Gladstone Regional Council
ABN 27 330 979 106

Invitation to Tender (ITT)
61-20 Asset Growth Strategies for Lake Awoonga Water Network and Boyne Island, Tannum Sands and Calliope Sewerage Network

Offers Close
2pm AEST, Tuesday, 15 October 2019
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SECTION 1. Invitation to Tender

1.1 Overview

1.1.1 Introduction to Gladstone Regional Council

Gladstone Regional Council (GRC) is a Queensland Local Government. The Gladstone Region, located in Central Queensland, is about 550 kilometres north of Brisbane, and covers 10,506 square kilometres with a population of about 62,000 people.

GRC has Customer Contact Centres in urban areas, as well as three main offices.

The Corporate Office 101 Goondoon Street, Gladstone Qld 4680
Calliope Office 5 Don Cameron Drive, Calliope Qld 4680
Miriam Vale Office 41 Blomfield Street, Miriam Vale Qld 4677


1.1.2 Project Overview

Gladstone Regional Council requires suitably qualified professionals to develop the following:

- Lake Awoonga Water Asset Growth Strategy
- Boyne Tannum & Calliope Sewerage Asset Growth Strategies

1.1.3 Description of Works

The Asset Growth Strategies will be completed as two separable portions:

1.1.3.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

The scope of this separable portion includes:

- Part 1: Gladstone Region Water Demand Model, Lake Awoonga Hydraulic and Quality Model and Detailed Engineering Report
- Part 2: Community Engagement (Provisional)
- Part 3: Lake Awoonga Water Asset Growth Strategy (Provisional)
- Part 4: Business Cases (Provisional)

1.1.3.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

The scope of this separable portion includes:

- Part 1: Regional Sewerage Demand Rate Assessment
- Part 2: Manhole Survey
- Part 3: Demand Model, Hydraulic Model and Detailed Engineering Report
- Part 4: Sewerage Asset Growth Strategy (Provisional)
- Part 5: Business Cases (Provisional)

1.1.4 Scope of Works

The Scope of Works is as set out in Section 2.
1.1.5 Pricing
Schedule of Rates are required for both separable portions. If there will be a discount applied if both separable portions are awarded to one (1) consultant, make note of discount within the Schedule of Rates document.

1.1.5.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy
The pricing for this work will be a Fixed Price Lump Sum for Part 1 and a Schedule of Rates for Parts 2, 3 and 4. Refer to attachment ‘Water Attachment 1.1 Schedule of Rates.xlsx’

Once a Community Engagement Plan has been prepared by GRC, the Consultant is to provide a lump sum based on the schedule of rates quoted for the specific services required for Part 2.

1.1.5.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies
The pricing for this work will be a Fixed Price Lump Sum for Parts 1, 2 and 3 (supported by a Schedule of Rates) as well as a provisional schedule of rates for Parts 4 and 5. Refer to attachment ‘Sewerage Attachment 2.1 Schedule of Rates.xlsx’

1.1.6 Subcontracting

1.1.6.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy
Subcontracting is not permitted.

1.1.6.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies
Subcontracting shall only be permitted for Part 2: Manhole Survey portion of the works. All subcontracting will be in accordance with the contract conditions.

Details of intended subcontractors, sub-contracted work and details of proposed subcontract agreements must be included in ‘Attachment 4.2 – Procurement Plan.xlsx’ as part of the Tenderer’s Offer.

1.1.7 Term

1.1.7.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy
The project will span from November 2019 to October 2020.

1.1.7.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies
The project will span November 2019 – October 2020.

1.2 Invitation Process

1.2.1 Closing Date and Time
Offers must be lodged by no later than:

Time: 2pm Australian Eastern Standard Time
Date: Tuesday 15 October 2019

Should GRC decide to extend the closing date, it shall do so by public notice via LG Tender Box. Tenders submitted after this time and date will not be considered.
1.2.2 How Offers are to be Submitted
Offers must be lodged electronically via LG Tender Box at www.lgtenderbox.com.au by closing date and time. Tenderers should allow enough time for tender lodgement including any time that may be required for problem analysis and resolution before the closing time.

No tender received by post, delivery, facsimile or email will be considered.

1.2.3 Tender Documents
The Tender Documents comprise:
1) This Invitation to Tender – Section 1;
2) Scope of Works and attachments – Section 2;
3) Contract including General Conditions of Contract for Consultants AS 4122-2010 (refer clause 1.3.7) – Section 3.
4) Tenderer’s Offer Documents in the form of Section 4 together with supporting annexures;
5) Notices to tenderers or addenda issued by GRC during the invitation period; and
6) The LG Tender Box Forum.

1.2.4 Tenderer to Inform Itself
Prior to submitting a tender, the Tenderer must inform itself of all conditions relating to the Works by:
1) examining all information made available by GRC in the Tender Documents;
2) conducting its own investigations into the risks, contingencies and other circumstances which could affect the tender; and
3) submitting questions to GRC.

Failure by the Tenderer to do any or all of the things required to be done under this clause will not relieve the Tenderer of its liability to perform all of its obligations under any contract made as a result of this Invitation to Tender.

Any enquiries by a Tenderer must be directed in writing via LG Tender Box Forum or by email to contracts@gladstone.qld.gov.au.

No questions will be accepted after 4pm on the Thursday before the Closing Date.

Any questions submitted by the Tenderer are submitted on the basis that GRC may circulate the questions and GRC’s answers to all tenderers to ensure all tenderers have the same information.

1.2.5 Inspection of Site/s During Tender Period
No inspection of site/s during the tender period is required.

1.2.6 Form of Offer
The Offer shall be submitted by completing all parts of Section 4 and attaching any required supporting material. Information transferred into another format or document shall be deemed non-conforming.

Tenderers should ensure submissions demonstrate capabilities and competitiveness of the Tenderer, supported by clear and concise examples.

The Offer must be signed by a duly authorised signatory of the Tenderer.

1.2.7 General Conditions of Contract
The Tenderer’s Offer must allow for and be based on the provisions of Australian Standard Conditions of Contract for General Conditions of Contract for Consultants AS 4122-2010 together with the completed Part B completed.

A copy of the general conditions is not attached but is deemed to constitute part of the Tender Documents. Copies are available from SAI Global https://infostore.saiglobal.com/.

1.2.8 Offer Validity Period
Offers must remain open and capable of being accepted by GRC for a minimum period of 90 days.
1.2.9 Indicative Timetable

The following indicative timetable is provided for information purposes only. Dates are indicative only and may be subject to change. GRC reserves the right to depart from the indicative timetable, including but not limited to altering dates or deleting or adding steps.

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitation issued</td>
<td>21 September 2019</td>
</tr>
<tr>
<td>Closing date and time for offers</td>
<td>15 October 2019</td>
</tr>
<tr>
<td>Evaluation of offers completed</td>
<td>20 October 2019</td>
</tr>
<tr>
<td>Negotiations with Tenderers and/or clarification of offers</td>
<td>22 October 2019</td>
</tr>
<tr>
<td>Intended notification dates</td>
<td>25 October 2019</td>
</tr>
<tr>
<td>Intended contracts start date</td>
<td>4 November 2019</td>
</tr>
</tbody>
</table>

1.2.10 Evaluation Criteria

GRC will carry out the tender assessment using information obtained from:
1) the Tender submission;
2) financial information provided by the Tenderer on request of GRC, and credit reference checks conducted by or on behalf of GRC;
3) knowledge relating to the Tenderer’s past performance;
4) reference checks; and
5) other sources as decided by GRC in its absolute discretion.

The criteria against which each offer will be evaluated, and the weighting attached to each separable portion is as follows:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Description</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>Proposed program meets GRC requirements</td>
<td>15%</td>
</tr>
<tr>
<td>Schedule Suitability</td>
<td>The submitted program displays a suitable level of detail and includes all activities to be completed, including the required timeframes, milestones and critical paths.</td>
<td></td>
</tr>
<tr>
<td>Project Understanding &amp; Methodology</td>
<td>Methodology and program demonstrate satisfactory planning and include specific details to support an understanding of the Scope of Works.</td>
<td>30%</td>
</tr>
<tr>
<td>Previous experience</td>
<td>Completion of a number of projects within the last five years, which are of a similar scale and nature.</td>
<td>25%</td>
</tr>
<tr>
<td>Past performance/Project history</td>
<td>Key personnel are proposed with satisfactory allocation of time to the project</td>
<td></td>
</tr>
<tr>
<td>Key Personnel (Allocation)</td>
<td>Key personnel hold appropriate qualifications and demonstrate a satisfactory level of relevant project experience.</td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>Whole of Contract Pricing</td>
<td>20%</td>
</tr>
<tr>
<td>Local Preference (1)</td>
<td>Geographical Location of vendor (based on head office)</td>
<td>5%</td>
</tr>
<tr>
<td>Local Preference (2)</td>
<td>% of Locally sourced resources and products</td>
<td>5%</td>
</tr>
</tbody>
</table>

TOTAL 100%
1.2.11 Conformity of Tender and Alternative Tenders

To be a conforming tender the tender must:
1) be received by the Closing Date;
2) be received in the format and by the method prescribed in this Invitation to Tender;
3) be open for not less than the period required under clause 1.3.9;
4) satisfy all mandatory requirements; and
5) respond to all parts of Section 4 in full and include all required supporting documentation.

A tenderer may submit alternative (non-conforming) proposals for consideration for both separable portions, but only in addition to a Conforming Tender.

1.2.12 Opening of Tenders

The opening of tenders will not be public. Tender lists will not be published, and all tenderers will be notified of the outcome following agreement being reached for appointment of a preferred tenderer.

1.3 Further Invitation to Tender Conditions

1.3.1 Definitions

“Closing Date” means the date and time specified in clause 1.3.1 of this Invitation to Tender or such later date as may be notified by GRC under clause 1.3.1;

“Conforming Tender” means a tender meeting the requirements of clause 1.3.11;

“Contract” means a contract to be formed with the successful tenderer as detailed in Section 3;

“Tenderer” means a company, partnership or person who submits an offer to GRC in response to this Invitation to Tender;

“Works” means the goods, services and deliverables referred to in section 2;

1.3.2 Tenderer acceptance

By submitting an offer, the Tenderer:
1) accepts the terms and conditions in this Invitation to Tender;
2) offers to enter into a contract with GRC to provide the goods, services and/or deliverables referred to in section 2 on the terms of the Contract and GRC may, in its discretion, choose whether to accept the offer during the validity period.

1.3.3 GRC Discretion

GRC may make any changes to the invitation process in its absolute discretion, by notifying Tenderers via LG Tender Box. Without limitation, GRC may:
1) add or change requirements;
2) amend dates including extend the closing date or time;
3) accept non-conforming tenders, alternative or innovative offers, offers in part or multiple offers;
4) reject any or all offers;
5) exercise discretion in evaluating any subjective evaluation criteria;
6) interview, negotiate or hold discussions with any Tenderer; and/or
7) cancel the invitation process.

1.3.4 Tenderer’s acknowledgement and warranty

The Tenderer acknowledges and agrees that the Tenderer:
1) is responsible for making its own investigation and assessment about all matters relevant to the Invitation to Offer and the Tenderer’s offer, including but not limited to risk, cost and contingency;
2) has not relied on any express or implied statement, warranty or representation made by GRC, its officers, employees, agents or advisers other than as expressly contained in the Tender Documents; and
3) is responsible for all costs and expenses related to the preparation and lodgement of its tender and GRC is not required to pay any compensation to the Tenderer in relation to the invitation process.

The Tenderer warrants that all information provided as part of its offer will be complete, accurate, current and not misleading.

1.3.5 Subject to Contract

No contract will be formed between the parties until both parties have signed a contract document in the form contained in Section 3 subject to any variations which may be agreed between GRC and the Tenderer.

Upon being notified of acceptance as preferred tenderer, the Tenderer must sign and return the Contract and any documentation required under the Contract within 10 business days.

1.3.6 Anti-competitive Conduct

The Tenderer warrants that neither the Tenderer nor its personnel have engaged in any collusive, anti-competitive or similar conduct in connection with the invitation process.

1.3.7 Disqualifying Conduct

A tenderer must not directly or indirectly seek to canvas support from any GRC Councillor or GRC employee. Any tenderer who seeks to do so shall be disqualified from further participating in the tender process and that tenderer’s tender will be rejected.

A tenderer found to have accessed or attempted to access any part of the site/s at any time without prior coordination with GRC during the tendering period shall be disqualified from further participating in the tender process and that tenderer’s tender will be rejected.

1.3.8 Conflict of Interest

The Tenderer warrants that the Tenderer and its personnel do not have any conflict of interest and will not place themselves into a position that may give rise to a conflict of interest, with the Tenderer’s obligations under this Invitation to Tender or the proposed contract.

The Tenderer agrees to immediately notify GRC if any conflict of interest arises after the Tenderer’s offer.

1.3.9 Confidentiality

All tenders become the property of GRC on submission.

The Tenderer should clearly label any information contained within the Tenderer’s Offer which the Tenderer claims is confidential or commercial-in-confidence.

GRC will use its best endeavours to keep confidential all confidential information supplied by the Tenderer but may disclose confidential information:

1) to GRC personnel and Councillors and professional advisers and auditors for the purposes of the invitation, evaluation and contracting processes;
2) as required under the *Right to Information Act 2009*; and
3) as otherwise required by Law.

The Tenderer acknowledges that:

1) GRC is obliged to state in minutes of Council meeting the details of award of tenders, including naming the successful tenderer and contract price; and
2) under section 237 of the *Local Government Regulation 2012* GRC is required to publish on its website and a notice within GRC’s offices relevant details of contracts awarded with a price of $200,000 (ex GST) or more; and
3) the Tenderer’s details will be published if the Tenderer is successful.

