ECONOMIC REGULATION AUTHORITY - APPLICATION FORM

MOORE RIVER WATER SERVICES SEWERAGE, POTABLE AND NON-POTABLE WATER SUPPLY

APPLICATION: VERSION 1

DATE: 10/05/18

INDEX APPLICATION

I. Application Summary

1.1 A description of the applicant's structure and key organisational relationships.
1.2 A description of the services.
1.3 A description of the service infrastructure/works involved
1.4 Information on the status of other essential regulatory approvals
1.5 A description of any public consultation or stakeholder engagement processes undertaken concerning the licence project.

II. Corporate information

2.1 Identity information including legal and, if relevant, trading name and ABN or ACN
2.2 Address and contact details for entity
2.3 Name and contact details for primary contact person
2.4 Type of company
2.5 A list of all company directors, partners or principals.
2.6 Description of company ownership
2.7 Associated and/or controlled entities.
2.8 A statutory declaration from the company directors or principals of the entity that they have not been or would not be disqualified under the Corporations Act 2001 (Cwlth) from managing corporations
2.9 A declaration certifying that the information provided in the application is correct

III. Financial information

3.1 Current financial position
- 3.1.1 Most recent audited general purpose financial reports
- 3.1.2 Audited financial reports for the last three years (where available)
- 3.1.3 For new entities, financial information which demonstrates that the applicant has an acceptable financial standing/capacity commensurate with its potential financial exposure
- 3.1.4 Where the applicant is a subsidiary company, financial reports for the parent company
- 3.1.5 Copies of any information submitted to ASIC under chapter 2M of the *Corporations Act 2001* (Cwlth) over the past three years
- 3.1.6 Declaration from independent auditor or principal financial institution

3.2 Financing
- 3.2.1 Extent to which financial obligations are guaranteed by other group companies
- 3.2.2 Contractual arrangements within any group of companies associated with the licensee
- 3.2.3 Declaration specifying lenders financing the application and type of funding or support obtained
- 3.2.4 Evidence that the applicant is able to finance the assets and investment necessary to undertake the licensed activities

3.3 Financial projections
- 3.3.1 Intended services and related business activities
- 3.3.2 Projected revenue and expenditure figures for at least 5 years
- 3.3.3 Methods or principles that will be applied to determine prices or charges
- 3.3.4 Financial policies Document

IV. Technical information

4.1 Assets

4.1.1 Description of the physical environment of the proposed activity and its immediate vicinity

4.1.2 Description of the methods or principles proposed to apply in the provision of water services

4.1.3 Description of the supply infrastructure and interconnected infrastructure systems

4.1.4 Information about supply connection

4.1.5 Details of the actual and proposed metering arrangements

4.1.6 Detailed description of asset management system

4.1.7 Construction schedule

4.2 Customer contracts

4.2.1 Proposed standard terms and conditions for the provision of water services

4.3 Customer information

4.3.1 Commitment to become or remain a member of an approved ombudsman scheme and to be bound by its decisions (where applicable)

4.3.2 Evidence of compliance with relevant supply industry methods, quality, standards and codes including compliance with relevant consumer protection arrangements

4.3.3 A description of how customer accounts will be managed.

4.3.4 Details on customer information provision policies (e.g. tariffs, fees and charges), customer consultation processes, account enquiries processes, payment arrangements and hardship policies and procedures, complaints and dispute resolution processes, account termination procedures and customer performance measures.

4.3.5 Information on the customer information management systems used by the applicant, including any billing systems.

4.3.6 Proposed financial hardship policy for residential customers

4.4 Other regulatory approvals

4.4.1 Description and evidence of the status of applications for other necessary approvals, permits or licences.

4.5 Relevant experience

4.5.1 Prior experience and training

4.5.2 Key personnel

4.5.3 Details of relationship with entity supplying staff and resources (where applicable)

4.5.4 Licences or approvals held for the supply of electricity, gas or water services

4.6 Other equivalent licences

4.6.1 Details of other equivalent licence held by it or their associated or controlled entities under the law of another State or Territory including a signed statutory declaration giving particulars of the applicant's interstate licence(s)

4.6.2 The applicant must provide details of any regulatory action taken by a regulator in another jurisdiction in relation to the businesses above

V. Public interest information

5.1 Statement and evidence about any information that might assist the Authority forming the view that the application is not contrary to the public interest

VI. Licence, Supply and Operating Areas information

6.1 Identify the proposed area within which the applicant intends to provide a licensed electricity, gas or water service

