



**DUBBO  
REGIONAL  
COUNCIL**

**TECHNICAL SCHEDULE**

**DRC-W202**

**INTERNAL CLEANING OF WATER MAINS**

**TECHNICAL SCHEDULE DRC-W202 – INTERNAL CLEANING OF WATER MAINS**

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**SW-202: INTERNAL CLEANING OF WATER MAINS****DRC-W202.1 SCOPE**

This Specification applies to the internal cleaning of water mains to remove scale or for water quality purposes.

The work required to be performed under this Contract shall comply with the referenced documents in Clause dRC-W202.2, unless specified otherwise herein.

**DRC-W202.2 REFERENCED DOCUMENTS**

The following documents are referred to in this Specification. The latest version of the document including any published amendments shall apply unless noted otherwise. Where the drawings, or a project specific specification are in conflict or inconsistent with these referenced documents, or this Specification then the details on the drawings or project specific specification shall apply

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DRC-W204 Water Hydrant Flushing and Dead End Flushing

**Australian Standards**

AS 1742 Manual of Uniform Traffic Control Devices  
AS 2865 Confined Spaces

Works shall also comply with the current versions all relevant Australian Standards.

**Water Services Association of Australia Standards**

WSA03 Water Supply Code of Australia  
WSA05 Conduit Inspection and Reporting Code of Australia

**DRC-W202.3 LABOUR, PLANT AND MATERIALS**

The Contractor shall provide at its own cost and expense all labour, materials, plant, tools and equipment necessary for the proper and complete performance of the Contract.

**DRC-W202.4 WORKPLACE HEALTH AND SAFETY (WHS)**

All costs associated with ensuring a safe work environment for the implementation of the works shall be deemed to be included in the tender price.

The Contractor shall ensure that in the performance of the works, the Contractor's employees, sub-contractors and employees of such sub-contractors shall observe the statutory Safety Regulations and Site Conditions for Contractors.

Within 28 days of the Date of Acceptance and prior to the commencement of work, the Contractor shall submit to the Superintendent details of the Contractor's WHS Management System including a Hazard and Risk Assessment and a Safety Plan specific to the Contract covering all of the Contractor's activities for the duration of the Contract.

The Contractor's Safety Plan shall include, but not necessarily be limited to:

- Safety inductions
- Identification and accountability of personnel having specific responsibilities for safety and security matters
- Safety procedures (including confined space entry and fall protection)
- Accident and loss reporting
- Safety equipment
- Statutory requirements
- Safe working incentives and leadership
- Occupational health and hygiene
- Fire prevention
- Storage and issue of materials
- Confined space entry procedures, with valid confined space permits
- Fall from heights procedures
- Emergency procedures and contingency plans
- Safety disputes procedures

For works in confined spaces the Contractor is to conform to the requirements of the Work Health and Safety Act 2011 and AS 2865.

The Contractor shall provide medical treatment facilities and first-aid personnel to at least the minimum standards required by Workplace Health and Safety legislation.

As soon as possible following their occurrence, the Contractor shall report to the Superintendent any injuries likely to require medical treatment or involving lost time. In addition, the Contractor shall report to the Superintendent all injuries and near misses.

The Contractor shall manage and report all safety and security matters relating to his sub-contractors as if they were his own personnel.

Copies of the Safety Plan and records of all safety and security reporting over the duration of the Contract shall be held onsite and be readily accessible for inspection by the Superintendent. The Superintendent shall carry out, from time to time, ad-hoc audits of the Contractor's safety systems onsite. The Contractor shall attend all safety audits. The cost for participation in safety audits shall be included in the tender price.

#### **DRC-W202.5 TRAFFIC**

The Contractor shall carry out the work in such a manner as to minimise interference to the flow of traffic and pedestrians and shall comply with the standard Principal requirements.

The Contractor shall develop and maintain a traffic management system that complies with the Transport for NSW (TfNSW) manual for *Traffic Control at Work Sites*, AS 1742, SAA HB81 and satisfies the requirements of the relevant road authorities. The Contractor shall submit the Traffic Management Plan to the relevant road authority and the Superintendent at least seven days prior to the commencement of works.

Traffic control and public safety devices are to be provided by the Contractor. Methods and devices are to comply with the requirements of Australian Standards, WorkCover Authority, RMS and any other relevant standards of practice.

The Contractor shall not divert traffic onto any temporary routes or close any roadway without prior written approval from the Superintendent.