1.3.10 Protection of Privacy

The Tenderer warrants in respect of any personal information provided in its tender or any contract arising from the tender that the information is accurate, up to date and complete and that the
individuals to which personal information refers authorise its collection and are aware that it is contained within the tender.
SECTION 2. Scope of Works

2.1 Overview of Project Objectives

2.1.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

The objective of this engagement is to undertake strategic hydraulic and quality modelling for water assets to identify issues and propose upgrades to assets within the Lake Awoonga Water Supply Network. A community engagement phase of this project will ultimately inform the final schedule of works to include in the Lake Awoonga Water Asset Growth Strategy. However, the community engagement phase will be led by Gladstone Regional Council (GRC).

The Lake Awoonga Water Supply Network includes the townships of Gladstone, Calliope, Beecher, Burua, Boyne Island, Tannum Sands, Benaraby and Wurdong Heights. Despite being supplied by water from Lake Awoonga, the township of Mount Larcom will be excluded from the Lake Awoonga Water Supply Network for the purpose of this study as the Mount Larcom network is hydraulically independent of the rest of the network.

The previous modelling studies and Strategic Infrastructure Plans (SIPs) were developed individually for the various townships of the Lake Awoonga Water Supply Network. These studies only considered hydraulic modelling (not water quality) and are:

- Gladstone
  - Gladstone Water Supply Scheme – Water Supply SIP (MWH 2015)
- Calliope/ Beecher/ Burua
  - Calliope Water Supply Scheme Strategic Plan (GRC 2009)
- Mount Larcom
  - Mount Larcom Water Supply SIP (GRC 2009)
- Tannum Sands/ Boyne Island/ Benaraby/ Wurdong Heights
  - Tannum/ Boyne/ Benaraby/ Wurdong Water Supply Study Scheme Strategic Plan (GRC 2010)

GRC has also undertaken water quality modelling of the entire Lake Awoonga Water Supply Network in 2017 for a 10 year planning horizon. This also included a partially calibrated hydraulic model based on 2016 demands.

The previously completed modelling studies and SIPs listed above for the Lake Awoonga Water Supply Network each used water demand rates (L/EP/d) that have since been revised, which, along with the lack of a combined calibrated hydraulic model, has brought about the need for this project.

2.1.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

The objective of this engagement is to undertake hydraulic modelling activities for townships within the Gladstone Region in order to determine sewerage asset augmentations required to cater for future growth projections. The extent of the modelling will be limited to the Boyne Tannum Defined Sewerage Service Area (DSSA) and the Calliope DSSA.

To increase the accuracy of the model, this project will also involve a sewerage demand rate assessment across the regions DSSA’s and a survey of all manholes within the Boyne Tannum and Calliope DSSA to capture model attributes and a condition assessment (Boyne Tannum only).
2.2 Background

2.2.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

A Population Model was prepared in 2018, which projected population growth in the entire Gladstone Region in five (5) year increments from 2018 to 2041 as well as an ultimate scenario (full development based on current planning scheme zones). The Population Model is in the form of a Microsoft Excel spreadsheet and represents various datasets including existing land use, future land use, dwellings, existing and future population and gross floor area on a lot by lot basis. This Population Model has been used, along with GRC’s set demand generation rates for water supply network in the Local Government Infrastructure Plan (LGIP), to develop the demand model.

A water demand rate assessment was also undertaken in 2018 that provided recommendations to various water demand rates that GRC could adopt for future planning. Three (3) water demand rates in litres per equivalent person per day (L/EP/d) are to be assessed to understand the sensitivity of changing water usage and the impact of water use reduction in the region. These water demand rates include:

- A GRC regional average rate (based on assessment of end user demands through water billing data);
- A Queensland average rate; and
- A South East Queensland Councils rate.

This will result in the output of three (3) separate schedules of works which will be utilised as supplementary information to undertake community engagement. The final water demand rate and subsequent schedule of works to be adopted by GRC for planning will be guided by the outcomes of the community engagement phase which will determine the community’s desire to reduce water demand. Ultimately, this study will develop a Lake Awoonga Water Asset Growth Strategy that fully considers the evolving needs of the key stakeholders, including the community, with a holistic asset lifecycle view.

2.2.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

A Population Model was prepared in 2018, which projected population growth in the entire Gladstone region in five (5) year increments from 2018 to 2041 and an ultimate scenario (full development based on current planning scheme zones). The Population Model is in the form of an Excel spreadsheet and represents various datasets including existing land use, future land use, dwellings, population and gross floor area on a lot by lot basis. This population model has been used to develop the demand model.

A water demand rate assessment was undertaken in 2018 that provided a recommendation of three (3) water demand rates that could be considered for future planning. They include a Gladstone regional demand rate (based on assessment of end user demands through water billing data) and two (2) future target rates (a Queensland (QLD) average rate and a South East Queensland (SEQ) average rate). The final water demand rate, and subsequently sewerage demand rate, to be adopted by GRC for planning will be guided by community engagement based on the community’s water usage values.

Community engagement will be undertaken as part of a separate GRC project that will run parallel to this project. It is expected that an amount of time (2-3 months) will be required between Part 3 and Part 4 to allow community engagement activities to occur.

GRC’s internal discussions have identified an opportunity for the manhole survey of this project to also undertake a condition assessment of each manhole surveyed in Boyne Tannum. Therefore, this has been included within the scope of the project. The extent of the survey will be confined to the Boyne Tannum DSSA which also includes Wurdong Heights and Benaraby.
2.3 Description of the Works

2.3.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

The scope of this project includes:

- **Part 1: Gladstone Region Water Demand Model, Lake Awoonga Hydraulic and Quality Model and Detailed Engineering Report**
  - Review the water demand model (based in Microsoft Excel) that has been developed by GRC based on GRC’s most recent Population Model for the entire Gladstone Region. The demand model can be easily joined to translate spatially into ESRI software from Excel.
  - Develop a calibrated hydraulic and quality model using InfoWater Stand Alone (SA) for the Lake Awoonga Water Supply Network.
  - Provide a Detailed Engineering Report with substantial justification outlining the demand model review, hydraulic model development and proposed water asset augmentation strategies with cost estimates.

- **Part 2: Community Engagement (Provisional)**
  - The Community Engagement phase will be led by GRC and the Consultant will act as a technical advisor when needed.

- **Part 3: Lake Awoonga Water Asset Growth Strategy (Provisional)**
  - Develop the Lake Awoonga Water Asset Growth Strategy based on the Detailed Engineering Report using the conclusions and recommendations from the Community Engagement Summary Report. Note: The Community Engagement Summary Report will be developed by GRC.

- **Part 4: Business Cases (Provisional)**
  - Develop business cases for each augmentation strategy within the final schedule of works (from the Lake Awoonga Water Asset Growth Strategy) for the 2018 (existing), 2021, 2026 and 2031 Planning Horizons to be used for budgeting and long-term financial plan development.

Parts A to D will each require stakeholder consultation throughout the project, particularly with internal staff within GRC and Gladstone Area Water Board (GAWB). GRC will organise for GAWB to be invited to certain workshops and to review certain hold points.

2.3.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

- **Part 1: Regional Sewerage Demand Rate Assessment**
  - Assessment of sewerage demand rates across the region.

- **Part 2: Manhole Survey**
  - Survey approximately 2,400 sewerage manholes in Boyne Tannum and 1000 sewerage manholes in Calliope for model attributes and a condition assessment.

- **Part 3: Demand Model, Hydraulic Model and Detailed Engineering Report**
  - Review GRC’s sewerage demand model (based in Excel and can be translated to spatial form)
  - Develop a sewerage hydraulic model in InfoSWMM SA for Boyne Tannum and a separate model for Calliope
  - Provide a detailed engineering report outlining the demand model review, hydraulic model development and proposed sewerage asset augmentations (of both Models).

- **Part 4: Sewerage Asset Growth Strategy (Provisional)**
- Develop a Boyne Tannum Calliope Sewerage Asset Growth Strategy (BTCSAGS) based on the detailed engineering report and community engagement results. Note: Gladstone Regional Council (GRC) is undertaking the community engagement.

- Part 5: Business Cases (Provisional)
  - Develop business cases for each proposed sewerage asset augmentation in each strategy (for assets triggered in the next 10 years only)

### 2.4 Function to be performed

#### 2.4.1 Separable Portion 1 - Lake Awoonga Water Asset Growth Strategy

##### 2.4.1.1 Consultant Outputs

**Part 1: Gladstone Region Water Demand Model, Lake Awoonga Hydraulic and Quality Model and Detailed Engineering Report**

- Prepare an Engineering Assumptions and Methodologies Report as detailed in Section 2.10.1.1 that will provide an overview of the assumptions made and intended methodologies.
- Review a water demand model which provides the water demand in equivalent persons (EP) on each lot (residential and non-residential demands) within a Defined Water Service Area (DWSA) in the entire Gladstone Region (excluding Mount Larcom).
- Use GRC’s 2017 Water Quality Model and ESRI ArcGIS layers to build a new calibrated hydraulic and water quality model for the Lake Awoonga Water Supply Network in InfoWater SA.
  - Undertake strategic hydraulic and quality modelling to assess the existing planning horizon using water meter records for at least the last two billing periods for calibration (Calibration Existing scenario) and then using the GRC regional average rate (312 L/EP/d).
    - Calibrate the model using water meter records, pressure and flow hydrant test results, pressure logger data, SCADA data (flow, reservoir levels, setpoints, pump run times) and water quality sample data from throughout the network. All data to be supplied by GRC.
    - Industry recommended Hazen-Williams coefficients are to be adjusted to better replicate hydrant test results
    - Before proceeding with future planning horizons, provide a Validation and Calibration Report as detailed in Section 2.12.1.2 during model development to outline the methodology and results of the validation and calibration process.
  - Assess each of the future planning horizons with the three (3) different water demand rates (as specified in Section 2.5.1.2).
  - The planning horizons (listed in Section 2.5.1.1) used for modelling will be in accordance with GRC’s Population Model.
  - The scenarios to be setup in the model are listed in Attachment 1.
  - Use GRC’s Desired Standards of Service (DSS) to identify network issues and propose augmentation strategies (i.e. new assets, assets to be upgraded or operational changes) to resolve the issues, support the projected population growth in the network and achieve the DSS. The proposed augmentation strategies will balance the potential conflicting needs of the hydraulic capacity of and the water quality experienced in the network. Consideration needs to be given to whether pressure reduced sub-zones need to be created.
  - Undertake a review of capacity of GRC pumping stations.
  - Undertake a review of capacity of GRC reservoirs.
    - Use the *Planning Guidelines for Water Supply and Sewerage* (Department of Energy and Water Supply 2014) to undertake an assessment of the required capacity of GRC’s reservoirs within the Lake Awoonga Water Supply Network.
    - Consideration needs to be given to reservoir supply areas to determine whether specific areas need to be rezoned to other reservoir supply areas to ensure that the available reservoir capacity is optimised.
  - Identify GAWB connection points and the forecasted demand (EP and ML/day) at each point. This will provide clarity when considering impacts on GAWB as well as GRC’s financial implications.
The model development phase will be an iterative and collaborative process that includes workshops with GRC and GAWB to discuss options of proposed augmentation strategies and model scenarios as specified in Table 1 in Section 2.7.1.1.

- Provide a Detailed Engineering Report as detailed in Section Error! Reference source not found. that will provide substantial justification for all options assessed and why each augmentation strategy is proposed.
- Generate a schedule of works of proposed water asset augmentation strategies for each demand rate to ensure DSS is achieved across all planning horizons. These will be used to inform GRC and the community of the long-term impact of demand management.

**Part 2: Community Engagement (Provisional)**

The community engagement phase of the study will be undertaken to understand how the community value water and determine if the community have a desire to reduce water demand. Community engagement will help to ultimately recommend a target water demand rate for future planning horizons to proceed with in the Lake Awoonga Water Asset Growth Strategy (Part 3). Although GRC Officers will lead the community engagement activities, it is expected that the Consultant will act as a technical advisor in the community engagement phase. It is intended that Part 2 will occur concurrently with Part 1 with minimal reliance on Part 1 tasks to complete Part 2.

Council will provide a Community Engagement Plan to the Consultant that will specifically detail what input the Consultant will have.

Once a Community Engagement Plan has been prepared by GRC, the Consultant is to provide a lump sum based on the schedule of rates quoted for the specific services required for Part 2.

Once the community engagement activities have been undertaken, a Community Engagement Summary Report will be prepared by GRC to outline the conclusions and recommendations which will assist the Consultant in the development of the Lake Awoonga Water Asset Growth Strategy (Part 3).

**Part 3: Lake Awoonga Water Asset Growth Strategy (Provisional)**

- Use the conclusions and recommendations from the community engagement phase (Part 2) as well as the Detailed Engineering Report to assist in developing the Lake Awoonga Water Asset Growth Strategy (detailed in Section Error! Reference source not found.) containing one final schedule of works.

**Part 4: Business Cases (Provisional)**

- Develop business cases (template to be provided by GRC) for each augmentation strategy in the final schedule of works for the 2018 (existing), 2021, 2026 and 2031 Planning Horizons only from the Lake Awoonga Water Asset Growth Strategy to be used by GRC for budgeting and long-term financial plan development. Each business case will primarily detail the following:
  - Describe the augmentation strategy;
  - Justification for the augmentation strategy;
  - Risks to GRC if project is not completed; and
  - Whole of life cycle cost of the augmentation strategy.

Stakeholder consultation will need to be undertaken throughout the project as detailed in Sections 2.12.1.7 and 2.7.1.1 particularly with internal staff at GRC and GAWB.

**2.4.1.2 Project Scope Exclusions**

This study excludes:

- A water quality assessment for everything other than chlorine residual. Age will be assessed during the operational flows assessment of the model as listed in ‘Water Attachment 1.3 Model Scenarios’;
- The township of Mount Larcom as its water network is hydraulically independent of the rest of the Lake Awoonga Water Supply Network; and
An assessment on the capacity of GAWB’s trunk mains, reservoirs and pumping stations. However, the model may need to simulate an artificial upgrade in the GAWB network in the future in order to ensure that capacity is available in the bulk system to supply GRC’s network. This circumstance of deficiency in the bulk system will prompt consultation with GAWB.