SUPPORTING INFORMATION

Enclosed Document

1. Certificates of Title
2. Moore River South ODP
3. Moore River Water Services
4. Lease Agreement
5. ESA Agreement.
6. Subdivision Approval
7. Moore River South water balance
8. Sewer catchment
9. Water catchment
10. Water Corporation Bore Acceptance
11. DWER Approval
12. DoH - WWTP Approval in Principle
13. Shire Approval
14. DWER Abstraction Licence - GWL184415
15. DoH - WWTP Sampling Program
16. Raw Water Quality
17. Water Reserve Endorsement.
18. Statutory Declaration
19. Cashflow Projection
20. Financial Policy
21. Aquasol Experience in WWTP
22. Aquasol Experience in WTP
23. Financial Hardship Policy
24. Standard Terms and Conditions
25. WTP & WWTP Design
26. Demand Forecast
27. Asset Management Plan
28. Customer Supply Agreement
29. Key Personnel
30. Service Area

List of Figures

List of Tables

APPLICATION INFORMATION

I. Application Summary

Moore River Company Pty Ltd (MRC) (land owners) are seeking to develop a parcel of land (Swan Location 2802 and portions of Swan Location 2424 and 2914) on the coast, immediately south of Moore River near Guilderton to create a new mixed urban development called Moore River South (MRS). This parcel of land forms part of a larger piece of land, which is zoned "Urban Development" under the Shire of Gingin Town Planning Scheme. The entire landholding occupies approximately 2,000 hectares, however only 557 hectares in the north-western portion is to be subject to the future urban development.

The MRS structure plan, development plan and subdivision design are based on detailed investigation involving planning, environmental, engineering and ethnographic assessment. The vision for MRS development is to create a place which accords with its form and setting, and supports lifestyle opportunities for residents and visitors.

Connection to municipal services is not available in the area, and is not economically feasible. **Moore River Water Services (MRWS)** has been established to provide sewerage, potable and non-potable water services to the development. MRWS is the proponent to become the Service Provider to the Development and is the applicant to apply for a License to the Economic Regulation Authority.

Since the development will occur over an extended period of time (6 stages over approximately 25 years), the construction of the required WTP & WWTP will be approached in modular units as described below.

Table 1: Development Projection

	Year 1	**Year 5**	**Year 10**	**Year 15**	**Year 20**	**Year 25**
Development Stages	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Total Water Abstraction Licence						1,800kL/d
Development Usage – Pot. Water (Accumm)	130kL/d	450kL/d	670kL/d	890kL/d	1,200kL/d	1,600kL/d[(1)]
WTP - Modules Capacity	900kL/d			900kL/d		
WWTP[(2)] - Modules Capacity	450kL/d		450kL/d		450kL/d	

For detailed information on the development, please refer enclosed document:

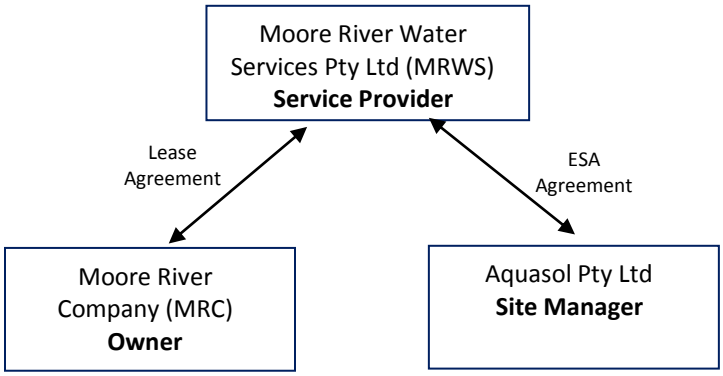
1.- Certificates of Title,
2.- Moore River South ODP, and
3.- Moore River Water Services.

[(1)] Even if the required potable water (1,600kL/d) is less than the abstraction volume (1,800kL/d), the WTP will be designed for full capacity (1,800kL/d).
[(2)] From the total abstracted water (1,600kL/d), 40% will be used for outdoor purposes, and 60% for indoor usage, this 60% will ultimately reach the WWTP for treatment.

1.1 A description of the applicant's structure and key organisational relationships.

MRWS will be the formal Service Provider for Moore River South Development, engaging Aquasol Pty Ltd to build and manage the onsite Water and Waste Water Treatment Plants (WTP & WWTP). For detailed information, refer enclosed documents 4.- Lease Agreement and 5.- ESA Agreement.