Where traffic or parked vehicles make it impracticable or hazardous to carry out the work during normal working hours the Contractor may apply to the Superintendent for approval to perform the work outside of normal working hours.

#### **DRC-W202.6 PROTECTION OF THE ENVIRONMENT**

All work shall be carried out in such a manner as to avoid nuisance and/or damage to the environment. The Contractor shall comply with the requirements of the conditions of approval imposed by Council and the NSW Environment Protection Authority. No variation in costs or extensions of time will be considered due to these requirements.

Toxic chemicals shall not be used without the prior written approval of the Superintendent.

#### **DRC-W202.7 NOISE**

The Contractor shall conduct operations such that noise and other objectionable nuisance associated with the works are minimised. Where in the opinion of the Superintendent, operations are such as to warrant complaints on account of excessive noise or other nuisances, the Superintendent shall have the power to instruct that all work will cease until such time as the problem is rectified by the Contractor.

#### **DRC-W202.8 CUSTOMER NOTIFICATION**

If a water supply interruption is necessary under this Contract the Principal shall be responsible for placing media advertisements advising affected customers according to the work program supplied by the Contractor.

The Contractor shall give the Superintendent seven days' notice of the proposed work so that the Principal can arrange notification of affected customers.

The Superintendent will also arrange for notices to be published in a local newspaper (and electronic media?) indicating the water mains to be cleaned, the anticipated start date and the likely duration of the cleaning.

**DRC-W202.9 ENTRY TO PRIVATE PROPERTY**

If entry to private property is required, the Contractor is to advise the property owner a minimum of two clear working days in advance of the work proceeding. This advice is to be in the form of a signed letter which the Principal will supply in this regard. The Contractor shall be responsible for duplication and all associated costs. In addition to this written advice, the Contractor shall also verbally advise the resident on the day that the work is programmed and the work is about to commence. If there is not a resident in attendance at the time the Contractor's personnel have arrived onsite, then the Contractor shall proceed with the work provided that the letter of notification had been previously sent by the required timeframe in advance of entry to the property.

On completion of work the Contractor shall leave a 'Calling Card' in the letterbox of the property. The Principal shall provide to the Contractor the necessary cards. The Contractor is responsible for all duplication and associated costs.

The Contractor shall not, without prior approval of the Superintendent, enter private property outside the hours of 8.00 am to 5.00 pm, Monday to Friday, or at any time on public holidays.

**DRC-W202.10 NOTIFICATION OF EMERGENCY SERVICES**

At least two days prior to the commencement of work the Contractor shall advise the local fire brigade of the proposed cleaning program.

**DRC-W202.11 CUSTOMER COMPLAINTS**

The Contractor shall be the point of contact for all customer or resident queries and complaints associated with works carried out under this Contract. Queries and complaints shall be resolved promptly by the Contractor and as a minimum:

- The Contractor shall respond to the customer within 24 hours of receiving a complaint/query.
- The Contractor shall resolve all complaints within five working days.
- Where a complaint cannot be resolved within five working days, the Contractor shall notify the Superintendent of the issue, progress and expected date of resolution.
- If a complaint cannot be resolved within seven working days, the Superintendent may without any further notice undertake to resolve the complaint at the Contractor's cost.

The Contractor must notify the Superintendent if any customer complaints are received by the Contractor. Notification must be received by the Superintendent as soon as practicable, no later than the close of business (5.00 pm) on the day of receipt of the complaint. Wherever possible the Principal wishes to be notified by the Contractor prior to receiving complaints directly from a customer.

The Contractor shall keep a record of all customer contact relating to complaints, queries and out of hours access including date/time, name/address of contact, method of contact, issue raised and actions taken.

**DRC-W202.12 DAMAGE TO PROPERTY**

The Contractor is entirely responsible for any damage caused to any property, including any existing utility services by its operations. The Contractor shall immediately carry out or arrange for any repairs and pay for the full cost of such repairs and any associated damages.

Damage shall not be caused in order to obtain access to a property. Access to a property must be by an appropriate route such as driveway or path where these exist.

Where the safety and access to an existing utility service is likely to be endangered, the Contractor shall request the attendance of an officer of the utility concerned, to advise on precautions to be taken, and shall take such actions as may be recommended by that officer.

**DRC-W202.13 DEALING WITH DOGS**

Dogs can inflict serious injury and, in some cases, death. This procedure details the general procedure when dealing with dogs.

Dogs tend to be protective of both people and property and may turn savage when confronted.