### 2.4.1.3 Compliance

Some data handover from GRC to the Consultant may be subject to a data agreement. The project is to be completed in accordance with the following standards/guidelines/policies:

- Capricorn Municipal Development Guidelines (CMDG 2018)
- Planning Guidelines for Water Supply and Sewerage (Department of Energy and Water Supply 2014)
- GRC Policies and Standards
- All elevations must be to AHD.

The Consultant shall keep confidential all records and information obtained through this consultancy, unless these are of a public nature. All such records and information shall be stored in a safe and secure place at all times in order to maintain such confidentiality.

### 2.4.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

#### 2.4.2.1 Consultant Outputs

**Part 1: Regional Sewerage Demand Rate Assessment**

- Prepare an engineering Assumptions & Methodology Report as detailed in Section 2.12.2 that will provide an overview of the assumptions made and intended methodologies.
- Assessment of GRC’s historic SCADA Data and Population Model to determine current sewerage Average Dry Weather Flows (ADWF) on a Sewerage Pump Station (SPS) catchment level and on a Sewerage Treatment Plant (STP) catchment level for all DSSAs (See Attachment 2 for each DSSA Map)
- Recommend a sewerage design demand rate ADWF (in L/EP/d) for each SPS catchment.
- Assessment on whether sewerage demand rate changes as water demand rate reduces due to demand management strategies. (See Attachment ‘Sewerage Attachment 2.3 Demand Rate Tech Note.docx’ for a technical note that outlines GRCs previous investigation on this matter)
- Recommend if an additional design demand rate that is associated to future target water demand rates should be modelling in Part 3.

**Part 2: Manhole Survey**

- Prepare an engineering Assumptions & Methodology Report as detailed in Section 2.12.2 that will provide an overview of the assumptions made and intended methodologies.
- Program and survey approximately 2,400 manholes in the Boyne Tannum DSSA. 1,900 to be surveyed for model attributes and condition assessment, and the remaining 500 manholes for model attributes only. (See Attachment ‘Sewerage Attachment 2.2 DSSA Map.docx’ for mapping of the Boyne Tannum DSSA and manhole overview).
- Program and survey approximately 1,000 manholes in the Calliope DSSA. All manholes to be surveyed for model attributes only.
- Information to be captured:
  - Location of centre of manhole lid in accordance with GDA 1994 MGA Zone 56 accurate to 10mm
  - Lid elevation of top of manhole lid in metres to Australian Height Datum (AHD) accurate to 15mm.
  - Depth from lid surface level to chamber invert in millimetres
  - Existence of backdrop infrastructure and whether internal or external
  - Depth from lid surface level to top inlet (if backdrop exists) in millimetres.
  - Visual inspection of Lid properties and condition status
  - Visual inspection of Chamber properties and condition status
- Visual inspection Floor/base properties and condition status
- Various Photos

- See Attachment 4 ‘Sewerage Attachment 2.4 Manhole Survey Inspection Items.xlsx’ for the complete manhole survey inspection items.

  Note: confirmed manholes that have no Asset ID shall be assigned the Asset ID of the upstream manhole with an alpha attached to the end (e.g. 12345A)

- Provisions for capturing the above information (information can be captured into GRC’s online live database system which can be accessed on site via iPad or via an alternative process approved by GRC).

- Provide a cleaned-up version of all survey data capture files

- Information captured to be collated into an Excel spreadsheet. (can be exported from database or approved alternative process)

- Provisions for quality assurance (QA)

- Provisions for workplace health and safety (WH&S)

- Programming and number of survey crews is to be determined by the consultant – Ideally this aspect should be resourced so that completion is synchronised with Part 1.

### Part 3: Demand Model, Hydraulic Model and Detailed Engineering Report

- Prepare an engineering Assumptions & Methodology Report as detailed in Section 2.12.2 that will provide an overview of the assumptions made and intended methodologies.

- Review GRC’s Demand Model for the Boyne Tannum and Calliope DSSA.

- GRC Demand Model is in EP per lot. This will need to be converted to correspond with the demand rates (L/EP/d) determined in Part 1.

- Develop a Boyne Tannum Sewerage Asset Hydraulic Model in InfoSWMM SA (Utilising GRC’s provided GIS layers and information captured in Part 2)

- Develop a separate Calliope Sewerage Asset Hydraulic Model in InfoSWMM SA

- Validate catchment zones and demand allocation to pump stations

- Perform general tool validation within model

- Input SPS controls

- Input diurnal patterns

- Calibrate to SCADA data

- Provide an engineering Validation and Calibration Report as detailed in Section 2.3.2 to outline the methodology and results of the validation and calibration process.

- Develop scenarios for the following planning horizons – Calibrated Current, 2021, 2026, 2031, 2036, 2041 and Ultimate. Each is to include assessment for ADWF, Peak Dry Weather Flow (PDWF) and Peak Wet Weather Flow (PWWF) (refer to Table 1 below). Note: Setting up demand rate 2 scenarios are considered as provisional as Part 1 results will determine if they are required.

<table>
<thead>
<tr>
<th>Scenario Number</th>
<th>Scenario</th>
<th>Demand Rate</th>
<th>Planning Horizon</th>
<th>Flow Assessment</th>
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<tr>
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<td>CALIBRATED_2018_ADWF</td>
<td>SCADA</td>
<td>Current</td>
<td>ADWF</td>
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<td><strong>Demand Rate 1</strong></td>
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<td></td>
</tr>
<tr>
<td>1.1</td>
<td>2018_ADWF</td>
<td>1</td>
<td>Current</td>
<td>ADWF</td>
</tr>
<tr>
<td>1.2</td>
<td>2018_PDWF</td>
<td>1</td>
<td>Current</td>
<td>PDWF (2.5*ADWF)</td>
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<td>1.3</td>
<td>2018_PWWF</td>
<td>1</td>
<td>Current</td>
<td>PWWF (5*ADWF)</td>
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<td>2021_ADWF</td>
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<td>ADWF</td>
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<tr>
<td>1.5</td>
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<td>2021</td>
<td>PDWF (2.5*ADWF)</td>
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<td>ADWF</td>
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<td>2036</td>
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<tr>
<td>Summarise GRC’s Desired Standards of Services (DSS)</td>
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<td>2</td>
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</tr>
<tr>
<td>Assess the system’s capacity to achieve GRC’s DSS.</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generate a schedule of works of sewerage asset augmentations (SPS, emergency storage, gravity mains, rising mains, STPs and operational changes) for each demand rate to ensure DSS is achieved across all planning horizons including detailed justification.</td>
<td></td>
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<tr>
<td>Provide ESRI ArcGIS layer of all sewerage asset augmentations</td>
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</tr>
</tbody>
</table>

### Table 1: Model Scenarios

- Summarise GRC’s Desired Standards of Services (DSS)
- Assess the system’s capacity to achieve GRC’s DSS.
- Generate a schedule of works of sewerage asset augmentations (SPS, emergency storage, gravity mains, rising mains, STPs and operational changes) for each demand rate to ensure DSS is achieved across all planning horizons including detailed justification.
- Provide ESRI ArcGIS layer of all sewerage asset augmentations

### Part 4: Sewerage Asset Growth Strategy (Provisional)

- Develop a BTCSAGS, which will be a simplified version of the Detailed Engineering Report intended to be released and interpreted by the general public. This will only include one demand rate and schedule of works, which will be informed by community engagement (a separate GRC undertaking).

### Part 5: Business Cases (Provisional)

- Develop business cases (template to be provided) for each sewerage asset augmentation in the final schedule of works (only for the Current, 2021, 2026 and 2031 planning horizon) from the BTCSAGS to be used by GRC for budgeting and long-term financial plan development. Each business case will primarily detail the following:
  - Describe the augmentation strategy;
  - Justification for the augmentation strategy;
  - Risks to GRC if project is not completed; and
  - Whole of life cycle cost of the augmentation strategy.
2.4.2.2 Compliance

Some data handover from GRC to the consultant may be subject to a data agreement. The project is to be completed in accordance with the following standards/guidelines/policies:

- GRC Policies and Standards
- Capricorn Municipal Development Guidelines (CMDG)
- Planning Guidelines for Water Supply and Sewerage (DEWS)
- Authorised Persons Card
- All spatial information – GIS layers, coordinates, InfoSWMM model project settings, etc. must use spatial reference: GDA 1994 MGA Zone 56 (WKID: 28356) projection coordinate system
- All elevations must be to AHD.

Other compliances:
- Agreed upon work hours and days to ensure minimal disturbance to residents.
- Inspections on private properties must leave the site intact and minimal impact to the site

2.4.2.3 Plant and Equipment

The following software is considered compulsory to the success of the projects:

- Microsoft Office Suite
- InfoSWMM SA software
- ESRI ArcGIS software

2.5 Technical Requirements

2.5.1 Separable Portion 1 - Lake Awoonga Water Asset Growth Strategy

2.5.1.1 Water Demand Model

A water demand model is to be reviewed in Microsoft Excel for the entire Gladstone Region (excluding Mount Larcom water network). This demand model has calculated residential and non-residential water demand EP for each lot within a DWSA. This water demand model is based on GRC's Population Model and GRC's set demand generation rates for water supply network from the LGIP, for the following planning horizons:

- 2018 (Existing);
- 2021;
- 2026;
- 2031;
- 2036;
- 2041; and
- Ultimate.

The majority of the demand model has been developed by GRC. However, the review will focus on some non-residential lots that have been highlighted by GRC. The demand on these lots will need some consideration to determine what to use for water demand. Some lots (e.g. high impact industry) will need to utilise water meter data but consultation with GRC will be required.

The demand in EP for each lot will need to be converted to correspond with the three water demand rates (L/EP/d) to be modelled.

Note: This demand model includes the water supply schemes of Miriam Vale, Bororen, Agnes Water and Seventeen Seventy, which are outside of the Lake Awoonga Water Supply Network.

2.5.1.2 Lake Awoonga Hydraulic and Quality Model (InfoWater SA)

GRC will provide the Consultant with GRC's 2017 Water Quality Model. It is expected that a desktop review of this model (to be documented in the Engineering Assumptions and Methodologies Report) will be undertaken to determine what components of the model can be exported from or used to build the new calibrated Lake Awoonga hydraulic and water quality (chlorine residual) model. The software used will be Innovyze’s InfoWater SA.
The following will assist to build the model:

- The provided ESRI ArcGIS layers;
- The provided cleansed model for GAWB’s network as well as bulk supplier offtake information;
- GRC’s 2015 Strategic Hydraulic and 2017 Water Quality InfoWater SA models for the Lake Awoonga Water Supply Network;
- Water demand model as described in Section 2.5.1.1; and
- Other GRC resources provided as listed in Section 2.6.1

The desktop review and model build will require extensive consultation with GRC (and GAWB will be invited by GRC to some workshops). All attributes and alignments of assets in the 2017 Water Quality Model will need to be compared with ESRI ArcGIS layers, and any discrepancies between the two (ESRI layers and model) need to be approved by GRC. There will be assets in the 2017 Water Quality Model that may have not been constructed yet as well as new assets that need to be included in the new model build.

The model is to be calibrated considering hydraulic and water quality parameters and each scenario needs to run without error. The source of water in the model will be a fixed head reservoir (representing the Gladstone WTP) with an infinite supply that the High Lift Pump Station will draw from. All GAWB and GRC water assets downstream of this fixed head reservoir will be included in the model. The model study area is depicted in Water Attachment 1.2 Water Model Study Area.pdf. As specified in Section 2.6.1, to enable model calibration GRC will provide:

- Customer water meter records (for at least the last two billing periods) to be used as the modelled demand for the calibration scenario;
- Results of approximately 25 pressure and flow hydrant tests (average of 2 tests per reservoir supply area) conducted throughout the network. The results will include boundary conditions at the time that the tests were conducted (extracted from SCADA) such as reservoir levels and pump status;
- Required historic data from SCADA;
- Available pump curves and specifications;
- Model controls;
- Data from approximately 18 pressure loggers deployed throughout the network to ensure the modelled pressure is within the expected range; and
- Water quality sample data.

It is intended that GAWB’s assets within the InfoWater SA model deliverable will be validated with available data. It is expected that this will be done by verifying that the model is within the range of provided controls and expected daily turnover in reservoirs, rather than calibration to an hourly level. GRC’s assets (including reticulation) in the model deliverable will be the focus for calibration and the targets are specified in quality key performance indicators in Section 2.14.1. Model validation and calibration is subject to a GRC review hold point as specified in Section 2.7.1.1

The calibration scenario will use customer water meter records (for at least the last two billing periods). The Consultant will need to determine the percentage of unaccounted for water to apply to the calibration scenario.

GRC’s DSS will be used to identify network issues and propose augmentation strategies (i.e. new assets, assets to be upgraded or operational changes) to resolve the issues, achieve the DSS and support the projected population growth in the network.