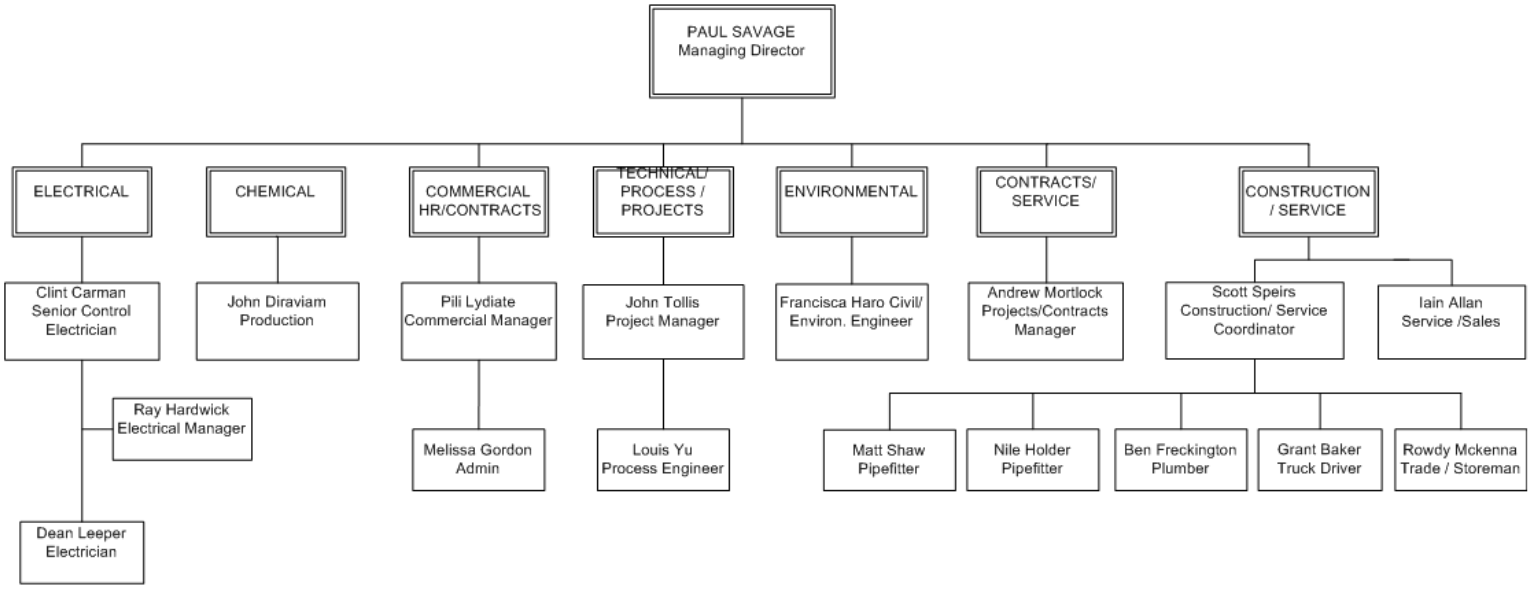
Figure 1: Organizational Relationship



As mentioned, Aquasol has been formally engaged by MRWS to provide all technical services maintaining and managing the water systems, this includes building the plants and managing customer services as well as assistance complying with regulatory agencies.

Aquasol was established in 1996 to supply a much needed service in the water and waste treatment industry. Initially a water management consulting company, Aquasol has specialised and expanded into the design and construction of Water Treatment Plants and supply and manufacture of associated chemicals and consumables.