Where dogs are present on private property, the Contractor shall arrange for the dog owner to restrain the dog. This shall comprise of having the dog tied or put in an area from which it cannot escape whilst works are carried out. Do not accept the owner's advice that 'it will be okay'.

Where the dog owner is not present to be able to restrain the dog on private property, the Contractor shall leave a Customer Notification Card and defer works until the owner is available. If a suitable time cannot be arranged with the dog owner, the Contractor shall refer the matter to the Superintendent for direction.

Where the owner/controller of the dog is available, however is unwilling or unable to control the dog, or the dog is uncontrolled on public property, the Contractor shall report this to the Superintendent who will arrange for the Principal's Animal and Ranger Services to assist.

**DRC-W202.14 LOCATION OF WATER MAINS**

Recorded water main and surface fitting locations will be shown on the plans supplied by the Principal. The Contractor is responsible for the locating the water main and surface fittings onsite.

If work cannot be undertaken by the Contractor, due to failure to locate a surface fitting after all reasonable effort has been made by the Contractor, notification is to be given to the Superintendent who will then arrange for the surface fitting to be located by the Principal's staff. If the Principal's staff locate the fitting within 2 m and less than 300 mm below the surface, the Principal reserves the right to charge the Contractor a fee to cover the Principal's staff time for the location works.

**DRC-W202.15 WATER SUPPLY**

Water is available for the purposes of this contract from the Principal's hydrants at no charge to the Contractor for water used. The Contractor may supply its own Council approved metered standpipe fitted with a reduced pressure zone (RPZ) backflow device or he may hire a standpipe and RPZ backflow prevention valve from the Principal for use with this Contract. The RPZ valve is to be fitted whenever the standpipe is in use.

The Superintendent may direct where standpipes are to be affixed.

The Contractor is to take all due care whilst using standpipes to ensure that no damage is done to the hydrant or main. The cost of repairing any damage to any of the Principal's assets shall be borne by the Contractor.

**DRC-W202.16 ISOLATION OF WATER MAINS**

The Principal shall operate valves to isolate the subject water main prior to the cleaning operation and shall operate valves to recharge the subject water main at the completion of the cleaning operation.

Any single incidence of water supply interruption under this Contract is not to exceed six hours, and is not to occur outside the hours of 9.00 am to 3.00 pm Monday to Friday.

**DRC-W202.17 SUBMISSION OF CLEANING PLAN**

Prior to the commencement of cleaning works, the Contractor shall submit a Cleaning Plan to the Superintendent for approval. The Cleaning Plan shall detail the section of main to be cleaned, isolation points, method of access to the main, method of cleaning, application insertion/extraction points, water disposal point and any other relevant information.

**DRC-W202.18 ACCESS TO WATER MAINS**

Where suitable for the Contractor's cleaning method, the preferred access to the water main for cleaning is to use selected hydrants and any other existing fixture on the water main.

Where removal of a section of pipe is required to access the water main, after isolation of the water main, the Contractor shall remove a section of pipe at one or both ends of the length of water main to be cleaned. The Contractor shall make neat, perpendicular cuts in the water main for removal and the length of pipe removed shall be the minimum required to efficiently carry out the work.

The Contractor shall ensure that silt, debris, runoff, etc is prevented from entering water mains.

At the completion of cleaning the Contractor shall reinstate the water main in accordance with the Principal's standard specifications and practices to the satisfaction of the Superintendent.



**DRC-W202.19 FLUSHING**

Flushing of pipelines shall be carried out in accordance with DRC-W204 Water Hydrant Flushing and Dead End Flushing.

**DRC-W202.20 SWABBING**

Swabbing of pipelines using foam swabs shall be in accordance with WSA03-2011 Clause 18 unless otherwise approved by the Superintendent. Alternative methods of swabbing may be used subject to approval by the Superintendent.

**DRC-W202.21 WATER JETTING**

Water jetting from mobile pressurised water jet equipment can be used to restore the internal wall of the pipe to as smooth a state as is practical without causing structural damage to the pipe.

Equipment and methods that will not cause any damage to the pipes are to be used.

**DRC-W202.22 OTHER CLEANING METHODS**

Other cleaning methods may be used subject to approval by the Superintendent. Any proposed cleaning method shall not cause any damage to the internal surface of the existing water mains and must be effective in removing sediment, debris and any other particular build-up such as scale that may be required in the location proposed.