The model will include scenarios for combinations of the following:

- Water demand rates (Note: These rates include unaccounted for water)
  - GRC regional average rate (810 L/ET/d; 312 L/EP/d)
  - Queensland average rate (604 L/ET/d; 232 L/EP/d)
  - South East Queensland Councils rate (440 L/ET/d; 170 L/EP/d)
- Planning Horizons (as per the water demand model and listed in Section 2.5.1.1)
  Note: 2018 (Existing) Planning Horizon will be modelled initially using water meter records for calibration and then using the GRC regional average rate of 312 L/EP/d.
- Demand Scenario
Average Day
Mean Day Maximum Month
Maximum Day
Average Day (Winter)

- Types of assessment for the demand scenarios may include:
  - Operational Flows (including Age)
  - Fire Flows
  - Water Quality (Chlorine)

All model scenarios are listed in ‘Water Attachment 1.3 Model Scenarios’ and the water model study area is depicted in ‘Water Attachment 1.2 Water Model Study Area’

### 2.6 Resources Supplied by the Principal

#### 2.6.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

GRC will provide the following resources that are fundamental to this study:

- GRC’s Population Build Report (Cardno 2019);
- Population Model (Microsoft Excel based but can also provide in an ESRI ArcGIS layer for spatial representation);
- GRC Water Supply Network Demand Peaking Factors (Demand Rate Assessment) Report (Cardno 2019);
- GRC’s demand model (Microsoft Excel based);
- GRC’s DWSA’s that will specify which lots to include in the demand model;
- GRC’s DSS for asset sizing, pressures, flow, and chlorine residual and other parameters as required;
- GRC’s relevant Local Government Infrastructure Plan (LGIP) documents;
- ESRI ArcGIS layers including base satellite imagery, lot boundaries, contours, water assets and other layers as required (subject to compliance with a GIS data agreement);
- The cleansed model for GAWB’s network as well as GAWB’s bulk supplier offtake information;
- Breakdown of GAWB connection point locations and billing regime;
- GRC’s 2015 Strategic Hydraulic and 2017 Water Quality (includes calibrated existing hydraulic scenario) InfoWater SA models for the Lake Awoonga Water Supply Network. Note: The 2015 Strategic Hydraulic Model is for information purposes only;
- Past planning reports (SIPs) for the Lake Awoonga Water Supply Network;
- Relevant historic SCADA data as determined in the pre-start meeting;
- Water meter records from the last two billing periods spanning January to December 2018;
- Model controls (e.g. pump turns on when reservoir reaches x%);
- Available pump curves and specifications;
- Results from pressure and flow hydrant tests conducted by GRC throughout the Lake Awoonga Water Supply Network to be used for model calibration;
- Data from pressure loggers deployed throughout the network;
- Available water quality sample data;
- GRC template for the development of business cases (for provisional Part 4); and
- Council’s naming convention requirements for modelling, outputs and reporting.

Other material and technical information will be provided upon submission of a Request for Information (RFI) or during meetings and workshops over the course of the project but is subject to availability. Note: All water models (both GAWB’s and GRC’s) will be provided in InfoWater SA.

Existing data held by GRC, including mapping data, will be supplied to the successful Consultant at the start of the project. For the purpose of preparing the tender proposal, additional information is available for mapping purposes on GRC’s online GIS system at: https://maps.gladstone.qld.gov.au/

#### 2.6.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

Material/ Resources provided by GRC:
• GRC’s naming convention requirements for modelling, outputs and reporting
• GRC’s Population Build Report (Cardno 2019)
• GRC’s Population Model Excel spreadsheet (Can also be provided in an ESRI ArcGIS layer for spatial representation)
• GRC’s Water Supply Demand Rate Assessment Report (Cardno 2019)
• GRC’s LGIP Documents
• GRC’s DSS
• CMDG Guideline Documents
• Calliope Wastewater Treatment Plant Effluent Irrigation Planning Report (This may affect augmentation strategy regarding the Calliope STP)
• Historic SCADA Data – flowrates, on-off levels and pump run times for various SPS’s and STP influent data (subject to availability)
• SPS specifications/ controls (subject to availability)
• ESRI ArcGIS layers including base layer, contours, water supply/ sewerage infrastructure, SPS catchments and other layers as required (subject to compliance with a data agreement)
• Access to GRC’s online database system for condition survey information to be captured (unless an alternative proposed).
• Required notices under the Local Government Act to access properties for inspection;
  o Media release to residents, alerting them of the undertaking of a manhole survey in Boyne Tannum and Calliope.
  o Standard letter drop to alert residents that inspector will be accessing their property to undertake a manhole inspection (GRC will provide the letter templates only, it will be the consultants responsibility to distribute in accordance with their proposed program).
• Register of Asset ID and existing dataset information of manholes within Boyne Tannum and Calliope DSSA requiring inspection
• Spare lids for replacing broken lids encountered during manhole survey.
• GRC template for the development of business cases (Part 6).

Other material and technical information will be provided upon submission of a Request for Information (RFI) or during meetings and workshops throughout the project but is subject to availability.

2.7 Deliverables

2.7.1 Separable Portion 1 - Lake Awoonga Water Asset Growth Strategy

The project deliverables are as below:

• Communication methods as per Section 2.10.1.7
• Report requirements as per Section 2.10.1
• Delivery of milestones and workshops/ meetings/ information sessions and minutes for all meetings as outlined in Section 2.7.1.1
• Any supporting documents to develop the models and sections of the reports (i.e. Excel spreadsheets, high resolution maps, etc.)
• All invoices must have Contract Claim Schedule submitted with each invoice. The Contract Claim Schedule to specify each task that will align with Milestones and Hold Points with a % completion

Part 1: Gladstone Region Water Demand Model and Lake Awoonga Hydraulic and Quality Model

• Engineering Assumptions and Methodologies Report (Word doc.)
• Validation and Calibration Report (Word doc.)
• Draft Detailed Engineering Report (Word doc. and all associated attachments in their respective format)
• Final Detailed Engineering Report (Word doc. and PDF)
• Revised Water Demand Model (Excel spreadsheet and ESRI ArcGIS Layer(s) if required) for the entire Gladstone Region as detailed in Section 2.5.1.1
• Calibrated hydraulic and quality model (All-inclusive InfoWater SA files that enables all model scenarios to run) that includes all scenarios listed in ‘Water Attachment 1.3 Model Scenarios.pdf’ and detailed in Section 2.5.1.2
• Extracts from the model in the format of an ESRI ArcGIS file geodatabase is to be provided for the Lake Awoonga Water Supply Network and must include:
  o Existing asset layers
  o Model results layers for each scenario
  o A layer for each augmentation strategy (proposed new and/or upgraded assets) identified (with an Augmentation ID field to relate to the report)

Note: All ESRI ArcGIS file geodatabases need to be in the format MGA94 Zone 56 and the naming convention for all layers to be confirmed by GRC.

Part 2: Community Engagement (Provisional)
• All reports for Part 2 will be developed by GRC. Deliverables will be confirmed once the Community Engagement Plan is finalised by GRC.

Part 3: Lake Awoonga Water Asset Growth Strategy (Provisional)
• Draft Lake Awoonga Water Asset Growth Strategy (Word doc. and all associated attachments in their respective format)
• Final Lake Awoonga Water Asset Growth Strategy (Word doc. and PDF)

Part 4: Business Cases (Provisional)
• Business cases for each augmentation strategy within the final schedule of works. (Word doc. and all associated Excel spreadsheets used for costing etc)

2.7.1.1 Milestones, Hold Points and Meetings
• Consultant is to determine the timing of delivery of milestones (i.e. in parallel, overlap and/or in series) as there may be opportunity to combine some meetings and workshops depending on Consultants proposed program. However, all milestones and hold points must be included in the proposed program. Expected dates of milestones are to be provided by the Consultant.
• The purpose of hold points is for GRC and GAWB stakeholders to review the submission and to comment on any necessary changes to ensure the work aligns with GRC’s objectives. Each item identified as a “Hold Point” require written approval from the Contract Owner before continuing work. Each Hold Point will be two weeks (14 days) from submission date. Some submissions will include an in-person meeting (which must be organised by the Consultant) in which case the meeting will need to occur within the first week after the submission.

See Table 1 below for milestones and hold points.

<table>
<thead>
<tr>
<th>Milestone/Hold Point:</th>
<th>Details:</th>
</tr>
</thead>
</table>
| Milestone 1: Pre-start meeting | Communication method: In person meeting  
Preferred location: GRC Calliope Office  
Attendees: GRC Officers & Consultant’s Nominated Person(s)  
• Run through project brief  
• Discuss resources and data handover  
• Clarify communication lines  
• Discuss key future dates |
| Request for Information | Communication method: Email  
GRC to provide requested data |
### Part 1: Gladstone Region Water Demand Model, Lake Awoonga Hydraulic and Quality Model and Detailed Engineering Report

| Hold Point 1: Engineering Assumptions and Methodologies Report Submission | Communication method: In person meeting  
Preferred location: GRC Calliope Office  
Attendees: GRC Officers & Consultant Nominated Person(s)  
- Present Engineering Assumptions and Methodologies Report  
- Workshop to discuss assumptions and methodologies |
|---|---|
| Hold Point 2: GRC to review demand model | Communication method: Email  
Submission of demand model |
| Hold Point 3: Validation and Calibration Report Submission and review water model build (existing scenario only) | Communication method: Email  
Submission of Validation and Calibration Report and InfoWater model |

**Hydraulic/ Quality Modelling Phase (Iterative process including 3 workshops & ongoing collaboration)**

| Hold Point 4: Draft Detailed Engineering Report | Communication method: Email and in person meeting  
Preferred location for meetings: GRC Calliope Office  
Attendees: GRC Officers, GAWB Officers & Consultant Nominated Person(s)  
- Submission of 2017 Water Quality Model desktop review  
- Submission of InfoWater SA model throughout modelling for collaboration of options with GRC  
- Iterative process where GRC and GAWB will need to review at different stages. GRC will organise GAWB to be invited to certain workshops.  
  - Allowance for 3 workshops throughout modelling to run through scenario modelling and proposed augmentation strategies with key GRC stakeholders to clarify best way forward  
  - Any arising issues |
|---|---|
| Milestone 2: Final Detailed Engineering Report | Communication method: Email & Teleconference  
Submission of Final Detailed Engineering Report and model deliverables (as detailed in Section 2.8.1) |

---

### Part 2: Community Engagement (Provisional)

**Undertake community engagement activities**

Communication method: Consultant’s involvement to be outlined once the Community Engagement Plan is finalised by GRC.

Once a Community Engagement Plan has been prepared by GRC, the Consultant is to provide a lump sum based on the schedule of rates quoted for the specific services required for Part 2.

### Part 3: Lake Awoonga Water Asset Growth Strategy (Provisional)
Hold Point 5: Draft Lake Awoonga Water Asset Growth Strategy

<table>
<thead>
<tr>
<th>Hold Point 5: Draft Lake Awoonga Water Asset Growth Strategy</th>
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</thead>
<tbody>
<tr>
<td>Communication method: Email and In Person Meeting</td>
</tr>
<tr>
<td>Preferred location: GRC Calliope Office</td>
</tr>
<tr>
<td>Attendees: Council Officer(s) &amp; Consultants Nominated Person(s)</td>
</tr>
<tr>
<td>• Submission of Draft Lake Awoonga Water Asset Growth Strategy and associated deliverables</td>
</tr>
<tr>
<td>• Workshop to discuss report and deliverables</td>
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</table>

Milestone 3: Final Lake Awoonga Water Asset Growth Strategy

<table>
<thead>
<tr>
<th>Milestone 3: Final Lake Awoonga Water Asset Growth Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication method: Email &amp; Teleconference</td>
</tr>
<tr>
<td>• Submission of Final Lake Awoonga Water Asset Growth Strategy and associated deliverables</td>
</tr>
</tbody>
</table>

Table 1: Milestones and Hold Point Outline

Part 4: Business Cases (Provisional)

<table>
<thead>
<tr>
<th>Hold Point 6: Draft Business Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication method: Email &amp; Teleconference</td>
</tr>
<tr>
<td>• Submission of Draft Business Cases</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Milestone 4: Final Business Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication method: Email &amp; Teleconference</td>
</tr>
<tr>
<td>• Submission of final Business Cases</td>
</tr>
</tbody>
</table>

2.7.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

The project deliverables are as below:

- Communication methods as per Section 2.10.2.5
- Report requirements as per Section 2.10.2
- Delivery of milestones and meeting as outlined in Section 2.7.2.1
- Any supporting documents to develop sections of report submissions (i.e. Excel spreadsheets, high resolution maps, etc.)
- All relevant files and folders to operate any InfoSWMM SA models
- All invoices must have Contract Claim Schedule submitted with each invoice. The Contract Claim Schedule to specify each task that will align with Milestones and Hold Points with a % completion

Part 1: Regional Sewerage Demand Rate Assessment

- Part 1 Assumptions & Methodology Report (word doc.)
- Part 1 Draft Report (word doc.)
- Part 1 Final Report Word (word doc. and PDF)

Part 2: Manhole Survey

- Part 2 Assumptions & Methodology Report (word doc.)
- Part 2 Draft Report (word doc.)
- Part 2 Final Report (word doc. and PDF)
- Cleaned-up version of all survey data capture files
- Excel spreadsheet inclusive of all captured asset information
- Relevant ESRI ArcGIS Layers

Part 3: Demand Model, Hydraulic Model and Detailed Engineering Report

- Part 3 Assumptions & Methodology Report (word doc.)
- Part 3 Validation & Calibration Report (word doc.)
• Part 3 Draft Report (word doc.)
• Part 3 Final Report (word doc. and PDF)
• Revised Demand Model (Excel spreadsheet and ESRI ArcGIS Layer if required)
• Boyne Tannum Hydraulic Model (InfoSWMM SA)
• Calliope Hydraulic Model (InfoSWMM SA)
• Relevant ESRI ArcGIS Layers

**Part 4: Sewerage Asset Growth Strategies (Provisional)**
• Part 4 Draft Report (word doc.)
• Part 4 Final Report (word doc. and PDF)

**Part 5: Business Cases (Provisional)**
• Business Cases for each line item within final schedule of works for the current, 2021, 2026 and 2031 planning horizons of the strategy.

### 2.7.2.1 Milestone and Meeting Outlines

- Consultant is to determine delivery of Part 1, 2 and 3 (i.e. in parallel, overlap and/ or in series) as there may be opportunity to combine some milestones and workshops depending on consultants proposed program.
- Some submissions require a two (2) week Hold Point (HP). The purpose of the hold point is for GRC to review the work done to date and to comment on any necessary changes to align the work with GRC’s objectives. Items identified as a hold point require written approval from GRC’s contract owner before continuing work. Each hold point will be two (2) weeks (14 days) from submission date. Some submissions will require an in-person meeting (which must be organised by the consultant) in which case the meeting will need to occur within the first week after the submission.