Figure 2: Aquasol Technical Organizational Chart



1.2 A description of the service

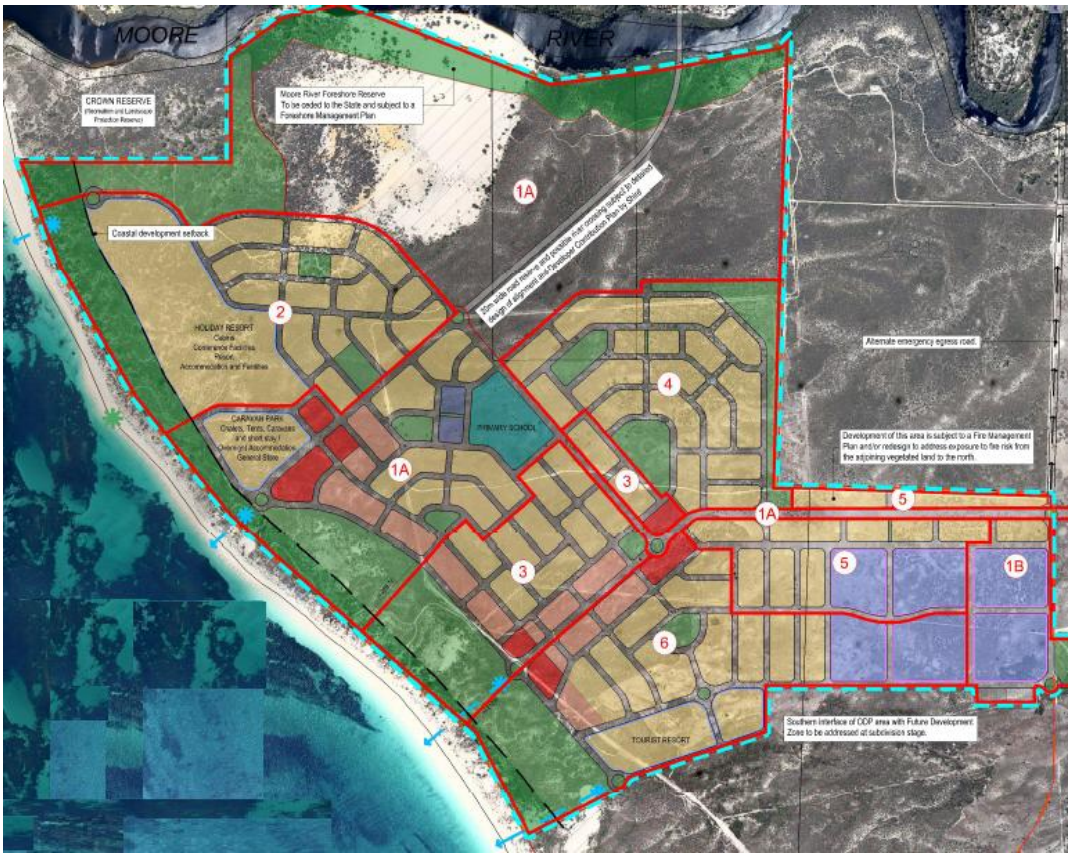
This application comprises a potable, non potable and sewerage system to service Moore River South Development.

A subdivision application for the whole of the development was approved by the WAPC on September 2014 (enclosed document 6.-Subdivision Approval). The breakdown of lot types across the whole subdivision is:

- 1,383 x Residential – standard (R20 density)
- 322 x Residential – medium density (R40)
- 91 x Mixed Business
- 7 x Town Centre
- 4 x Tourism
- 1 x Public Use Primary School
- 2 x Public Use Community Facilities
- 10 x Residual (Balance of landholding)

As indicated in the figure below, the construction of the development is proposed to take place over six stages.

Figure 3: Site Map & Development Stages.



1.3 A description of the service infrastructure/works involved.

1.3.1 Design criteria:

The design criteria has been based on the current Water Corporation demand data detailed attached document 7.- Water Balance.

As mentioned, the WTP & WWTP will be built in modules over time following the growth of the development.

