

## REQUEST FOR QUOTE – Smoke Testing of Biloela sewer network

**RFQ # Q-2122-CS-84**

### Supplier Details:

Business Name:	ABN:
Trading Name:	
Contact Person:	Phone:
Email Address:	

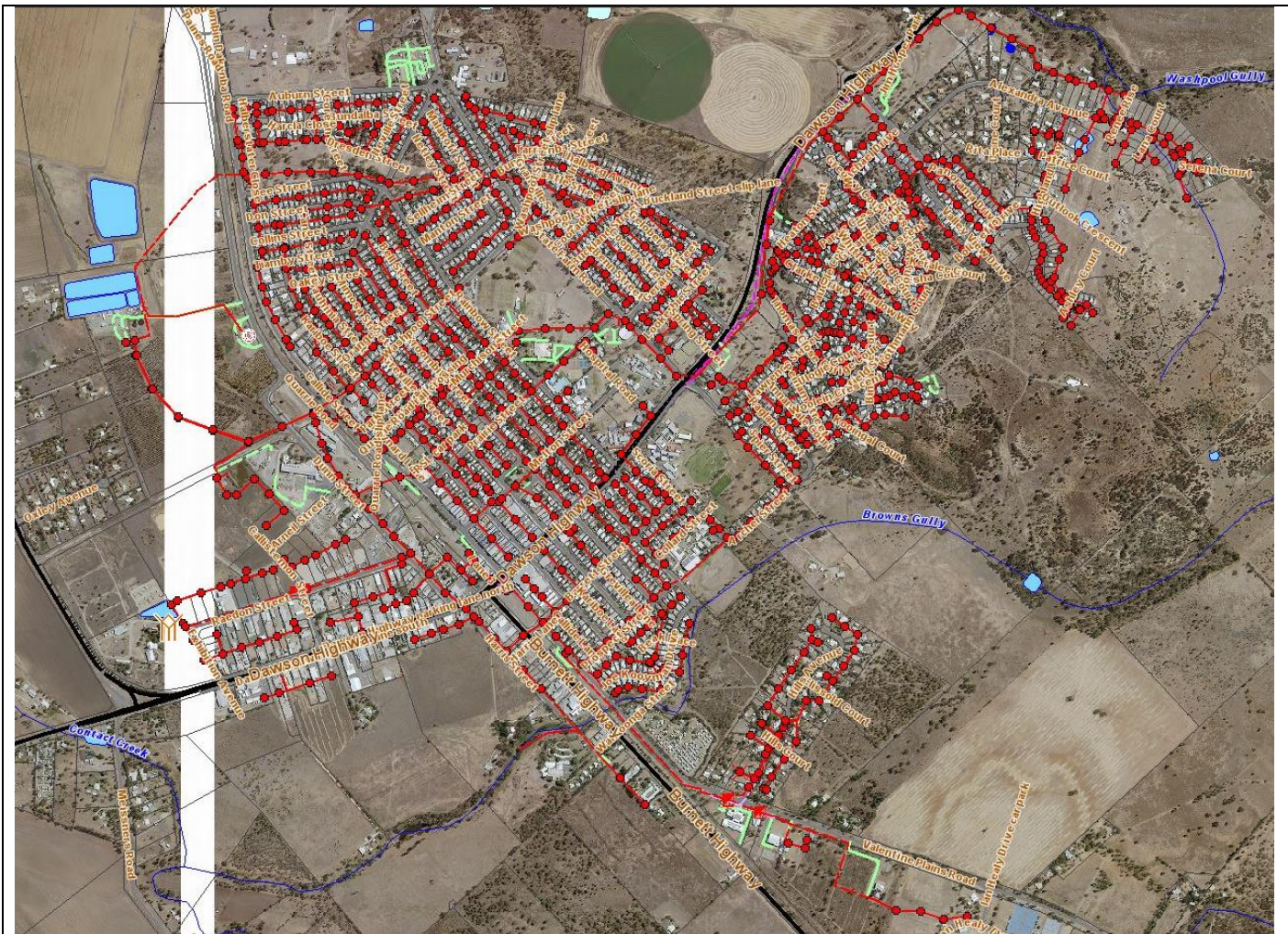
### Overview and Brief Description of the works:

Banana Shire council requires suitably qualified contractors to smoke testing in sewer reticulated mains in Biloela sewer reticulation system

This quotation is for providing services to undertake smoke testing in sewer reticulated mains in Biloela sewer reticulation system. The works includes testing of property connections, storm water connection and sewer mains between the manholes. Depending on the requirements, manholes may need smoke testing.