*Milestones and Meetings are outlined in Table 2 below:

<table>
<thead>
<tr>
<th>Milestone:</th>
<th>Details:</th>
</tr>
</thead>
</table>
| Milestone 1 – Prestart Meeting | Communication method: In Person Meeting  
Preferred location: GRC Calliope Office  
Attendees: GRC Officer(s) & Consultants Nominated Person(s)  
- Run through project brief  
- Discuss resources and data hand over  
- Clarify communication lines  
- Discuss future key dates |
| Hold Point 1 – Part 1 Assumptions & Methodology Report Submission | Communication method: Email & In Person Meeting  
Preferred location: GRC Calliope Office  
Attendees: GRC Officer(s) & Consultants Nominated Person(s)  
- Present Part 1 Assumptions & Methodology Report  
- Workshop to discuss assumptions and methodologies |
| Hold Point 2 – Part 1 Draft Report Submission | Communication method: Email & In Person Meeting  
Preferred location: GRC Calliope Office  
Attendees: GRC Officer(s) & Consultants Nominated Person(s)  
- Present Part 1 Draft Report and associated deliverables  
- Workshop to discuss report and deliverables |
### Milestone 2 – Part 1 Final Report
Communication method: Email & Teleconference
- Handover of Part 1 Final Report and associated deliverables

### Part 2: Manhole Survey

<table>
<thead>
<tr>
<th>Hold Point 3 – Part 2 Assumptions &amp; Methodology Report Submission</th>
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</thead>
<tbody>
<tr>
<td>Communication method: Email &amp; In Person Meeting</td>
</tr>
<tr>
<td>Preferred location: GRC Calliope Office</td>
</tr>
<tr>
<td>Attendees: GRC Officer(s) &amp; Consultants Nominated Person(s)</td>
</tr>
<tr>
<td>- Present Part 2 Assumptions &amp; Methodology Report</td>
</tr>
<tr>
<td>- Workshop to discuss assumptions and methodologies</td>
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<table>
<thead>
<tr>
<th>Hold Point 4 – Part 2 Draft Report Submission</th>
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<tbody>
<tr>
<td>Communication method: Email &amp; In Person Meeting</td>
</tr>
<tr>
<td>Preferred location: GRC Calliope Office</td>
</tr>
<tr>
<td>Attendees: GRC Officer(s) &amp; Consultants Nominated Person(s)</td>
</tr>
<tr>
<td>- Present Part 2 Draft Report and associated deliverables</td>
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<tr>
<td>- Workshop to discuss report and deliverables</td>
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</table>

<table>
<thead>
<tr>
<th>Milestone 3 – Part 2 Final Report Submission</th>
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</thead>
<tbody>
<tr>
<td>Communication method: Email &amp; Teleconference</td>
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<tr>
<td>- Handover of Part 2 Final Report and associated deliverables</td>
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</table>

### Part 3: Demand Model, Hydraulic Model and Detailed Engineering Report

<table>
<thead>
<tr>
<th>Milestone 4 – Part 3 Prestart Meeting</th>
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<tbody>
<tr>
<td>Communication method: Email &amp; Teleconference</td>
</tr>
<tr>
<td>- Update on Part 3 &amp; 4</td>
</tr>
<tr>
<td>- Discuss resources and data hand over</td>
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<tr>
<td>- Discuss future key dates</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Hold Point 5 – Part 3 Assumptions &amp; Methodology Report Submission</th>
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<tbody>
<tr>
<td>Communication method: Email &amp; In Person Meeting</td>
</tr>
<tr>
<td>Preferred location: GRC Calliope Office</td>
</tr>
<tr>
<td>Attendees: GRC Officer(s) &amp; Consultants Nominated person(s)</td>
</tr>
<tr>
<td>- Present Part 3 Assumptions &amp; Methodology Report</td>
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<tr>
<td>- Workshop to discuss assumptions and methodologies</td>
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<table>
<thead>
<tr>
<th>Hold Point 6 – Part 3 Validation and Calibration Report Submission</th>
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<tbody>
<tr>
<td>Communication method: Email</td>
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<tr>
<td>- Provide GRC Part 3 Validation and Calibration Report</td>
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**Hydraulic Model Development Phase (Iterative process including 2 workshops)**

<table>
<thead>
<tr>
<th>Hold Point 7 – Part 3 Draft Report</th>
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<tbody>
<tr>
<td>Communication method: Email &amp; In Person Meeting</td>
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<tr>
<td>Preferred location: GRC Calliope Office</td>
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<tr>
<td>Attendees: GRC Officer(s) &amp; Consultants Nominated Person(s)</td>
</tr>
<tr>
<td>- Present Part 3 Draft Report and associated deliverables</td>
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<tr>
<td>- Workshop to discuss report and deliverables</td>
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<thead>
<tr>
<th>Milestone 5 – Part 3 Final Report</th>
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<tbody>
<tr>
<td>Communication method: Email &amp; Teleconference</td>
</tr>
<tr>
<td>- Handover of Part 3 Final Report and associated deliverables</td>
</tr>
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</table>

### Community Engagement Activities (by GRC)

### Part 4: Sewerage Asset Growth Strategy (Provisional)
### Milestone 6 – Part 4 Prestart Meeting
Communication method: Email & Teleconference
- Update on Community Engagement and project status.
- Discuss resources and data hand over
- Discuss future key dates

### Hold Point 8 – Part 4 Draft Report 1 & 2
Communication method: Email & In Person Meeting
Preferred location: GRC Calliope Office
Attendees: GRC Officer(s) & Consultants Nominated Person(s)
- Present Part 4 Draft Report and associated deliverables
- Workshop to discuss report and deliverables

### Milestone 7 – Part 4 Final Report 1 & 2
Communication method: Email & Teleconference
- Handover of Part 4 Final Report and associated deliverables

#### Part 5: Business Cases (Provisional)

<table>
<thead>
<tr>
<th>Hold Point 9 – Part 5 Draft Business Cases</th>
<th>Communication method: Email &amp; Teleconference</th>
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<tbody>
<tr>
<td></td>
<td>Present Part 5 Draft Business cases</td>
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<table>
<thead>
<tr>
<th>Milestone 8 – Part 5 Final Business Cases</th>
<th>Communication method: Email &amp; Teleconference</th>
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<tbody>
<tr>
<td></td>
<td>Handover of Part 5 Business cases</td>
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</table>

Table 2: Milestone & Meeting Outlines

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### 2.8 Site Possession Deliverables

Site possession is contingent on the following items being provided by the Contractor and approved by the Principal
- Evidence of the required insurances being held:
  - Public Liability
  - Workers Compensation
  - Workcover
- Project Safety Management Plan and supporting documentation as detailed in this Scope of Works
- Updated Project Program/Works Schedule

### 2.9 Work Health & Safety Requirements

Gladstone Regional Council is committed to providing a safe working environment for both employees and contractors/consultants. When the Consultant visits the GRC offices for the first time, they will be provided with a brief site induction that will cover the relevant safety and emergency information specific to the site.

Prior to attending site, the Consultant shall be required to provide a Safety Management Plan to GRC. The Safety Management Plan shall, at a minimum, include the following components:

- Work, Health and Safety Policy;
- Safety Management Plan (inclusive of all Safe Work Method Statements and Job Safety Analysis)
- PPE Procedure/Process
- Maintenance and registration records for plant and equipment
- Traffic Management Plan (as required)
- Current immunisations for all consultant employees who will be accessing sites with effluent water.

### 2.10 Reporting Requirements

Reports submitted by the Consultant must be titled as defined in each section ‘Title of Report’.
2.10.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

Part 1 Report Requirements: Gladstone Region Water Demand Model, Lake Awoonga Hydraulic and Quality Model and Detailed Engineering Report

2.10.1.1 Engineering Assumptions and Methodology Report

Title of Report: Lake Awoonga Water Assumptions and Methodology Report

The Engineering Assumptions and Methodologies Report is to cover (but is not limited to) the following:

- All assumptions made during the water demand model review and hydraulic/quality model development and Detailed Engineering Report phase of the project;
- 2017 Water Quality Model desktop review assumptions and conclusions;
- All intended methodologies that will be utilised in the completion of deliverables;
- Expected timings/dates of milestones, hold points and meetings specified in Section 2.7.1.1 and
- State any limitations/information gaps that have caused such assumptions.

All assumptions made and intended methodologies need to be approved by GRC. Therefore, the purpose of the Engineering Assumptions and Methodologies Report is for the Consultant to collate all assumptions made and intended methodologies to be used during the modelling and Detailed Engineering Report phase (Part 1) of the project.

This report will be submitted to GRC as a hold point (specified in Section 2.7.1.1) for review. However, it is expected that this report will be updated by the Consultant over the course of the project. It is intended that this will be a helpful resource during the approval process and in the development of the Draft Detailed Engineering Report, as each approved assumption and methodology can easily be incorporated into the relevant section of the Draft Detailed Engineering Report deliverable.

2.10.1.2 Validation and Calibration Report

Title of Report: Lake Awoonga Water Validation and Calibration Report

The Validation and Calibration Report is to cover (but is not limited to) the following:

- Methodology and input data utilised during validation and calibration;
- Methodology used to determine unaccounted for water for calibration scenario;
- Assumptions made during validation and calibration process;
- To show the level of accuracy and calibration achieved in the model, include:
  - Pressure/flow graphs that compare field data test results to modelled results (pre-calibration and post calibration);
  - Table showing each pipe material and its industry recommended Hazen-Williams coefficient and the adjusted Hazen-Williams coefficient. GRC will review adjusted coefficients to ensure they are reasonable for each material.
  - Historical SCADA vs model results
  - Pressure logger data range vs modelled pressure range
  - Customer water meter records as the modelled demand for the calibration scenario
- Detail any anomalies found during calibration

2.10.1.3 Daft Detailed Engineering Report

Title of Report: Lake Awoonga Water Detailed Engineering Report (Draft)

All assumptions made and limitations/information gaps need to be stated in the relevant section of this report.

The Draft Detailed Engineering Report is to cover (but is not limited to) the following:

- Executive Summary
• Introduction
• Background
  o Summarise previous studies undertaken
  o What has brought about the need for this study?
• Design criteria and Desired Standards of Service
• Population Projections and Water Demand Model
  o Methodology and input data utilised during review of the water demand model for the entire Gladstone Region (e.g. Population Model and demand generation rates utilised)
  o Tabulate the EP for each planning horizon within each reservoir supply area and for each land use
  o Tabulate a summary of demands (EP and ML/d) for Average Day (AD), Average Day Winter (ADW), Mean Day Maximum Month (MDMM) and Maximum Day (MD) for each reservoir supply area and GAWB connection points for each Planning Horizon.
• Existing network overview
  o Overview of the water model boundaries and reservoir supply areas
  o Detail all major assets (e.g. pumping stations, reservoirs, valves) in the study area
  o Include a network schematic (clearly distinguishing between GAWB and GRC assets)
  o Chlorination locations
  o Include detail on GAWB connection points and refer to figures showing locations
• Hydraulic and quality model validation and calibration
  o Extracted from the Validation and Calibration Report (see Section 2.12.1.2)
• Asset assessment using InfoWater Model (both hydraulic and quality)
  o Methodology and input data used during model development (e.g. the different water demand rates).
  o Model results for each water demand rate
    ▪ Highlight network issues for each model scenario listed in Attachment 1 and provide a summary of the major failures at the critical model nodes in tables.
    ▪ Maximum Service Level (MSL) in each reservoir supply area to maintain DSS.
  o Augmentation strategies
    ▪ Explanation of, justification for and model results after the augmentation strategies for each model scenario are implemented in the network
    ▪ Consideration needs to be given to whether pressure reduced sub-zones need to be created.
• Review of reservoir and pump capacity
• Cost estimates
  o Include cost estimates of all proposed augmentation strategies identified in the report
  o State all unit rates used for costing
  o Contingency factors will be discussed during the pre-start meeting
• Conclusions
• Recommendations
• References
• Appendices including:
  o Separate schedule of works for each demand rate utilised
    ▪ An EP trigger for and the estimated timing of each augmentation strategy needs to be stated in the schedule of works
  o Figures (included in appendices) produced using ESRI spatial software to depict:
  ▪ Existing assets (including reservoir supply areas);
  ▪ Location of existing and future water demands (include GAWB connection points);
  ▪ Model results for each scenario showing network issues (e.g. pressure, chlorine residual), as agreed with GRC; and
  ▪ All augmentation strategies proposed
  o Minutes of all relevant milestone meetings

2.10.1.4 Final Detailed Engineering Report

Title of Report: Lake Awoonga Water Detailed Engineering Report
To incorporate all comments made on the Draft Detailed Engineering Report by GRC, where necessary.

Part 2 Report Requirements: Community Engagement (Provisional)

- All reports for Part 2 (Community Engagement Plan and Summary Report) will be developed by GRC. No report submissions are required by the Consultant for Part 2.

Part 3 Report Requirements: Lake Awoonga Water Asset Growth Strategy (Provisional)

2.10.1.5 Draft Lake Awoonga Water Asset Growth Strategy

*Title of Report: Lake Awoonga Water Asset Growth Strategy (Draft)*

The Lake Awoonga Water Asset Growth Strategy is the report from this project that will be made publicly available. The report is to be clear, concise and visually appealing. All assumptions made and limitations/ information gaps need to be stated in the relevant section of the report.

The Draft Lake Awoonga Water Asset Growth Strategy is to cover (but is not limited to) the following:
- Executive summary
- Introduction and Background
- Methodology of the entire project (e.g. modelling phase, community engagement phase) and conclusions and recommendations from each phase
- Relevant sections of the Final Detailed Engineering Report as specified by GRC
- Relevant sections of Community Engagement Summary Report as specified by GRC
- Final schedule of works based on conclusions and recommendations from community engagement phase
- Conclusions
- Recommendations
- Appendices

Note: This report needs to include a disclaimer that states that the information contained in this report is valid for five (5) years only.

