



**DUBBO
REGIONAL
COUNCIL**

TECHNICAL SCHEDULE

DRC-W204

WATER HYDRANT FLUSHING AND DEAD END FLUSHING

TECHNICAL SCHEDULE DRC-W204 – WATER HYDRANT FLUSHING AND DEAD END FLUSHING

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DRC-W204: WATER HYDRANT FLUSHING AND DEAD END FLUSHING

DRC-W204.1 SCOPE

This Specification applies to the method of flushing water mains to remove contaminated water and/or sediment from the system.

The procedure applies to the flushing of scour valves on water mains as well as to the flushing of hydrants.

The work required to be performed under this Contract shall also comply with the referenced documents in Clause DRC-W204.2, unless specified otherwise herein.

DRC-W204.2 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 for a project specific specification are in conflict, or are inconsistent with these referenced documents, or this Specification, then the details on the drawings or project specific specification shall apply:

Dubbo Regional Council

DRC-W203	Water Hydrant Maintenance
Drawing STD 5320	Hydrant Location Markers for Urban Roads

Australian Standards

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

Water Services Association of Australia Standards

WSA03	Water Supply Code of Australia
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DRC-W204.3 BACKGROUND INFORMATION

Hydrants may be flushed for operational reasons such as to remove air from the water pipeline systems, to improve the taste and/or odour of the water, or to remove sediment that has been disturbed.

It is common to regularly flush hydrants at dead ends to improve the taste and/or odour and to ensure that the water in the reticulation system has a chlorine residual.

Previously the Principal has discussed the issue of discharging water to the environment during hydrant flushing with the EPA. While sediment can be addressed by use of filter socks, there is a concern about the chlorine level of town water. Following the Principal's studies and discussions with the EPA an outcome was reached that if the flushed water had to travel more than 150 m over ground, or through a pipe or culvert before it reached a watercourse, the EPA would accept that any chlorine content would have dissipated. This 150 m rule is reflected in this procedure.

DRC-W204.4 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-W204.5 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 the following:

- 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-W204.6 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 (7) 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 Australian Standards, WorkCover Authority and RMS's requirements, 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-W204.7 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 (EPA). 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-W204.8 NOISE

The Contractor shall conduct operations such that noise and other objectionable nuisances 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-W204.9 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 to 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-W204.10 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-W204.11 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 a 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-W204.12 LOCATION OF HYDRANTS/SCOUR VALVES

Hydrant/scour valve locations will be shown on the plans supplied by the Principal. The Contractor is responsible for the location of the hydrants and scour valves.

If work cannot be undertaken by the Contractor due to failure to locate a hydrant or scour valve 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-W204.13 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-W204.14 FLUSHING PROCEDURE

The Contractor shall ensure erosion and sediment controls are in place if required.

The Contractor shall fit a flexible filter sock to the outlet of the hydrant standpipe or scour valve discharge. If a lay flat valve is used, then the flexible filter sock is to be fitted on the discharge of the flat hose.

- Direct run off water by means of laying a flat hose to a nearby park, grass verge or similar, if available and if this is not possible, direct run off water to stormwater; or
- If a hydrant is within **150 m of a stormwater outfall**, run off water is to be discharged into a water tanker truck and transported to the closest park or grass verge where the water is to be discharged by means of a lay flat hose.

The Contractor shall flush mains by opening selected hydrants and/or scour valves. Flushing shall be carried out until at least 1.5kL of water has been flushed, or longer, until dirty or otherwise contaminated water is no longer observed.

Following flushing, the Contractor shall shut off all hydrants and/or scour valves.

The Contractor shall be responsible for the transport and disposal of matter retained in the filter sock as if it were solid waste.

DRC-W204.15 REPORTING

The Contractor shall record details of water mains flushing on the Hydrant Flushing Report contained in Appendix A or other format approved by the Superintendent.

APPENDIX A – HYDRANT FLUSHING REPORT

Hydrant Number	Start Meter (KL)	Finish Meter (KL)	Water Used (KL)	Cannot Locate	Hydrant Condition	Street Name	Date	Comments	Initials

Note: The minimum water to be used in flushing each hydrant is 1.5KL

Description Table

- A Good
- B Fair
- C Poor
- D Needs Attention - URGENT

Surround Valve Height

- H High
- G Good
- L Low