#### 1.0 Background:

Biloela sewer reticulation system has experienced several storm water infiltrations to the system during the storm event. There were several pumps station and manholes overflows occurred during the past. BSC has decided to carry out smoke testing in several catchments in Biloela sewer network where there are overflows and excessive pump running during the storms. The work will be carried out section by section on yearly basis depending on the funding availability. It has been planned to carry out testing of 25kms of Biloela network within the financial year Biloela sewer network has 62Kms of pipes and 1151 manholes.



Smoke testing is a way to identify faulty pipelines, infiltration, and unsealed/defective manholes in the sewerage system. This method is effective and cost efficient to detect unauthorized water entering the sewerage network. The defects found within Council infrastructure will be programmed for repair. Illegal connections will be handed over to the Plumbing Inspection team to resolve with the property owner. This unauthorized water entering the network means that the sewerage treatment plants must treat additional unknown quantities of water per year. This increases the electricity consumed by the pump stations and the treatment process making smoke testing an important undertaking.

The identification of sewerage overflows in the region is extremely important for health concerns as well as environmental issues. These issues could have lasting effects to those, and the environment affected.

The smoke used to carry out the testing is non-toxic and harmless. Public notification will be required however to ensure the community is aware of what is going on as it can startle residents.

The smoke testing monitoring program will allow Council to make informed decisions regarding infiltration, displaced manhole lids/surrounds, defects, and illegal connections into the sewer network within the region. The sewer assets are vital infrastructure and must remain serviceable to the ratepayers.

## 2.0 Scope of work:

This project shall consist of all labour, materials, equipment, and supervision; and performing all work necessary to smoke test and document all identifiable and significant sources of inflow within the designated sewer system.

The work shall consist of performing the following tasks:

- A. Pre-test procedures
- B. Traffic control
- C. Test site set-up
- D. Test site survey
- E. Training of our reticulation team

The area of work to be performed shall be at those locations shown on the enclosed maps and made part of these specifications.

### A. Pre-test Procedures

In cooperation with GRC, the contractor will create a test site schedule taking into consideration unique sections of the collection system such as cross connected storm/sewer; heavy flow sections; traffic patterns.

Determine responsibilities for media project information; daily test location notification to Queensland Fire and Emergency Services (QFES) and the Local Fire Brigade; advance notices and door to door, 7 days before the tests.

### B. Traffic Control

Since the work is performed in the roadway, proper safety procedures are to be established to protect workers and equipment.

### C. Test Site Set Up

- (a) A smoke testing crew requires a minimum of two persons.
- (b) Equipment required includes Smoke test blower and smoke materials; sewer line stoppers; documentation equipment and supplies; manhole safety equipment.
- (c) A test site will consist of one or more manhole sections.

### D. Test Site Survey

The crew documents significant and identifiable points of inflow. Documentation should be referenced to each manhole section tested (e.g.: MH: SND100911, Sewer Line: SMA083839) Sketches, field notes, Video recordings, manual and/or computer-generated data, photographs can be used to record test results and uploaded to Retic-Manager (Cloud Based).

## 3.0 Specification of Work to be completed:

It is the intent of this specification to provide for the smoke testing materials and procedures to be used in the investigation of the sewer facilities as shown on the project study area maps. All materials and procedures shall be consistent with these specifications, current industry standards, and as approved by the Reticulation Coordinator.

A. The Contractor shall test the gravity sewer system using high-capacity blower(s). The smoke blower will be suitable for the anticipated testing and generate non-toxic smoke. The contractor personnel will visually identify and document each defect location. Contractor shall provide safety equipment suitable for the anticipated field and traffic conditions. Digital camera(s) will be used for documentation of observations. All inspections shall be recorded and provided to the Council in hard copies and in electronic copies.

### **3.1 Personnel Qualifications:**

- A. The field crew will be of sufficient size to properly operate the smoke generation machine and provide full coverage of the area to visually locate smoke discharged from defects. This must include personnel for traffic control.
- B. The employees performing the smoke testing under the provisions of these specifications shall be properly trained and thoroughly experienced in the use of the equipment and procedures.
- C. Each employee shall wear or have on them a photo ID identifying him/her by name, company name and contact information. Clothing and vehicles identifying the company is also preferred. All job supervisors will have business cards with contact information to provide to residents if requested.
- D. The Contractor shall take appropriate action to ensure that his/her employees are polite to the public in all aspects of the work and that immediate assistance is provided to property owners if needed.

