



**DUBBO
REGIONAL
COUNCIL**

TECHNICAL SCHEDULE

DRC-W302

ROOT TREATMENT OF SEWERS

TECHNICAL SCHEDULE DRC-W302 – ROOT TREATMENT OF SEWERS

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DRC-W302: ROOT TREATMENT OF SEWERS

DRC-W302.1 SCOPE

This Specification applies to chemical root treatment of sewer branches and gravity sewers. The purpose of the work is to kill tree roots in the sewer branches and to inhibit regrowth without damaging the trees or shrubs. The process used is to have no adverse effect on the environment or the sewage treatment plant to which the sewer drains. The treatment is to be effective for a minimum of two years.

Sewer branches are defined as a section of pipe from the junction on the Principal's reticulation sewer to and including the inspection shaft into which the property's house drain discharges.

Gravity sewers are defined as reticulation and trunk gravity sewers that form the Principal's sewerage system downstream of the branch connection fitting to the reticulation system.

Details of the individual sewer branches and/or gravity sewers to be chemically treated are listed separately in the Contract Specific Scope of Work document.

DRC-W302.2 GENERAL REQUIREMENTS

The Contractor shall comply with the general requirements for sewer maintenance activities and accessing sewer maintenance holes as detailed in Technical Schedule DRC-W301.

DRC-W302.3 SAFETY

Refer to Technical Schedule DRC-W301 for details of safety requirements.

DRC-W302.4 CUSTOMER NOTIFICATION AND COMPLAINTS

The Contractor is responsible for notifying customers where entry to private property is required, and also for handling and addressing any customer complaints. Refer to Technical Schedule SW-301 for details of customer notification and complaints requirements.

DRC-W302.5 PROVISION OF INFORMATION TO THE CONTRACTOR

The Principal will, where available, provide the Contractor with information regarding the sewers selected for chemical treatment, including the:

- a) Location of the sewer (plan or map).
- b) Approximate length of the sewer.
- c) Sewer material type.
- d) Diameter of sewer.
- e) Depth to invert of upstream and downstream maintenance holes.
- f) Approximate number of property branches to be foam treated (if treatment of entire sewer line).
- g) Address of sewer property branches to be treated (if treatment is for individual branches only).
- h) Property branches with boundary traps (where known).

It should be noted that information regarding flow rates within the sewerage system are normally not available. The Contractor will need to make its own assessment of likely flows through the sewer.

DRC-W302.6 TREATMENT PRODUCT

All chemicals used shall be registered by the Australian Pesticides and Veterinary Medicines Authority under the NSW Pesticides Act.

The treatment product shall be a herbicide developed specifically to control tree root regrowth in sewerage systems. The product must not be harmful to the environment and able to be commonly used in food crop production to control and stop weed growth. The product must have no impact on the performance of the Principal's biological sewage treatment plant processes.

The treatment product shall include the following:

- Root Killer: The active ingredient shall be a non-systemic herbicide which will not permanently affect parts of the plant distant from the treated roots.
- Root Growth Inhibitor: The active ingredient shall inhibit root cell growth on contact, but shall not be transported so as to damage other portions of the plant. The material shall form a persistent chemical barrier suppressing the growth of root tips.
- Emulsifiers: To improve transportation of the active ingredients into root tissues, the root treatment material shall contain emulsifiers to degrease and remove fatty material from root masses.

The Contractor shall submit full details of the treatment product to the Superintendent including the following:

- Details of physical and chemical properties.
- Material Safety Data Sheet (MSDS).
- Details of standards governing the manufacture of the product.
- Details of any guarantee offered regarding the effectiveness of the treatment product and weed growth prevention timeframes.

The Contractor shall submit documentary evidence, including testing and/or trials, to confirm that the product:

- Contains a non-systemic herbicide that will kill tree roots that it contacts without killing the tree
- Is not be harmful to the environment and able to be commonly used in food crop production to control and stop weed growth.
- Has no impact on the performance of the Principal's biological sewage treatment plant processes.

The Contractor shall provide a guarantee that the product will not impact upon the physical, chemical or biological processes of the Principal's sewage treatment plants, and that the quality of effluent at each of these will not be affected by the use of the Contractor's product. The Contractor will need to keep this guarantee in effect for the entire period of the Contract, and bear any costs associated any loss associated by the Principal as caused by an interruption or loss of performance of any of the sewage treatment plants, or loss of quality and/or supply of effluent due to the application of the Contractor's treatment.