Figure 4: WTP Module - 900kL/d

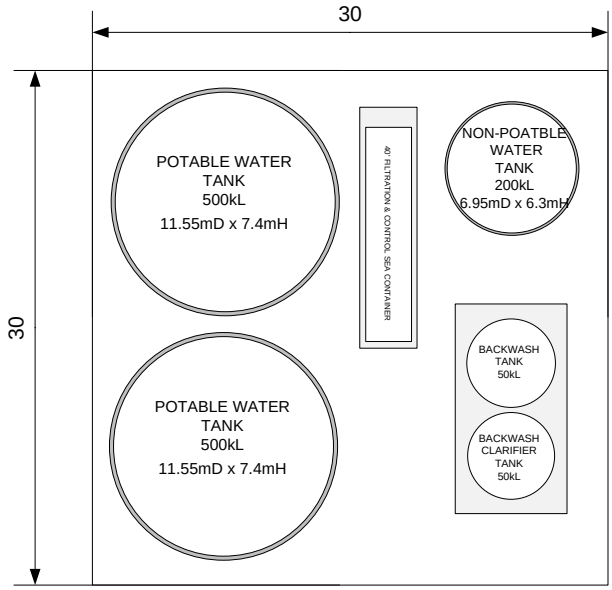
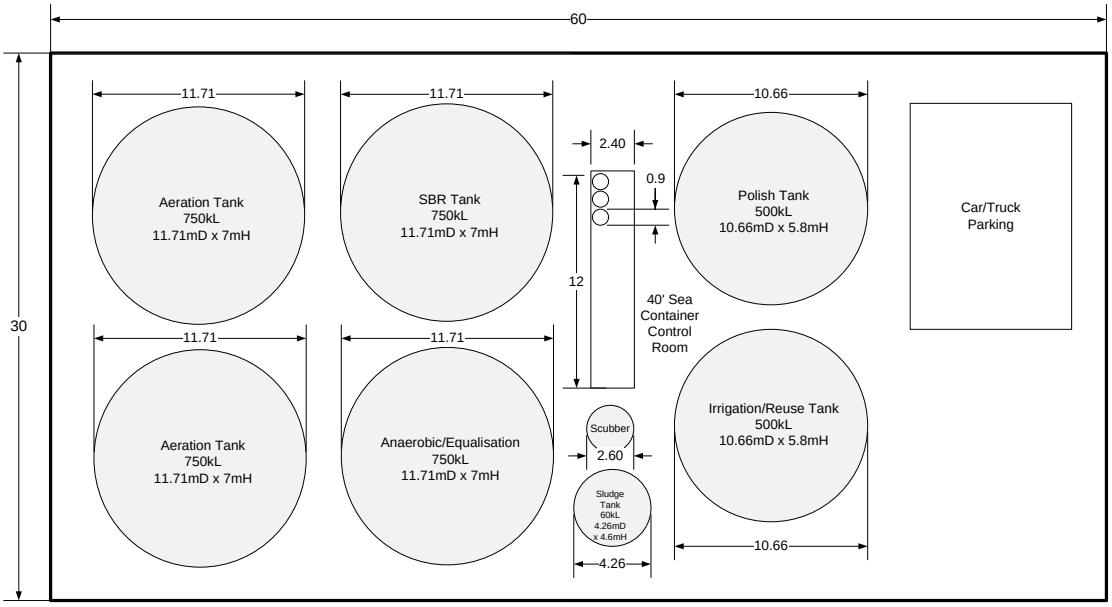


