the clothing is thoroughly dampened with water when removed by the worker and not allowed to dry out until washed
- ✓ The Asbestos Concrete waste bags can be stowed in designated AC waste bins located at BTU Rd, Ulladulla Depot & Vincentia STP before delivery to the West Nowra Waste Depot for immediate burial
- ✓ Ensure hands and faces are cleaned immediately after completing any work involving Asbestos Cement pipes
- ✓ Complete appropriate paperwork and supply to coordinator (Water Service Application, Cams, WAE and Repairs List etc.)

Note: Charging/flushing/testing prior to opening main for customer use:

- ✓ When charging main, install hydrant at highest point on main or open nearest Scour valve
- ✓ Open valve at lowest RL where applicable and flush to highest point
- ✓ When water is clear of dirt and aeration, perform a Chlorine residual test to ensure a reading of >0.2mg/L

- ✓ Turn hydrant/scours off slowly, then bring the main back into service by slowly opening all closed valves

DO NOT

- ✗ Do not use if plant is faulty. Attach a DO NOT OPERATE tag and report fault to your supervisor
- ✗ Do not leave the work site with unwrapped asbestos cement material
- ✗ Do not unnecessarily break up asbestos cement material
- ✗ Do not leave plant running unattended
- ✗ Do not wear loose jewellery
- ✗ Do not use mobile phone while operating plant

***Plant in this SWI refers to any machinery, equipment, appliance, container, implement and tool.**