DRC-W302.7 PREPARATION OF SEWERS FOR TREATMENT

If the sewer or property sewer branch to be treated is found to be blocked, such that the chemical treatment apparatus is prevented from being inserted through the full length of the branch, then the obstructions shall be cleared by the Contractor.

If it is not necessary to clear a blockage prior to the commencement of treatment, the sewer and/or property sewer branches are still to be cleaned by water jetting to remove grease and fat from the pipe surface, joints and from any roots present. The purpose of this operation is to remove any loose material and to clean roots present in the branch to enable greater absorption of applied chemicals. Sufficient root material is to be left intact to allow effective adherence of the chemical to the roots.

If it is found that chemical treatment will not be possible due to blockages, which cannot be cleared or pipe breaks or collapses, an exception report is to be provided to the Superintendent specifying details of the blockage including address, location of the blockage and the type of blockage.

Debris and other matter cleaned from the sewers and maintenance holes shall be removed appropriately and legally. The Contractor shall not leave debris and other matter onsite. All materials resulting from the cleaning operation shall be trapped in the downstream maintenance holes. The Contractor shall remove all trapped materials and dispose of them in a manner acceptable to the Environmental Protection Authority and other relevant local authorities. All costs associated with the removal and disposal of the debris and other matter shall be borne totally by the Contractor.

DRC-W302.8 CHEMICAL TREATMENT

The Contractor is required to comply with Federal and State Government requirements relative to all chemical products used and the application of the products. Mixing and application of the root treatment chemicals shall be done under the supervision of a NSW certified pesticide (herbicide) applicator who holds the relevant certificate of competency, as required under the provisions of legislation.

Following preliminary cleaning as described in Clause DRC-W302.7, application of chemical treatment is to take place using a proven foaming method ensuring that all sections of the sewer and/or property sewer branch, are treated and all parts of the internal surface of the pipe come in contact with the applied chemicals.

The application of chemical treatment and/or preparatory works within the sewerage system shall be undertaken in a manner so as not to disrupt service or operation to customers.

The Contractor shall be responsible for re-treatment of any sewers or property sewer branches that have been found to be not effective by a post-treatment CCTV inspection where arranged by the Principal.

DRC-W302.9 CONTROL OF SEWAGE FLOWS

It is the full responsibility of the Contractor to control sewage flows as necessary to enable the Work Under Contract to be successfully carried out. No spilling of sewage in any situation is acceptable and the Contractor will be held fully responsible and accountable. The Contractor shall be responsible for the full cost of clean-up and associated activities that may be required to rectify the effects of any spillage as well as any fines by EPA or other authorities.

No work is to be undertaken during conditions where the reticulation sewer is flowing under surcharge conditions.

Plugging of sewers to reduce flows is not allowable in this Contract unless otherwise approved by the Superintendent.

DRC-W302.10 REPORTING

Upon completion, the Contractor is to submit a written report to the Superintendent for each sewer and sewer property branch treated. The reports are to include the following details:

- Location.
- Date of treatment.
- Boundary trap or non-boundary trap.
- Whether clearing of the branch was required.
- If so, cause of blockage.
- Recommendation for any necessary further remedial actions.

DRC-W302.11 MEASUREMENT AND PAYMENT

The rates tendered in the Schedule of Rates 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.

Measurement for payment shall be based on the sewer length in metres measured from the centre of maintenance hole to centre of maintenance hole.

Measurement for payment shall be based on the number of branches cleared and not the length of the branch. Lengths of branches from the top of the Inspection Shaft to the main sewer may vary from less than 2 m to 20 m, however the average length is approximately 4 m.

If the sewer is found to be unsuitable for treatment after cleaning due to an obstruction that cannot be removed, the Contractor will be paid at 50% of the tendered rate for the affected section of sewer.

DRC-W302.12 PRACTICAL COMPLETION

Practical Completion for the Contract will not be granted until all of the following requirements are achieved:

- The Superintendent is satisfied that the work complies with the requirements of the Contract in all respects (subject to such minor omissions as may be accepted by the Superintendent) and that the Contractor has carried out all of its obligations under the Contract except as regards his obligations during the Defects Liability Period.
- Reporting in accordance with clause DRC-W302.10.