Figure 5: WWTP Module - 450kL/d

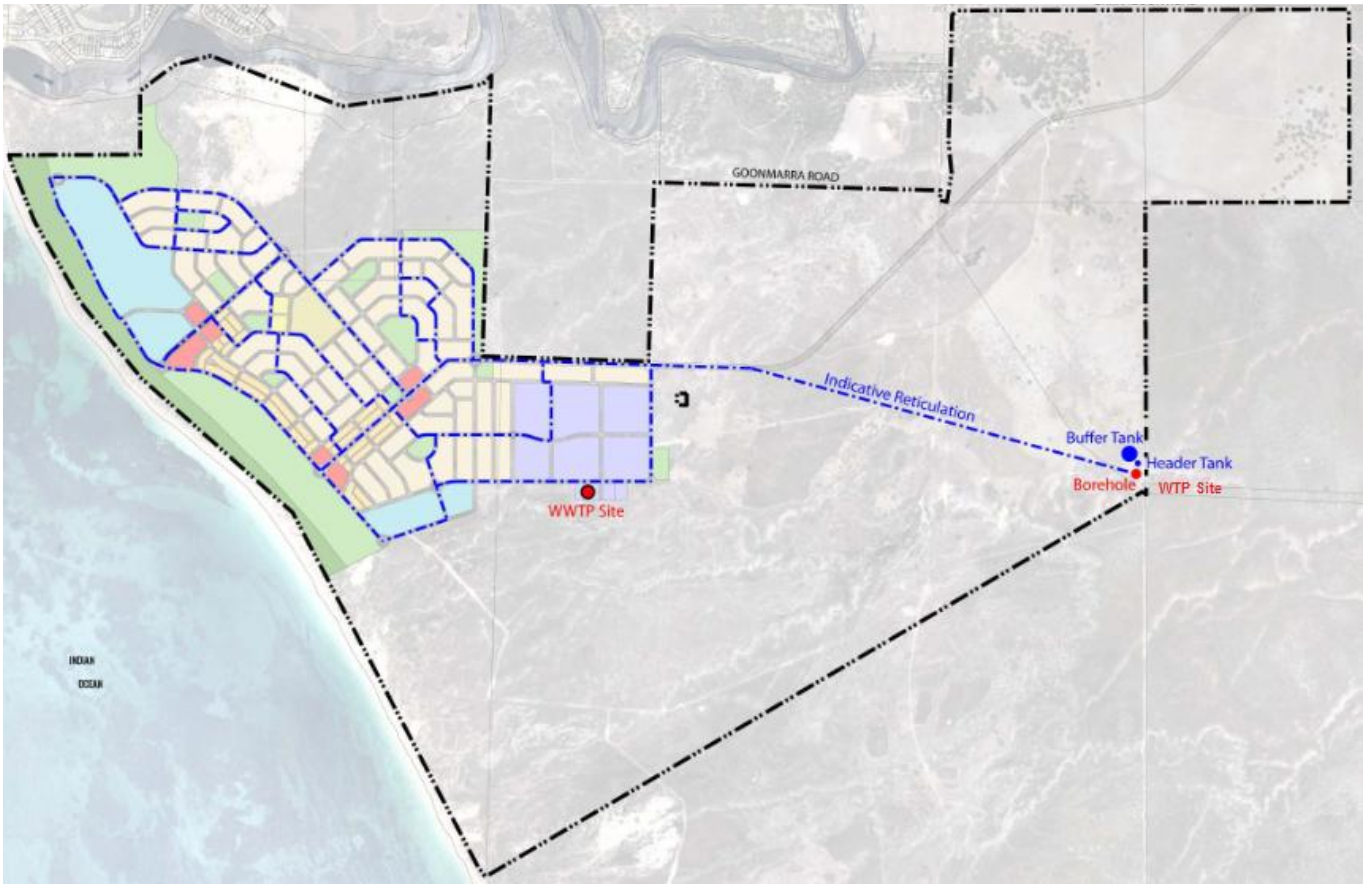


1.3.2 Location of the treatment apparatus.

The land where the WWTP will be located is at the south east corner of the Development (in front of the Light Industrial Area).

The WTP will be located adjacent to the abstraction bore, providing sufficient buffer distance between both systems, refer to figure below.

Figure 6: Plants Location



1.3.3 Water & Sewer Catchment

At present, catchment design hasn't been formally completed, however preliminary designs are detailed enclosed in document 8.- Sewer catchment and document 9.- Water catchment.

Following water supply investigations and consultation with the Department of Water, the Leederville aquifer has been identified as the potable water source for Moore River South Development.

Bore MRC01-2013 has been constructed in accordance with the Water Corporation requirements. Refer to document 10.- Water Corporation Bore Acceptance Letter.

From the bore, raw water will be pumped out and sent to the WTP for treatment, and then distributed to the development for usage. After usage, the waste water generated will be collected in pump stations all over the development. From the pump stations the waste water/sewer will be sent to the WWTP for treatment.

It is intended that treated sewer will be used for irrigation purposes in green areas within the development (Public Open Space - POS).

1.3.4 Environmental and Health considerations.

- Environmental considerations - Development construction

A search of the Swan Coastal Plain Wetlands, Bush Forever 2007 and Environmentally Sensitive Areas databases on the WA Atlas (Landgate, 2009) indicated that the site does not contain environmental assets.

The study area was visited by botanists in October and November 2009 and a field survey, conducted in accordance with EPA Guidance Statement No. 51 – Terrestrial flora and vegetation survey environmental impact assessment in Western Australia (2004) was undertaken to the level of a detailed survey.

The vegetation ranged from 'Completely Degraded' to 'Pristine-Excellent' condition with a majority of the vegetation in either a 'Completely Degraded' or 'Excellent' to 'Pristine-Excellent' condition, in particular within the fenced foreshore reserve.

With respect to fauna in general, no significant impacts are expected. A significant proportion of the area is already cleared or highly degraded and the development is unlikely to have any substantial impact on the status the fauna species most likely to be currently using the area.

- Health & environmental considerations – WWTP and water reuse.

The WWTP module has been already approved by all relevant authorities, refer enclosed documents:

11.- DWER Approval,
12.- DoH in Principle Approval, and 13.- Shire Approval.

- Health considerations – WTP.

The WTP scheme has been already submitted to the Department of Health for revision. After obtaining ERA, a formal MOU will be signed.

- Environmental considerations – Water abstraction (underground water)

Field results confirmed that the Leederville aquifer is a high-yielding aquifer that can provide water of sufficient quality and quantity. The pumping test results have shown that the abstraction from the Leederville aquifer has a very limited drawdown impact. The water quality and quantity were stable over the pumping period. These results demonstrated that the proposed groundwater abstraction form the Leederville aquifer is sustainable.