**DRC-W202.23 EQUIPMENT STUCK IN CONDUITS**

If any of the Contractor's equipment becomes stuck in a conduit, such that it cannot be removed without excavation, the Contractor is to notify the Superintendent immediately upon becoming aware of the problem.

The Contractor must not attempt to recover the equipment, or continue inspections without receiving confirmation to do so by the Superintendent. The Contractor shall clearly identify the nature of equipment and materials that have been lost and identify the possible damage that they may cause to the water supply system.

The Contractor shall be responsible for removal of any trapped equipment and shall wear all risks and bear all costs associated with the removal of the equipment. The Contractor is permitted to use its own or sub-contracted resources for excavation and breaking into the water main to retrieve equipment. Any water main damaged by this operation is to be reinstated to the satisfaction of the Superintendent and must be inspected by the Superintendent's representative prior to being backfilled. The Contractor shall restore all surfaces to the satisfaction of the Superintendent.

**DRC-W202.24 EXCAVATION**

Should excavation be necessary for any reason, it is to be carried out in accordance with Principal's standard specifications. Particular attention is drawn to the following requirements outlined in this Clause.

Prior to the commencement of any excavation, the Contractor is to determine the location of any services in the vicinity of the proposed excavation. The Contractor shall take all actions and provide all things necessary to protect and maintain existing services to the satisfaction of the relevant authority or owner. This may include arranging or performing relocation, temporary diversion or support of the service. If the Contractor damages a service the Contractor is to immediately contact the relevant authority or owner and arrange repairs to the satisfaction of the authority or owner. The Contractor is to obtain from the authority or owner a certificate stating that the repair has been carried out to their satisfaction. If the owner of the service cannot be determined the Contractor is seek further advice from the Superintendent. All costs associated with the location and repair of services are to be borne by the Contractor.

The Contractor is not to commence any excavation until all materials necessary to make the excavation safe are onsite and available for use. This includes any necessary fencing and barriers as well as trench support systems.

Excavation is to be kept to the minimum possible to allow efficient execution of the works.

If excavation of bitumen, asphalt or concrete surfaces is involved the Contractor is to saw cut neat straight lines at the outer limits of the excavation. Any affected pavers, blocks or brick pavements shall be removed by hand, cleaned and set aside for later replacement.

The Contractor is to adequately support all excavations as the work proceeds to meet the requirements of the WorkCover Authority

The Contractor is to promptly remove and dispose of excavated material which is not required for reuse. The material is to be disposed of at an approved tipping site.

The Contractor is to backfill in accordance with Principal's standard specifications.

**DRC-W202.25 DISPOSAL OF WASTE WATER AND MATERIAL**

At a Principal approved tipping site, the Contractor is to promptly remove and dispose of:

- All waste water and material from the cleaning; and
- Any excavated material which is not required for reuse.

The Contractor is to bear all costs associated with waste disposal.

**DRC-W202.26 REPORTING**

The Contractor shall submit a Cleaning Report to the Superintendent prior to Practical Completion, or prior to any progress payment claim. The Cleaning Report shall detail each water main section for which cleaning has been completed, method of cleaning, date of cleaning and any other details requested by the Superintendent.

Where required by the Scope of Works, the Contractor shall carry out a CCTV inspection of the internal surface of the water main following cleaning. CCTV inspections shall be undertaken in accordance with WSA05 and all equipment used shall be suitable for use in drinking water systems (ie not previously used within sewer systems and suitably disinfected prior to use). CCTV shall be submitted to the Superintendent in Wincan format with video in MPEG format and report in PDF format.

**DRC-W202.27 RESTORATION**

The Contractor shall reinstate water mains to full service immediately after the conclusion of cleaning activities for each water main.

The Contractor shall restore all public and private property to a condition equal to that before work onsite began. Restoration where possible should be carried out prior to leaving the site.

All restoration works shall be completed within two weeks of the completion of works.

Restoration of pavements is to be in accordance with the appropriate Principal's standard specification to suit original material.

**DRC-W202.28 MEASUREMENT AND PAYMENT**

The rates tendered in the Contract shall be deemed to be inclusive of all responsibilities and obligations of the Contractor under the Contract including accommodation, travel, site establishment, waste disposal and reporting in accordance with this Specification.

Measurement for payment shall be based on the length of water main cleaned.

The Contractor shall allow in the rate for as many passes up and down the conduit as required to satisfactorily clean the line. Multiple passes will not be paid as an extra or classed as additional meters for payment.