### **3.2 Notification:**

- A. Contractor shall notify the Reticulation Coordinator a minimum of 48 hours prior to the start-up of smoke testing work or re-start-up following delays due to weather. Contractor will provide the reticulation coordinator the location for the next day's work at the end of each day, if requested. No payment will be made for work performed without proper notification. Refer to section 10.1 for weekly notification requirements.

### **3.3 Equipment:**

#### **3.3.1 Blowers**

- A. The Contractor shall provide a portable blower designed and built specifically for the use of smoke testing. The blower shall be self-contained and capable of producing a minimum of 100 Cubic meters of air per minute (cubic meter/min). Blowers with less than cubic meter/min may be approved by the project manager provided it is demonstrated that sufficient pressure is generated for the testing. If inadequate pressure is being generated, then additional blowers (dual blowers) or larger blowers may be required. Adequate pressure is being provided when smoke is exiting the vent stacks as a plume or, where no vent stacks are present, smoke is exiting the upstream/downstream manhole casting/vent hole/pick hole, etc. In general, the larger the pipeline diameter being tested, the higher the smoke blower capacity (cubic meter/min) required.
- B. The base of the blower shall have appropriate adapters and seals to make a good connection to the manhole without excessive loss of smoke.

#### **3.3.2 Smoke Production**

- A. Smoke fluid, smoke candles, or approved equal, shall produce continuous smoke that can be controlled by the testing crew for the duration of the test. The smoke generated shall be white to grey in colour, leave no residue, and shall be non-toxic and non-explosive.
- B. The Contractor shall supply the smoke MSDS (Safety Data Sheets) to the Project Manager.

### 3.3.3 Other Equipment

A. In addition to the blower, the Contractor shall provide all other equipment, tools, and incidentals required to perform smoke testing as required by these specifications including, but not limited to, sewer line stoppers, sandbags, Tablets/Laptops, GPS capable cameras, confined space entry equipment, and traffic control equipment and other technology as required.

### 4.0 Specification of Services to be performed

A. The work shall generally progress as follows:

1. The Contractor shall apply for and obtain work permits for all work to be performed in State and/or Council Highways if applicable. All required insurances, traffic control measures, and other terms of the permit shall be provided to the satisfaction of the Project Manager.
2. The Council Reticulation coordinator will provide the contractor with the procedure that should be followed regarding notification of QFES, Local Fire Brigade personnel, etc.
3. The Contractor shall have the Reticulation coordinator review required submittals including, but not limited to, the field inspection forms and database deliverable. Work shall not proceed until reticulation coordinator accepts all submittals.
4. A WORK SCHEDULE shall be submitted to the Reticulation coordinator for review and approval. No field testing or notification may proceed until the schedule has been approved by the coordinator. After approval of the WORK SCHEDULE, the Contractor shall not make any revisions or modifications to it without the Reticulation Coordinator's written approval.
5. Daily Notifications
  - a. The Contractor shall notify, by hand delivery of approved letter drops to each address, all residences and businesses in the study area. All notifications i.e. letters/letter drops shall be approved by the coordinator before printing and distribution. The Contractor shall place letter drops on all residences and business 2-7 days prior to smoke testing at those specific addresses. Notification shall be an ongoing process throughout the project and shall be limited to the area provided in the look ahead schedule. Letter drops shall not be placed for areas which will not be tested within 7 days. If smoke testing is delayed for more than 7 days due to rain, etc., the area shall be renotified. Logs will be maintained to document notification of hospitals, nursing homes, schools, high rise buildings, etc. The logs will include the facility name, notification date, time and individual notified. Notification of sensitive locations such as hospitals, nursing homes, day care, schools and the like must be done again immediately prior to testing.
  - b. The Contractor shall check with all residents who expressed special concerns or special needs/notification prior to testing.
  - c. Notification of QFES and Local Fire Brigade will be completed each morning prior to testing that day. Council will provide the required contact information for notifications by the contractor.
6. It shall be the Contractor's responsibility to keep adequate records of all notifications and to produce them upon Reticulation coordinator's request. Failure to comply with this requirement may be caused to suspend the Contractor's operations until compliance is achieved.
7. Perform the smoke testing.