An Abstraction Licence has been already pre approved by DWER pending on obtaining the ERA approval. Refer enclosed document 14.- DWER Abstraction Licence - GWL184415.

1.3.5 Sewer Process

- Sewer Treatment

The process incorporates Anaerobic and Aerobic Treatment along with Filtration and Disinfection to facilitate biological wastewater treatment to effluent standards for Biochemical Oxygen Demand (BOD5), Turbidity, Total Nitrogen (N), Total Phosphorous (P) and Bacteria.

Waste water will be initially collected in a Pump Station, from there, sent to the first stage of the treatment train (Anaerobic Tank) passing though a rotating screen, removing larger solids that could potentially damage equipment in the plant.

The Anaerobic/Equalization Tank serves as an Anaerobic digester and as an Equalization tank buffering peak flows throughout the day. The tank is fitted with a level sensor for lowering the tank level prior to peak flow periods. From there, water is pumped into the 2 Aeration Tanks for secondary treatment.

The Aeration Tanks have been sized to accommodate the requisite volume required to treat the incoming organic (BOD5) load. Submersible aerator will supply a high volume of oxygen for the biological process and will facilitate recirculation of the wastewater undergoing treatment on the entire volume of the tank. From there, water will be transferred into the SBR Tank.

The SBR will batch three to four times daily as required. Aeration is stopped for one hour to allow solids settling in the tank. Flocculent in tank will aid in the settling process. Once the tank has settled a pump will pump water from the top of the tank into the Polish Tank.

In Polish tank, water will be pumped through deep bed media filters fitted with automatic backwash valves that can be set to operate at a selected interval via the touch screen HMI. Backwash from the filters will be sent to the Sludge Tank. After media filtration, water will be secondly filtered through UF system, fitted with a CIP as cleaning mechanism. UF system will make sure Turbidity parameters are certainly achieved.

Sludge settled at the bottom of the tanks will be also sent to the Sludge Tank. Once the Sludge Tank is full, excess water will be sent back to the Anaerobic Tank for re-retreatment, and solids removed as needed basis to an approved disposal site.

Water is then collected in an irrigation tank ready for reuse.

All alarms in the system will be recorded in the PLC, and activate a flashing light on the control box. All wiring will be completed to Australian standards. System control will be via Delta PLC & HMI.

- Validation of treatment efficacy to remove contaminants

- Nitrogen Removal

Nitrogen in waste water will be removed to an expected concentration by 'Simultaneous Nitrification-Denitrification' process, which is the conversion of the ammonium ion to nitrogen gas. For this, 3 separate aerators will be installed in the treatment train (2 x Aeration and 1 x SBR).
Aerators will work independently to provide required Aerobic/Anaerobic conditions.

Aerobic / Nitrification phase

$NH_4 + O_2 \rightarrow NO_2 + 2H^+ + H_2O$ (Ammonium ion to Nitrite)

$NO_2 + O_2 \rightarrow NO_3$ (Nitrite to Nitrate)

Anaerobic / Denitrification phase

$NO_3 \rightarrow NO_2 \rightarrow NO \rightarrow N_2O \rightarrow N_2$ (gas)

By having independent aeration systems, Nitrogen reduction will increase. Aeration tanks, fully aerated, will boost nitrification conversion, plus additional intermittent aeration in SBR tank.

Denitrification conversion will be carried out in SBR tank when aerator is OFF, and in the following water tanks (anoxic conditions).

- Phosphorous Removal

Waste water will be dosed with Aquasol's Floc M2600 (Poly Aluminium Chloride), widely used in waste water treatment to settle large particles and precipitating phosphates.

Basic reaction detailed below:

$3\ AlCl_3OH + 3NaPO_4 \rightarrow 3ALPO_4(s)$

The dosage of PAC is a function of the phosphorous removal required. The efficiency of coagulation falls as the concentration of phosphorous decreases. In practice, an 80-90% removal rate is achieved at dosage rates between 60 to 150 mg/L. As an internal practice, dosage will be established on bench-scale tests and by full-scale tests using a portable spectrophotometer, however, based on previous experience, PAC dosage is expected to be at approximately 80 mg/L. Aluminium in PAC (floc) will be dosed at a minimum rate to control P and suspended solids only.

- Disinfection System

The most commonly used disinfection processes is chlorination, effective method in killing bacteria, and reasonably effective in inactivating viruses and many protozoa.