2.10.1.6 Final Lake Awoonga Water Asset Growth Strategy

*Title of Report: Lake Awoonga Water Asset Growth Strategy*

- To incorporate all comments made on the Draft Lake Awoonga Water Asset Growth Strategy by GRC, where necessary.

2.10.1.7 Communication Methods

A Council Officer within GRC’s Asset Planning Team will act as the Contract Owner and be GRC’s main contact for the Consultant throughout the duration of the project.

It is GRC’s preference that one (1) person from the Consultant’s technical team working on the project be nominated as the main contact for the Council Officer to liaise with. Communications (except for workshops to be held at a GRC office as detailed in Section 2.7.1.1) will be via teleconference and email.

Frequency of communication is expected as follows:
- Telephone update call on a weekly basis to the Council Officer to provide an update on the general progress of the project;
  - Within 24 hours of the update call, an email is to be sent to the Council Officer that includes a Project Status Memo which includes:
Project health check (include the status of any RFI, whether on track to meet milestones, project scope changes and finances);
Progress to date and current activities;
Awaiting action or information requests (e.g. detail what the Consultant is waiting on from GRC); and
Project milestones with due date and forecasted date

- Email/ teleconference as deemed necessary by either party to communicate any arising issues that may affect the duration or quality of the project
- Email/ teleconference to organise resources/ locations/ timing of workshops, meetings and presentations
- Correspondence, as required, requesting GRC’s approval of any assumptions and methodologies

Note: Approval of the assumptions and methodologies must be received from GRC in writing

Workshops to be conducted throughout the duration of the project shall be organised by the Consultant, including:

- Meeting material (e.g. draft reports) and an agenda shall be sent to GRC at least 5 business days before the meeting.
- Chairing each workshop.
- Preparation of minutes of all workshops to be provided to GRC within 5 business days of the date of the workshop.

2.10.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

All assumptions and methodologies need to be approved by GRC. Therefore, the purpose of the Assumptions & Methodology Report is for the consultant to collate this information for review. It is intended that this will be a helpful resource during the approval process and can be easily incorporated into the relevant sections of the Draft Report.

Report submissions are to cover but not limited to the following:

2.10.2.1 Part 1: Regional Sewerage Demand Rate Assessment

*Title of Report: Part 1 Assumptions and Methodology Report:*

- All assumptions made during this project part;
- All intended methodologies that will be used in the completion of deliverables; and
- State any limitations/ information gaps that have caused such assumptions.

*Title of Report: Part 1 Draft Report:*

- Executive Summary
- Introduction
- Background
- Assumptions/ Limitations
- Input Data
- Methodology
- Conclusions
- Recommendations
- Appendices (including minutes of all relevant milestone meetings)

*Title of Report: Part 1 Final Report*

- Revised Draft Report incorporating GRCs comments where necessary

2.10.2.2 Part 2: Manhole Survey

*Title of Report: Part 2 Assumptions & Methodology Report:*
• All assumptions made during this project part
• All intended methodologies that will be used to undertake the manhole survey
• WH&S Management Plan
• QA Management Plan
• Plant/Equipment/Labour
• Program Development
• Key Dates

**Title of Report: Part 2 Draft Report**
• Executive Summary
• Introduction
• Background
• Assumptions/Limitations
• Methodology (including QA and WH&S provisions)
• Plant/Equipment/Labour
• Program Development
• Key Dates
• Conclusions
• Recommendations
• Appendices (including minutes of all relevant milestone meetings)

**Title of Report: Part 2 Final Report**
• Revised Draft Report incorporating GRCs comments where necessary

2.10.2.3 Part 3: Demand Model, Hydraulic Model and Detailed Engineering Report

**Title of Report: Part 3 Assumptions & Methodology Report**
• All assumptions made during this project part;
• All intended methodologies that will be used in the completion of deliverables; and
• State any limitations/information gaps that have caused such assumptions.
• Demand Model Review

**Title of Report: Part 3 Validation & Calibration Report**
• Model Validation Details (for each model)
  o Input data
  o Assumptions
  o Comparisons to SCADA SPS controls
• Model Calibration Details (for each model)
  o SPS Flow comparisons to SCADA
  o Pipe material and industry recommended Hazen Williams coefficient.
  o Anomalies

**Title of Report: Part 3 Draft Report**
• Introduction
• Background
• Assumptions/Limitations
• Desired Standards of Service
• Boyne Tannum
  o Existing System Description
  o Demand Model Review
  o Hydraulic Model Development
  o Network Performance Assessment
  o Asset Augmentation Assessment
• Calliope
  o Existing System Description
  o Demand Model Review
- Hydraulic Model Development
- Network Performance Assessment
- Asset Augmentation Assessment

- Conclusions
- Recommendations
- Appendices (including minutes of all relevant milestone meetings)

**Title of Report: Part 3 Final Report**
- Revised Draft Report incorporating GRCs comments where necessary

**2.10.2.4 Part 4: Sewerage Asset Growth Strategy (Provisional)**

**Title of Report: Part 4 Draft Report**
- Executive Summary
- Introduction
- Background
- Relevant sections of Part 3
- Relevant sections of Community Engagement Summary Report
- Final Schedule of Works
- Conclusions
- Recommendations
- Appendices (including minutes of all relevant milestone meetings)

Note: This report needs to include a disclaimer that states that the information contained in this report is valid for five (5) years only.

**Title of Report: Part 4 Final Report**
- Revised Draft Report incorporating GRCs comments where necessary

**2.10.2.5 Communication Methods**

A GRC officer within GRC’s Asset Planning team will act as the Contract Owner and be GRC’s main contact throughout the duration of the project.

It is GRC’s preference that one (1) person from the consultant’s technical team working on the project be nominated as the main contact for the GRC officer to liaise with. Communications will be via teleconference and emails.

Frequency of communication is expected as follows:
- Telephone update call on a weekly basis to the GRC officer to provide an update on the general progress of the project;
  - Within 24 hours of the update call, an email is to be sent to the GRC officer that includes a Project Status Memo which includes:
    - Project health check (include the status of any RFI, whether on track to meet milestones, project scope changes and finances);
    - Progress to date and current activities (and where necessary evidence of progress);
    - Awaiting action of information requests (e.g. detail what the consultant is waiting on from GRC); and
    - Project milestones with due date and forecasted date
- Email/ teleconference as deemed necessary by either party to communicate any arising issues that may affect the duration or quality of the project.
- Email/ teleconference to organise resources/ locations/ timing of workshops, meetings and presentations.
- Correspondence, as required, requesting GRC’s approval of any assumptions and methodologies (Note: Approval of assumptions and methodologies must be received from GRC in writing)
• During the period when community engagement activities are taking place, the GRC officer will provide the consultant expected completion date. GRC will provide updates if changes occur, otherwise will contact 2 weeks prior to completion date of the community engagement.

2.11 Post Completion Support
Nominated personnel that undertook the projects, or suitably experienced alternative staff, must be available after the completion of the project to clarify contents of the deliverables. The post completion support will be by teleconference at a mutually agreeable time and for 12 months after Council acceptance of all deliverables.

2.12 Key Performance Indicators
The performance of the Consultant throughout execution of the works, and upon completion, will be measured against the below key performance indicators.

2.12.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

<table>
<thead>
<tr>
<th>KPI</th>
<th>Description</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>Project checklist - Checklist that shows each aspect of project has been reviewed by an RPEQ</td>
<td>All Hold Points reviewed by RPEQ</td>
</tr>
<tr>
<td>Quality</td>
<td>Model pressure (GRC assets) - Pressure logger data; pressure and flow hydrant tests</td>
<td>Calibrated model within upper and lower boundary of pressure logger data with reasonable Hazen-Williams coefficients (subject to GRC approval); Model hydrant curve replicating ±20% of field pressures for each pressure and flow hydrant test with reasonable Hazen-Williams coefficients</td>
</tr>
<tr>
<td>Quality</td>
<td>Pump flow &amp; hours run (GRC assets) - Historical SCADA vs model pumped flow</td>
<td>±10% pump flow rate (L/s); ±10% time run per day (hours/day)</td>
</tr>
<tr>
<td>Quality</td>
<td>Reservoir levels (GRC assets) - Historical SCADA vs model reservoir level</td>
<td>±1 m; emptying and filling replicating SCADA in calibration scenario</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Lead time for initial response to requests</td>
<td>1 Business day</td>
</tr>
<tr>
<td>Deliverables</td>
<td>All deliverables have been provided as specified in the Scope of Works</td>
<td>100% compliance</td>
</tr>
<tr>
<td>Methodology</td>
<td>Approved methodology has been followed</td>
<td>100% compliance</td>
</tr>
<tr>
<td>Cost</td>
<td>Cost in accordance with contract (including agreed variations)</td>
<td>100% compliance</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Assumptions</td>
<td>Approved assumptions have been utilised and no additional unapproved assumptions have been implemented</td>
<td>100% compliance</td>
</tr>
<tr>
<td>Milestone Delivery</td>
<td>Delivery of milestones in accordance with agreed dates</td>
<td>100% compliance</td>
</tr>
<tr>
<td>Quality</td>
<td>Reports meet the recommendations and conclusions in each report meet the requirements of the Scope of Works</td>
<td>100% compliance</td>
</tr>
</tbody>
</table>

2.12.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

<table>
<thead>
<tr>
<th>KPI</th>
<th>Description</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness</td>
<td>Lead time to acknowledge requests</td>
<td>1 business day</td>
</tr>
<tr>
<td>Assumptions</td>
<td>Approved assumptions have been utilised and no additional unapproved assumptions have been implemented</td>
<td>100% compliance</td>
</tr>
<tr>
<td>Methodology</td>
<td>Methodology has been approved</td>
<td>100% compliance</td>
</tr>
<tr>
<td>Deliverables</td>
<td>All deliverables have been provided as specified in the Scope of Works</td>
<td>100% compliance</td>
</tr>
<tr>
<td>Quality</td>
<td>The conclusions and recommendations in the report meet the requirements of the Scope of Works</td>
<td>100% compliance</td>
</tr>
<tr>
<td>Model Validation</td>
<td>Model has been validated to most up to date information and system properties</td>
<td>100% representation of SPS controls</td>
</tr>
<tr>
<td>Model Calibration</td>
<td>Model has been calibrated to accurately represent system performance</td>
<td>All SPS flowrates and are within 10% of SCADA flowrates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All SPS daily pump run hours are within 10% of SCADA daily pump run hours</td>
</tr>
<tr>
<td>Deliverables</td>
<td>Report submissions submitted to GRC in proposed time frame</td>
<td>100% compliance</td>
</tr>
<tr>
<td>Quality</td>
<td>Reports are supplied in accordance with Scope of Works</td>
<td>100% compliance</td>
</tr>
<tr>
<td>Cost</td>
<td>Cost in accordance with contract (including agreed variations)</td>
<td>100% compliance</td>
</tr>
</tbody>
</table>

2.13 Attachments
The following attachments form part of the Scope of Works:
2.13.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy
- Water Attachment 1.1 Schedule of Rates
- Water Attachment 1.2 Water Model Study Area
- Water Attachment 1.3 Model Scenarios

2.13.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies
- Sewerage Attachment 2.1 Schedule of Rates
- Sewerage Attachment 2.2 DSSA Map
- Sewerage Attachment 2.3 Demand Rate Tech Note
- Sewerage Attachment 2.4 Manhole Survey Inspection Items

2.14 GRC Policies
The Consultant must comply with the following GRC Policies in the completion of the works:
- Anti-Discrimination Policy
- Anti-Harassment Policy
- Code of Conduct
- Cultural Diversity Policy
- Drug and Alcohol Policy
- Corporate Environmental Policy
- Fitness for Work Policy
- Procurement Policy
- Work Health and Safety Policy
- Asset Management Policy
- Information Policy
- Community Engagement Policy
- Water – Metered Standpipe (Mobile & Fixed) and Hydrant Usage
- Water – Direct Connection of Booster Pumps to Council’s Reticulated Water Network

Complete copies of these policies are available to the public on the GRC website at the following address: https://www.gladstone.qld.gov.au/downloads/download/20/policies
SECTON 3. Conditions of Contract

3.1 Contract Form

The engagement of Contractors for contract will be as per Australian Standard Conditions of Contract for General Conditions of Contract for Consultants AS 4122-2010, including attachments listed in Section 3.2.

A copy of the general conditions is not attached but is deemed to constitute part of the Tender Documents. Copies are available from SAI Global https://infostore.saiglobal.com/.

3.2 Attachments

The following attachments form part of the conditions of contract:

- Formal Instrument of Agreement
- Part A Australian Standard Conditions of Contract for General Conditions of Contract for Consultants AS 4122-2010
- Part B Australian Standard Conditions of Contract for General Conditions of Contract for Consultants AS 4122-2010
SECTION 4. Tenderer’s Offer

4.1 Tenderers Checklist and Authorisation

4.1.1 Important Submission Information

1) Checkboxes below must be marked to acknowledge/confirm agreement/inclusion.
2) Please refer to ‘Attachment 4.1 – ITT Offer File Structure Example.jpg’ for example structure.
3) Preference is for ONE zip file to be submitted, structured as per the example provided.
4) Files must be submitted in pdf format unless specified otherwise.
5) DO NOT submit folders or sub-folders with multiple documents (refer to Attachment 4.1).
6) DO NOT submit entire WHS Policies/documents – ONLY submit files listed in Section 4.11.2.

A submission will be non-conforming if it fails to meet the requirements listed in 4.1.1

4.1.2 Conformance of Offer

Mark the applicable checkbox:
☐ This is a conforming offer as defined in Section 1.2.11 of the Invitation to Tender.
☐ This is a non-conforming offer, with proposed departures detailed in Section 4.16.