### 5.0 Specification of Goods to be supplied

For each sewer main tested, the Contractor shall prepare a field log identifying each point of smoke exfiltration from:

- a. Roof water downpipes

- b. Sewer cleanouts (ORGs)
  - c. Leakage in jump-ups
  - d. Patio or area drains
  - e. Stormwater cross connections
  - f. Manholes
  9. Sewer Main.
  - h. House Lines
  - i. House Vent Pipes (lack of smoke)
  - j. Any other source not stated above
4. Each smoke defect, as identified above, shall include an address, be referenced by sketch, and dimensioned to permanent landmarks.
5. A photograph of all leaks using a digital camera shall be included in the field log. Photographs of smoke evidence shall have a location indicated in the photograph using a defect flag where possible. All photographs shall be clearly cross reference to the typed and/or computer-generated log indicating the location of the leak. Once the defect has been flagged the Smoke Testing Contractor will snap a digital picture (delivered in minimum 640x480 resolution) showing the smoke exiting from the defect, flag and physical features at or near the defect. Photographs should include sufficient field of view so that drainage patterns can be discerned.
6. The Project Manager may authorize QA/QC testing of specific line segments previously tested to determine the quality of testing performed and/or establish if soil conditions are sufficiently dry to continue smoke testing into new areas. Any re-testing will follow the same procedures.
7. The Contractor shall deliver project data in a format approved by the Project Manager.

Deliverables will include:

- a. Maps of study area with corrections noted.
- b. Summary of work quantities completed.
- c. Summary of defect findings.
- d. Completed field forms and sketches that document the testing and findings
- f. Submit one (1) complete copy of the field data and the electronic database to the Reticulation Co-ordinator for review. Upon receiving the Reticulation Co-ordinator's review and comments, the Contractor shall edit or revise the data delivery and/or electronic report as necessary and resubmit a copy of the final report (one hard copy and the electronic database) to the Reticulation Co-ordinator.

## **6.0 Performance Specifications**

### **A. PROCEDURES:**

1. Safety
  - a. The Contractor and his personnel shall be aware of and follow all related laws and regulations.
  - b. No entry into any part of the collection system shall be permitted until the Contractor has demonstrated that on-site personnel has been trained in applicable confined space safety procedures and has the equipment on-site to allow those procedures to be followed.
  - c. The Contractor shall minimize the physical entry of personnel into the sewer facilities. If required, manhole entry shall be in accordance with Federal, State, and local regulations for confined space entry and other regulations that may apply. The Contractor shall

- provide all safety equipment required for manhole entry operations, including harnesses, ventilation equipment, etc.
- d. Traffic Control. The area of work shall, at all times, be protected by means of an adequate number of cones, barricades, flags, or by other means necessary to properly and safely protect both vehicular and pedestrian traffic.
  - e. Any condition deemed to be an unsafe by the Contractor shall be reported to the Project Manager. It is further understood that the Contractor shall not be required to work where, in the opinion of the Contractor, conditions would not be safe for the public, company personnel, equipment and/or other.
2. Confirm that adequate conditions (soil moisture, existence of catchment hoods, proper notifications, residents requiring assistance or notification, any preliminary procedures that may be necessary prior to conducting test, etc.) exist which will allow for desired results
  3. Unless otherwise approved by the Project Manager, the sections of sewer subject to testing shall typically:
    - a. Consist of a central manhole, where the blower will be positioned, and an upstream and downstream manhole and the sewer pipe between them. With three (3) manholes and two pipe sections, lengths should not exceed 300m. The blower capacity and/or number of blowers necessary will be determined by the adequacy of pressure as observed at the vent stack or downstream/upstream manholes. (Refer to Section 2.1)
    - b. Upon approval of the Project Manager, longer sections may be tested provided good pressure, as evidenced by smoke plume, is observed at the vent stacks.
  4. The walk through for locating defects will not begin until smoke is highly visible with a smoke plume emanating from the plumbing vents of houses at the end of the setup location (maximum 150m radius) from the smoke testing machine. A locate flag will be placed at the location of the defect. Walkers shall traverse not only the sidewalk but between all homes and in back yards looking for illegal connections including patio, pool drains, roof drain connections and buildings where vent stacks do not exhibit smoke.
  5. Defects must be located and documented as approved by the Project Manager. Typical methods to locate and re-locate defects in order of accuracy include:
    - a. Triangulate the defect with respect to the distance from two fixed objects (house corners, power poles, fire hydrant, etc.) and record on a location sketch
    - b. Sub-meter GPS coordinates
    - c. The distance from the upstream manhole to a point perpendicular to the defect is measured and the distance left/right to the defect is then measured.
  6. Flow Control - It is the intent of this specification that the smoke testing be accomplished without the need for bypass pumping. The Contractor shall provide temporary plugs, sandbags, or flow barriers as required to contain an adequate volume of smoke within the section of sewer being tested. The Contractor shall monitor the resulting surcharged sewer at the manhole upstream of the tested section of sewer and prevent overflow conditions from occurring by removing the flow barriers or removing sewage by vacuum trucks.
  7. Data will be accurately and neatly recorded on field worksheets as provided by the Project Manager.
  8. For each sewer main tested, the Contractor shall prepare a field log identifying each point of smoke exfiltration from:

- a. Roof water downpipes
  - b. Sewer cleanouts (ORGs)
  - c. Leakage in jump-ups
  - d. Patio or area drains
  - e. Stormwater cross connections
  - f. Manholes
  9. Sewer Main.
  - h. House Lines
  - i. House Vent Pipes (lack of smoke)
  - j. Any other source not stated above
10. Each smoke defect, as identified above, shall include an address, be referenced by photo, sketch, and dimensioned to permanent landmarks
11. A photograph of all leaks using a digital camera shall be included in the field log. Photographs of smoke evidence shall have a location indicated in the photograph using a defect flag where possible. All photographs shall be clearly cross reference to the typed and/or computer-generated log indicating the location of the leak. Once the defect has been flagged the Smoke Testing Contractor will snap a digital picture (delivered in minimum 640x480 resolution) showing the smoke exiting from the defect, flag and physical features at or near the defect. Photographs should include sufficient field of view so that drainage patterns can be discerned.
12. The Project Manager may authorize QA/QC testing of specific line segments previously tested to determine the quality of testing performed and/or establish if soil conditions are sufficiently dry to continue smoke testing into new areas. Any re-testing will follow the same procedures.
13. The Contractor shall deliver project data in a suitable format approved by the Project Manager. Deliverables will include:
- a. Maps of study area with corrections noted.
  - b. Summary of work quantities completed.
  - c. Summary of defect findings.
  - d. Completed field forms and sketches that document the testing and findings
  - e. Submit one (1) complete copy of the field data and the electronic database to the Project Manager for review. Upon receiving the Project Manager's review and comments, the Contractor shall edit or revise the data delivery and/or electronic report as necessary and resubmit a copy of the final report (one hard copy and the electronic database) to the Project Manager.

## 7.0 Site Position Deliverables

Site possession is contingent on the following items being provided by the Contractor and approved by the Principal/Superintendent:

Evidence of the required insurances being held:

- Public Liability
- Workers Compensation
- Contract Works Insurance
- Vehicle and Plant Insurance
- Safety Management Plan and supporting documentation as detailed in this Scope of Works
- Environmental Management Plan and supporting documentation as detailed in this Scope of Works
- Quality Management Plan and supporting documentation
- Project approvals:



- Work on Roads
- Environmental
- Contractor's Security
- Updated Project Program/Works Schedule

## 7.2 Working Hours

Works on site should be completed during the below hours:

- Monday to Friday 7.00am – 5.00pm

## 8. Work Health & Safety Requirements

- Work Health and Safety Policy;
- PPE Policy/explanation;
- Risk or Hazard Management Process explanation;
- Incident Reporting and Investigation Process explanation;
- Worker Communication/Consultation Process explanation (for work, health and safety matters);
- Copies of licences, qualifications and tickets for work to be performed by all personnel;
- Risk Assessment templates for all work to be completed;
- Safe Work Method Statements (SWMS) for any High Risk Work to be completed;
- Management process for height safety equipment;
- Confined Space Entry Equipment Management Process;
- Confined Space Rescue Plan;
- Calibration and Inspection of Gas Test Monitors Evidence;
- Traffic Management Plan;
- Traffic Guidance Scheme;
- Maintenance Records for Plant & Equipment;
- Pre-start Checklists for Plant & Equipment;
- Divers Log;
- Health Monitoring for Schedule 14 Chemicals (WHS Regulation 2011);
- Subcontractor and/or Labour Hire Personnel Safety Management Process;
- Site Induction Plan;
- Immunisation records for site personnel working in proximity to effluent (Hepatitis A, Hepatitis B and Q Fever) .

## 9. Environmental Requirements

Prior to Site Possession/commencement of the works, the Contractor shall be required to provide an Environmental Management Plan (EMP) to BSC. The EMP shall, at a minimum, include the following components:

- Incident and spill management procedures
- Noise and vibration management plan
- Re-fuelling and washdown procedures

## 10. Reporting Requirements

Not Applicable

Throughout completion of the works, the Contractor must provide written reports weekly.