4.1.3 Checklist

Conforming Tender Submissions must include the following for both Separable Portions (please check each box):

☐ Invitation to Tender Section 4 (this document) completed in full and signed below by an authorised representative of the Tenderer. Where information such as ‘refer to attachment X’ in entered, the submission will be deemed non-conforming.

☐ Attachment 1: Procurement Plan (‘Attachment 4.2 – Procurement Plan.xlsx’) completed in full and attached in excel file format

☐ Attachment 2: ASIC Company Extract

☐ Attachment 3: Financial Statements (as per Section 4.6)

☐ Attachment 4 Third Party Accreditation Certificates (as per Section 4.7)

☐ Attachment 5: Insurance Certificates of Currency (CoC) (as per Section 4.8)

☐ Attachment 7: Proposed Project Methodology (as per Section 4.9)

☐ Attachment 8: Proposed Program (as per Section 4.10)

☐ Attachment 9: Workplace Health & Safety (WHS) Documentation (as per Section 4.11.2)

☐ Attachment 10: Business Licences (as per Sections 4.12.2)

☐ Attachment 11: Proposed Schedule of Rates (‘Water Attachment 1.1 Schedule of Rates.xlsx’ and Sewerage Attachment 2.1 Schedule of Rates.xlsx’)

Tender Submissions that do not include all of the above documents, completed in full, will be deemed non-conforming.

4.1.4 Tenderer’s Acknowledgements

Confirm by marking the checkbox:
☐ The Tenderer acknowledges and agrees to Section 4.2 on the following page.
☐ The Tenderer declares their financial viability as per Section 4.3 on the following page.
☐ The Tenderer has completed a detailed inspection of the site during the Tender period.
☐ The individual submitting this Tender warrants that he or she is duly authorised to bind the party for whom he or she signs this Tender.

Authorised by (Name & Position)
4.2 Tenderer’s Acknowledgement

The Tenderer acknowledges and agrees that this Tender:

1) is for the price as set out in the Schedules;
2) is accurate, valid and remains open for acceptance by Gladstone Regional Council until the end of the Validity Period; and
3) has been compiled in accordance with the Conditions of Tender contained herein.

The Tenderer acknowledges and agrees that:

1) It has fully examined the Invitation to Tender and any other documents referenced or referred therein, and any other information made available by Gladstone Regional Council to Tenderers for the purposes of submitting a Tender;
2) It has made its own interpretations, deductions and conclusions from the information made available to it and accepts full responsibility for such;
3) It has considered all information relevant to the risks, contingencies and other circumstances having an influence on the responses in its Tender and which is obtainable by the making of reasonable inquiries;
4) It sought and examined all necessary information which is obtainable by making reasonable enquiries relevant to the risks and other circumstances having effect on its Tender;
5) It has read, taken appropriate advice on and fully understood this Invitation to Tender and its requirements, including the terms of contract detailed in Section 3;
6) In lodging its Tender, it did not rely on any express or implied statement, warranty or representation, whether oral, written, or otherwise made by or on behalf of Gladstone Regional Council, or its officers, employees, agents or advisers other than any statement, warranty or representation contained in this Invitation to Tender;
7) It satisfied itself as to the correctness and sufficiency of its Tender;
8) It is responsible for all costs and expenses related to:
   a) the preparation and lodgement of its Tender;
   b) any subsequent negotiation/interview;
   c) any other action or response in relation to this Invitation to Tender.
9) It is not aware of any circumstances or relationships that constitute a conflict or potential conflict of interest in respect of this Invitation to Tender or the Tenderer’s obligations if is selected. The Tenderer must state any circumstances or relationships which constitute a conflict or potential conflict of interest in respect of this Invitation to Tender;
10) It grants authority to Gladstone Regional Council to conduct such investigations of the financial standing of the Tenderer as Gladstone Regional Council deems necessary and reasonable for the purposes of conducting its evaluation of this Tender; and
11) In submitting its offer, the Tenderer agrees to be bound by the Conditions of the Invitation to Tender.

4.3 Tenderer’s Declaration of Financial Viability

The Tenderer affirms that:

1) It is financially viable, solvent and can pay its debts as and when they become due;
2) They have sufficient financial resources to deliver the goods or services described in the Invitation to Tender (including fulfilling any guarantees or warranty claims);
3) They are not subject to any current or impending legal action (either formal proceedings or notification of legal action) which could impact on the financial viability of the Tenderer or the delivery of the goods or services; and

4) They have in place (or will have in place) insurance cover for the purposes of, and at the levels required, for the procurement.
## 4.4 Business Information
### 4.4.1 Contracting Entity Information

<table>
<thead>
<tr>
<th>Business Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>As it would appear on the contract</td>
<td></td>
</tr>
<tr>
<td>ABN</td>
<td></td>
</tr>
<tr>
<td>As it would appear on the contract</td>
<td></td>
</tr>
<tr>
<td>ACN</td>
<td></td>
</tr>
<tr>
<td>As it would appear on the contract</td>
<td></td>
</tr>
<tr>
<td>Director/s of Company</td>
<td></td>
</tr>
<tr>
<td>As listed on ASIC Company Extract</td>
<td></td>
</tr>
<tr>
<td>Person to execute contract</td>
<td></td>
</tr>
<tr>
<td>If not a Director, provide evidence of authorised contracting delegation</td>
<td></td>
</tr>
<tr>
<td>Nominated Contact Person and Position</td>
<td></td>
</tr>
<tr>
<td>For contractual correspondence</td>
<td></td>
</tr>
<tr>
<td>Postal Address</td>
<td></td>
</tr>
<tr>
<td>For contractual correspondence</td>
<td></td>
</tr>
<tr>
<td>Phone Number/s</td>
<td></td>
</tr>
<tr>
<td>For contractual correspondence</td>
<td></td>
</tr>
<tr>
<td>email Address</td>
<td></td>
</tr>
<tr>
<td>For contractual correspondence</td>
<td></td>
</tr>
<tr>
<td>Subsidiary/Holding Company/Parent Company/related entities</td>
<td></td>
</tr>
<tr>
<td>Include ABN and/or ACN for each as well as any supporting information to explain the company/business structure</td>
<td></td>
</tr>
</tbody>
</table>

### 4.4.2 Business Tendering Information

<table>
<thead>
<tr>
<th>Person Responsible for Offer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td></td>
</tr>
<tr>
<td>Phone Number/s</td>
<td></td>
</tr>
<tr>
<td>email Address</td>
<td></td>
</tr>
</tbody>
</table>

## 4.5 Local Content

<table>
<thead>
<tr>
<th>Head Office address:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>This is the address listed on your ASIC Company Extract.</em></td>
<td></td>
</tr>
<tr>
<td>Branch office/workshop address:</td>
<td></td>
</tr>
<tr>
<td><em>If this is a residential address, please provide an explanation</em></td>
<td></td>
</tr>
<tr>
<td>How long has the business been established in the GRC area?</td>
<td></td>
</tr>
<tr>
<td>Employees residing in the Gladstone Regional Council area</td>
<td></td>
</tr>
<tr>
<td>Employees NOT residing in the Gladstone Regional Council area</td>
<td></td>
</tr>
</tbody>
</table>
4.6 Tenderer Financial Information

The Tenderer must supply Financial Statements (audited if possible) for the previous financial year.

Financial Statements include:
- Profit/Loss Statement; and
- Balance Sheet

Financial Statements may be submitted in the form of an Annual Report if available.

For newly established companies that are unable to provide Financial Statements, the below documentation is required:
- Business Plan/s;
- Bank Statements for current liquidity;
- Any parent company or investor guarantee/s; and
- Financial statements of parent company or investor/s.

Submissions that do not include the required Tenderer Financial Information will be deemed non-conforming.

4.7 Third Party Accreditations

In accordance with GRC’s commitment to Quality Assurance, the Consultant is required to have in place an accredited Quality System conforming to ISO/AS/NZS 9001 and shall maintain this accreditation throughout the duration of the consultancy.

<table>
<thead>
<tr>
<th>Does the Organisation have AS/NZS 4801 or ISO45001 Safety Standard Certification?</th>
<th>□ No</th>
<th>□ Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the Company have ISO14001 Environmental Management Certification?</td>
<td>□ No</td>
<td>□ Yes</td>
</tr>
</tbody>
</table>

If Yes, provide a copy of the certification/s in Attachment 4

| Does the Company have ISO9001 Quality Management Certification? | □ No | □ Yes |

Submissions that do not include the required Quality Assurance will be deemed non-conforming.
# 4.8 Insurances

<table>
<thead>
<tr>
<th>Professional Indemnity Insurance (Minimum $5 Million per claim)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurer</td>
</tr>
<tr>
<td>Sum Insured</td>
</tr>
<tr>
<td>Policy Expiry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Public Liability Insurance (Minimum $20 Million per claim)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurer</td>
</tr>
<tr>
<td>Sum Insured</td>
</tr>
<tr>
<td>Policy Expiry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Workers Compensation Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy Expiry</td>
</tr>
</tbody>
</table>

Submissions that do not include the required Insurance Information and corresponding Certificates of Currency will be deemed non-conforming.
4.9 Proposed Project Methodology

The tenderer shall detail *(below the line as part of this document, or as an attachment named ‘Methodology’)* the ‘Proposed Project Methodology’. This must address, at a minimum:

- What is the proposed staging of the project?
- Provide details around the number of personnel that will be onsite for each stage.
- General and critical activities including any long lead-times for supplies/equipment.
- Detail engagement/staging of proposed subcontracted works.
- What approach will be taken for traffic management?
- What contingency measures or back up resourcing are available in respect to personnel, plant and equipment?

Submissions that do not include two (2) Proposed Project Methodology will be deemed non-conforming.
4.10 Program (Timeline)

A Proposed Program (e.g. Gantt Timeline) must be included for each Separable Portion as attachments to the Tenderer’s Offer.

Submissions that do not include two (2) separate Programs will be deemed non-conforming.

The Proposed Programs must show the dates by which, or the times within which, the various stages of the Works under the Contract are to be carried out or completed. The Proposed Project Program must include, but is not limited to:

4.10.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

- Commencement and completion date
- Preparation/mobilisation activities
- Authority approval processes
- Project duration/term
- Milestones and hold points

4.10.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

- Commencement and completion date
- Preparation/mobilisation activities
- Authority approval processes
- Personnel onsite
- Critical Path
- Project duration/term
- Milestones and meetings
### 4.11 Work Health, Safety and Environment

#### 4.11.1 Questionnaire

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Has Workplace, Health and Safety Queensland ever issued an Improvement or Prohibition notice on the Company?</td>
<td>☐ No ☐ Yes</td>
<td>If Yes, provide details of the notice as well as subsequent action taken to improve.</td>
</tr>
<tr>
<td>2. Has the company ever been convicted of a work, health and safety offence?</td>
<td>☐ No ☐ Yes</td>
<td>If Yes, provide details of the notice as well as subsequent action taken to improve.</td>
</tr>
<tr>
<td>3. Does the company have all relevant licences, qualifications and tickets to perform the Scope of Works?</td>
<td>☐ No ☐ Yes</td>
<td>If Yes, provide evidence of Business licences/qualifications in Attachment 10. If No, provide details of your intent in regards to meeting licencing requirements:</td>
</tr>
<tr>
<td>4. Will Traffic Management works be subcontracted? (Separable Portion 2: Boyne Tannum &amp; Calliope Sewerage Asset Growth Strategies only)</td>
<td>☐ No ☐ Yes</td>
<td>If Yes, the subcontracted company is required to hold Traffic Management Company Registration. If No, include evidence of Traffic Management Company Registration in Attachment 10.</td>
</tr>
<tr>
<td>5. What is the current Lost Time Injury (LTI) Rate for the Business?</td>
<td></td>
<td>Provide further information related to the LTI Rate if desired.</td>
</tr>
</tbody>
</table>

#### 4.11.2 Supporting documents required

**4.11.2.1 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies**

As evidence of the implementation of a Safety Management System within the organisation, please provide as attachments copies of the below documents:

- Completed risk assessments (max. three) for comparable works completed in the past 12 months *(completed and signed by employees carrying out the task)*; and
- Completed Safe Work Method Statements (max. three) for comparable works completed in the past 12 months *(completed and signed by employees carrying out the task)*.
- Completed daily pre-start meeting records (max three) for comparable works completed in the past 12 months *(completed and signed by employees carrying out the task)*.

Submissions that do not include copies of the WHS supporting documents *(completed and signed by employees carrying out the task)* will be deemed non-conforming.
4.12 Work Health & Safety: Demonstration of Understanding

The tenderer shall complete the below ‘Demonstration of Understanding’ in relation to their work health, safety and environment obligations relating to the Scope of Works.

Submissions that do not have the following tables completed in full will be deemed non-conforming. Tables completed with ‘refer to attachment X’ or similar will be found non-conforming.

### 4.12.1 Key Safety Risks Identified

*Add rows as required to address the key safety risks identified*

<table>
<thead>
<tr>
<th>Risk Identified</th>
<th>Proposed Control Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.12.1.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

<table>
<thead>
<tr>
<th>Risk Identified</th>
<th>Proposed Control Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.12.1.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

<table>
<thead>
<tr>
<th>Risk Identified</th>
<th>Proposed Control Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.12.2 Licences

#### 4.12.2.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

Provide a list of any relevant Licences held by the Business relating to these works

Provide a list of Licences and Permits that employees and/or subcontractors will
4.12.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

Provide a list of any relevant Licences held by the Business relating to these works

Provide a list of Licences and Permits that employees and/or subcontractors will require for the completion of the works

4.12.3 Site Access

4.12.3.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

Detail how safe access to and any operations of the site will be maintained during the works

4.12.3.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

Detail how safe access to and any operations of the site will be maintained during the works

4.12.4 Safe Work Method Statements

Provide a list of the SWMS that will be implemented for each separable portion

4.12.5 Risk Assessments

Provide a list of the safety Risk Assessment standards that will be utilised by
<table>
<thead>
<tr>
<th>employees on site for completion of each separable portion</th>
</tr>
</thead>
</table>

### 4.12.6 Work Health and Safety Systems in the Business

Provide a list of other Business WHS policies, procedures, documents and/or registers that will be referred to by Supervisors and Site Personnel in the completion of each separable portion.

### 4.12.7 Work Health and Safety Personnel

List WHS related personnel who will be allocated to each separable portion. Include: Name, Position, % allocation to the works and hours to be spent on site.

### 4.12.8 Other

Detail any other information that demonstrates a commitment to work health and safety.
### Environment

Submissions that do not have the following tables completed in full will be deemed non-conforming. Tables completed with ‘refer to attachment X’ or similar will be found non-conforming.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>If Yes, provide details of the incident/s as well as subsequent action taken to improve.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Has the Company been associated with any notifiable environmental</td>
<td>☐</td>
<td>☐</td>
<td>If Yes, provide details of the incident/s as well as subsequent action taken to improve.</td>
</tr>
<tr>
<td>incidents in the past 5 years?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Has the Company been issued any warning or breach notices by the</td>
<td>☐</td>
<td>☐</td>
<td>If Yes, provide details of the notice as well as subsequent action taken to improve.</td>
</tr>
<tr>
<td>Department of Environment and Heritage Protection in the past 5 years?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.13 Environment: Demonstration of Understanding

The tenderer shall complete the below ‘Demonstration of Understanding’ in relation to their environmental obligations relating to the Scope of Works.

Submissions that do not have the following tables completed in full will be deemed non-conforming. Tables completed with ‘refer to attachment X’ or similar will be found non-conforming.

### 4.13.1 Key Environmental Risks Identified

Add rows as required to address the key safety risks identified

| 4.13.1.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy |

<table>
<thead>
<tr>
<th>Risk Identified</th>
<th>Proposed Control Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 4.13.1.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies |

<table>
<thead>
<tr>
<th>Risk Identified</th>
<th>Proposed Control Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.13.2 Risk Assessments

Provide a list of the environmental Risk Assessment standards that will be utilised by employees on site in completion of each separable portion.
### 4.13.3 Environmental Management Systems in the Business

Provide a list of Environmental Management policies, procedures, documents and/or registers that will be referred to by Supervisors and Site Personnel in the completion of each separable portion.

### 4.13.4 Environment Personnel

List Environment related personnel who will be allocated to this project. Include: Name, Position, % allocation to the works and hours to be spent on site for each separable portion.

### 4.13.5 Other

Detail any other information that demonstrates a commitment to understanding the obligations of the Company in relation to managing environmental impacts for each separable portion.
## 4.14 Proposed Departures from ITT Section 2: Scope of Works

- Not Applicable
- Proposed Departures listed: this is a non-conforming offer (second offer)

A non-conforming offer may be submitted in addition to a conforming offer (i.e., two separate Section 4 documents must be submitted for each separable portion). A non-conforming submission will not be evaluated unless accompanied by a confirming submission.

<table>
<thead>
<tr>
<th>Scope of Work Item#</th>
<th>Proposed Departure</th>
<th>Rationale for Departure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Add rows as required**
4.15 Proposed Departures from ITT Section 3: Conditions of Contract

☐ Not Applicable
☐ Proposed Departures listed. Departures may result in the offer being found non-conforming.

<table>
<thead>
<tr>
<th>Contract Section</th>
<th>Proposed Departure</th>
<th>Rationale for Departure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Detail all proposed departures below**

*Add rows as required*
4.16 Relative Experience and Past Performance

4.16.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

<table>
<thead>
<tr>
<th>Core Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide a description of your Core Business, services provided, as well as information relating to your organisation’s experience with similar Contracts/Projects.</td>
</tr>
</tbody>
</table>

Provide three (3) previous past performance with similar projects including the contact details of the company’s representative is required to be included in the submission. Submissions that do not have the following tables completed in full will be deemed non-conforming. Tables completed with ‘refer to attachment X’ or similar will be found non-conforming.

<table>
<thead>
<tr>
<th>Demonstrated Past Performance and Reference #1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
</tr>
<tr>
<td>Project Description</td>
</tr>
<tr>
<td>Project Address</td>
</tr>
<tr>
<td>Dates of Performance</td>
</tr>
<tr>
<td>Cost/Budget $</td>
</tr>
<tr>
<td>Company Contact Person</td>
</tr>
<tr>
<td>Contact Person Role</td>
</tr>
<tr>
<td>Contact Phone &amp; email</td>
</tr>
</tbody>
</table>

**Details of Scope Performed relevant to this Tender submission**

(Skills required, lessons learned relevant to this Scope of Works)

**Nominated Key Personnel who worked on this project**
<table>
<thead>
<tr>
<th>Company</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Description</td>
<td></td>
</tr>
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<td>Project Address</td>
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<tr>
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<tr>
<td>Cost/Budget</td>
<td>$</td>
</tr>
<tr>
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(Skills required, lessons learned relevant to this Scope of Works)

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<tr>
<td>Contact Phone &amp; email</td>
<td></td>
</tr>
</tbody>
</table>

### Details of Scope Performed relevant to this Tender submission
(Skills required, lessons learned relevant to this Scope of Works)

### Nominated Key Personnel who worked on this project
### 4.16.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

#### Core Business

Provide a description of your Core Business, services provided, as well as information relating to your organisation’s experience with similar Contracts/Projects.

<table>
<thead>
<tr>
<th>Company Contact Person</th>
<th>Contact Person Role</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Company</th>
<th>Project Description</th>
<th>Project Address</th>
<th>Dates of Performance</th>
<th>Cost/Budget</th>
<th>Company Contact Person</th>
<th>Contact Person Role</th>
<th>Contact Phone &amp; email</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Details of Scope Performed relevant to this Tender submission

(Skills required, lessons learned relevant to this Scope of Works)

<table>
<thead>
<tr>
<th>Nominated Key Personnel who worked on this project</th>
</tr>
</thead>
</table>
### Demonstrated Past Performance and Reference #2

<table>
<thead>
<tr>
<th>Company</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Description</td>
<td></td>
</tr>
<tr>
<td>Project Address</td>
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<tr>
<td>Dates of Performance</td>
<td></td>
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<tr>
<td>Cost/Budget</td>
<td>$</td>
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<tr>
<td>Company Contact Person</td>
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<tr>
<td>Contact Person Role</td>
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<tr>
<td>Contact Phone &amp; email</td>
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</table>

Details of Scope Performed relevant to this Tender submission
(Skills required, lessons learned relevant to this Scope of Works)

Nominated Key Personnel who worked on this project
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<tr>
<th>Company</th>
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<tbody>
<tr>
<td>Project Description</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Details of Scope Performed relevant to this Tender submission</td>
<td>(Skills required, lessons learned relevant to this Scope of Works)</td>
</tr>
</tbody>
</table>

| Nominated Key Personnel who worked on this project |   |
4.17 Tenderer’s Key Personnel

4.17.1 Separable Portion 1: Lake Awoonga Water Asset Growth Strategy

The Tenderer must complete one table for each of the Key Personnel who will be allocated to this Project.

The key personnel identified for this Project include:

- Registered Professional Engineer of Queensland in the Civil Division or a Civil Engineer registered under the Institution of Engineers Australia National Professional Engineer’s Register (certify all work including reports)
- Project Manager
- Registered Professional Engineer of Queensland (RPEQ)

Resumes of all personnel nominated for the project are required to be included in the submission along with the below table.

The Tenderer may add extra tables as required to demonstrate allocation of appropriately qualified resources for other roles considered of importance in execution of the Works.

Submissions that do not have the following tables completed in full will be deemed non-conforming. Tables completed with ‘refer to attachment X’ or similar will be found non-conforming. Failure to complete the below personnel details shall render the Tender Submission non-conforming (i.e. Do not write ‘see resume/CV’ and attach separate documents).

<table>
<thead>
<tr>
<th>Tenderer’s Key Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Position</strong></td>
</tr>
<tr>
<td><strong>Name</strong></td>
</tr>
<tr>
<td><strong>Allocation to this Project</strong> (% or hrs)</td>
</tr>
<tr>
<td><strong>Location during Project</strong></td>
</tr>
<tr>
<td><strong>Qualifications</strong> (provide copies)</td>
</tr>
<tr>
<td><strong>Years experience</strong> (specific to this Project)</td>
</tr>
</tbody>
</table>
### Tenderer’s Key Personnel

<table>
<thead>
<tr>
<th>Position</th>
<th>Project Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
</tr>
<tr>
<td>Allocation to this Project (% or hrs)</td>
<td>% Full time equivalent hours per week</td>
</tr>
<tr>
<td>Location during Project</td>
<td>% On Site</td>
</tr>
<tr>
<td>Qualifications (provide copies)</td>
<td></td>
</tr>
<tr>
<td>Years experience (specific to this Project)</td>
<td></td>
</tr>
<tr>
<td>Experience specific to this Tender</td>
<td></td>
</tr>
</tbody>
</table>

### Tenderer’s Key Personnel

<table>
<thead>
<tr>
<th>Position</th>
<th>Registered Professional Engineer of Queensland (RPEQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
</tr>
<tr>
<td>Allocation to this Project (% or hrs)</td>
<td>% Full time equivalent hours per week</td>
</tr>
<tr>
<td>Location during Project</td>
<td>% On Site</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------</td>
</tr>
</tbody>
</table>

**Qualifications**
(provide copies)

**Years experience** (specific to this Project)

**Experience specific to this Tender**
4.17.2 Separable Portion 2: Boyne Tannum & Calliope Sewerage Asset Growth Strategies

The Tenderer must complete one table for each of the Key Personnel who will be allocated to this Project.

The key personnel identified for this Project include:
- Project Manager
- Registered Professional Engineer of Queensland RPEQ

The consultant shall ensure where appropriate their staff and engaged subcontractors will process the following qualifications and licences where necessary:
- Licence/ Competency for plant and equipment
- Authorised person card

Mandatory minimum qualifications for Sewer modelling experience using InfoSWMM SA or H20MAP SWMM is a minimum of 5 years.

Resumes of all personnel nominated for the project are required to be included in the submission along with the below table.

The Tenderer may add extra tables as required to demonstrate allocation of appropriately qualified resources for other roles considered of importance in execution of the Works.

Submissions that do not have the following tables completed in full will be deemed non-conforming. Tables completed with ‘refer to attachment X’ or similar will be found non-conforming. Failure to complete the below personnel details shall render the Tender Submission non-conforming (i.e. Do not write ‘see resume/CV’ and attach separate documents).

<table>
<thead>
<tr>
<th>Tenderer’s Key Personnel</th>
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</thead>
<tbody>
<tr>
<td><strong>Position</strong></td>
</tr>
<tr>
<td><strong>Name</strong></td>
</tr>
<tr>
<td><strong>Allocation to this Project</strong>&lt;br&gt;(% or hrs)</td>
</tr>
<tr>
<td><strong>Location during Project</strong>&lt;br&gt;</td>
</tr>
<tr>
<td><strong>Qualifications</strong>&lt;br&gt;(provide copies)</td>
</tr>
<tr>
<td><strong>Years experience</strong>&lt;br&gt;(specific to this Project)</td>
</tr>
</tbody>
</table>
### Tenderer's Key Personnel

<table>
<thead>
<tr>
<th>Position</th>
<th>Registered Professional Engineer of Queensland (RPEQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
</tr>
<tr>
<td><strong>Allocation to this Project</strong></td>
<td>% Full time equivalent hours per week</td>
</tr>
<tr>
<td>(% or hrs)</td>
<td></td>
</tr>
<tr>
<td><strong>Location during Project</strong></td>
<td>% On Site % Off Site</td>
</tr>
<tr>
<td>Qualifications (provide copies)</td>
<td></td>
</tr>
<tr>
<td><strong>Years experience</strong></td>
<td>(specific to this Project)</td>
</tr>
<tr>
<td><strong>Experience specific to this</strong></td>
<td>Tender</td>
</tr>
<tr>
<td>Tender</td>
<td></td>
</tr>
</tbody>
</table>
4.18 Fee Proposal

The Tenderer’s Offer must include the following documents, completed in full and returned in native file format.

- ‘Water Attachment 1.1 Schedule of Rates’; and
- ‘Sewerage Attachment 2.1 Schedule of Rates’

The Tenderer acknowledges and agrees that:

1) Price details must not be included anywhere else in the Tender unless stated below; and
2) All prices quoted by the Tenderer must exclude GST payable unless otherwise stated.

Submissions that do not have the following tables completed in full will be deemed non-conforming. Tables completed with ‘refer to attachment X’ or similar will be found non-conforming.

4.19 Procurement Plan

The Tenderer’s offer must include the completed ‘Attachment 4.2 – Procurement Plan.xlsx’ for both separable portions.

The Procurement Plan must be submitted as an attachment in excel file format.

4.20 Tenders Proposed Subcontractors

The Tenderer must complete one table for each of the major subcontractors who will be engaged for separable portion 2 (i.e. where a subcontractor is providing specialist services, the below tables should be used to demonstrate their suitability for the work).

The Tenderer may add extra tables as required to demonstrate allocation of appropriately qualified resources for execution of the Works.

Submissions that do not have the following tables completed in full will be deemed non-conforming. Tables completed with ‘refer to attachment X’ or similar will be found non-conforming.

<table>
<thead>
<tr>
<th>Subcontractor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business/Consultant Name</strong></td>
</tr>
<tr>
<td><strong>Works to be subcontracted</strong></td>
</tr>
<tr>
<td><strong>Experience specific to this Tender</strong></td>
</tr>
<tr>
<td><strong>Subcontractor Key Personnel (if applicable)</strong></td>
</tr>
</tbody>
</table>