## 10.1 Weekly Reports

The Contractor shall provide the Principal with a report on a fortnightly basis, in such form and on such matters as the Principal requires and which, without limitation, must include, as a minimum requirement:

- Percentage works complete (inception to date)
- Percentage works complete (during the reporting period)
- Status against program, outlining Contractor's position in reaching date for Practical Completion
- Cost tracking against forecast
- Risk Register or list of Key Risks Identified
- Health and safety reports
- Environmental reports
- Quality reports
- Activities completed in last period
- Activities forecast for completion in the upcoming period
- Any relevant Industrial Relations matters
- Variations submit and status
- Progress payment or invoicing status
- Progress Photos/Videos

Weekly Reports shall be submitted by email by: 5.00am/pm every Monday.

Daily update to the reticulation co-ordinator

## 10.2 Site Meeting Requirements

Throughout completion of the works, the Contractor must attend site meetings with BSC fortnightly

Site Meeting attendance is mandatory for the below Contractor Personnel:

- Contractor's Representative (as appointed by the Contractor in writing)
- Project Manager
- Site Supervisor

## 10.3 Post Completion Support

Details of any post completion support requirements to be factored into quoted/tendered price (not related to defects liability period)

- Training (RTO Accreditation is not required): We would like some onsite training to be completed with onsite personnel to include the notification process through to the smoking and reporting process.

## 11. Key Performance Indicators

The performance of the Contractor throughout execution of the works, and upon completion, will be measured against the below key performance indicators.

KPI	Description	Target
Quality	Quality level of goods and services delivered	98% compliance
Safety	Incident notification from contractor received by	100% compliance

	contracts offer in accordance with GRC escalation policy	
Safety	Number of lost time incidents during completion of project	Zero
Cost	Cost in accordance with contract	No variations
Financial Compliance	Invoices submit are compliant with contract terms and GRC requirements	100% compliance
Responsiveness	Lead time to respond to requests	24 hours
Environmental	Incident notification from contractor	100% compliance

### Quotation Deadline

11am, Thursday, 14, July, 2022

**IMPORTANT:** Before submitting your quote, please refer to the Standard Terms and Conditions available on the Banana Shire website.

### Submission Information:

Submit as per the above scope

### Mandatory requirements:

- Comply with the QLD Workplace Health and Safety Act 2011
- Comply with the QLD Environmental Protection Regulation 2019, specific to trackable waste and disposal.
- Comply with the QLD Environmental Protection Act 1994 for all environmental duty obligations.

### Evaluation criteria

Criteria	Weightage
Price/Value for money	30%
Availability	30%
Ability to complete the job	40%

## Quotation Submission

Price inclusive of GST	
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### Comments:

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### Conflict of Interest

Please advise if you have an association or connection to current members of staff.

YES       NO

If yes, please indicate persons you have an association with:

By signing this form, you acknowledge that you have provided the correct information and have read, understood, and agree to the Banana Shire Council Standard Terms and Conditions.

**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

**To ensure your quote is processed accurately and in a timely manner please adhere to the following:**

- Provide completed BOQ (Bill of Quantity) if required.
- Complete attached Quotation Schedule
- All associated costs have been included (Travel, accommodation, signage etc.)
- Quotation format to be submitted in PDF format.
- Quotations shall be valid for (3) three calendar months after day of the closing of quotations.
- ONLY SUBMIT BY EMAIL to [quotations@banana.qld.gov.au](mailto:quotations@banana.qld.gov.au). Quotations received by paper or emailed to a different email will not be accepted.
- Provide all required documentation e.g., Insurance, forms, schedules etc.

**Acceptance of Quote:**

- BSC is not obliged to accept the lowest, or any quote, and may accept the quote most advantageous to it.
- BSC reserves the right to award the RFQ as a whole, in parts, to one or more suppliers, or not at all.
- No quote shall be taken as accepted and no contract will be formed, until the supplier
  - (a) executes and returns the Formal Instrument of Agreement to the RFQ, or alternatively
  - (b) receives a council issued purchase order to the price of the supply.
- Any variances are required to be submitted and approved prior to continuing. ONLY an amended council issued purchase order reflecting the required variances is accepted for any additional costs.

**Submissions and enquiries by email to [quotations@banana.qld.gov.au](mailto:quotations@banana.qld.gov.au) or to speak to a representative, please call 07 4992 9500.**

*Please use RFQ # as reference during all correspondence.*