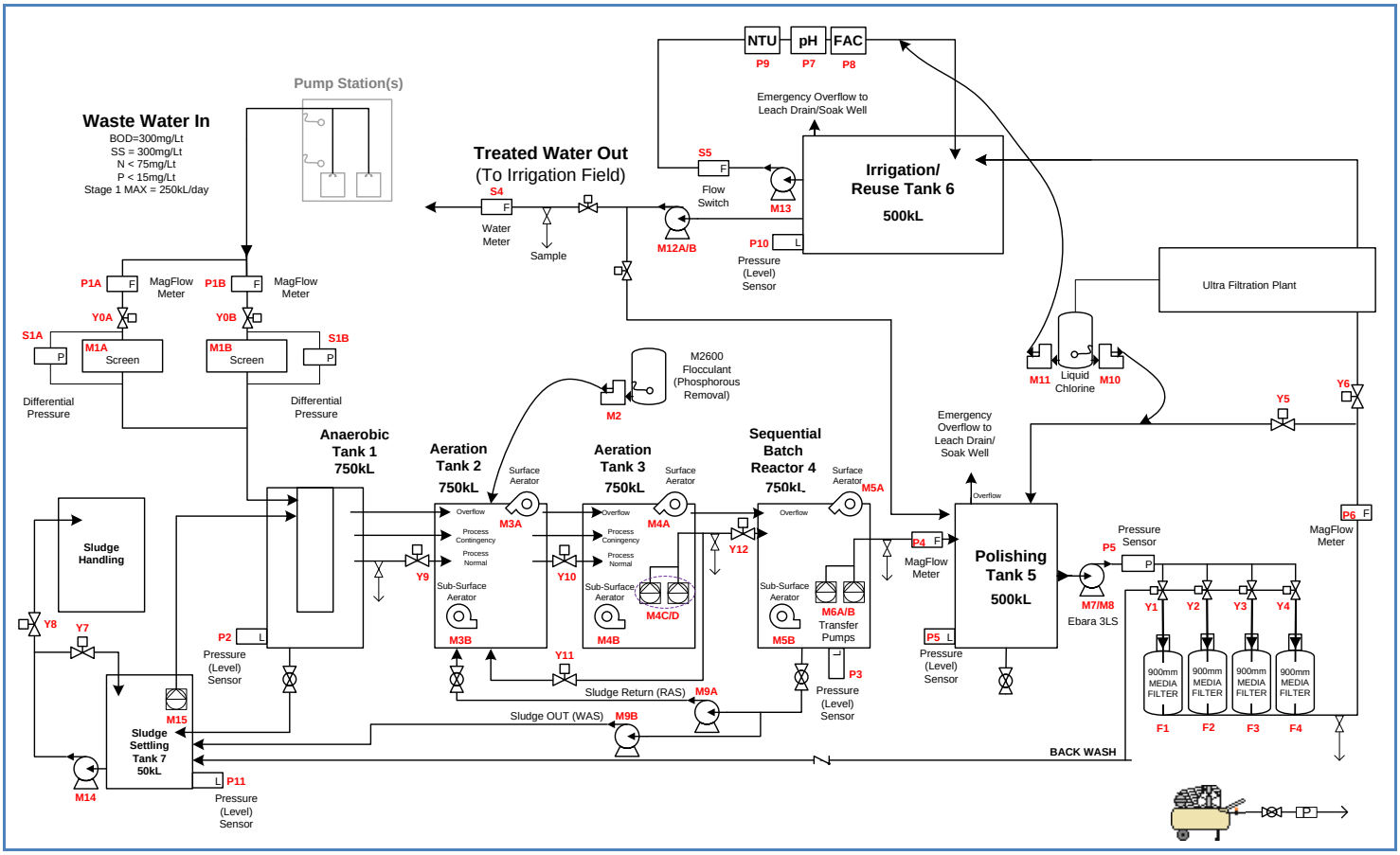
By providing residual disinfection in distribution tank and throughout the distribution system (free chlorine), it will provide protection against contamination and limit regrowth problems.

Free chlorine will be dosed, monitored and controlled automatically; if by any unluckily event the concentration of free chlorine is not reached, the delivery valve will shut, and water will be looped back to Polish Tank re-dosing chlorine until reaching required level.

Sampling ensuring the efficacy of the treatment is detailed enclosed in 15.- DoH Sampling Program.

- Treatment Design

Figure 7: Treatment Train – Module 1: 450kL/d



- Capacity of storage apparatus.

The proposed WWTP module will cover an area of approximate 50m x 30m, including all equipment listed in table below.

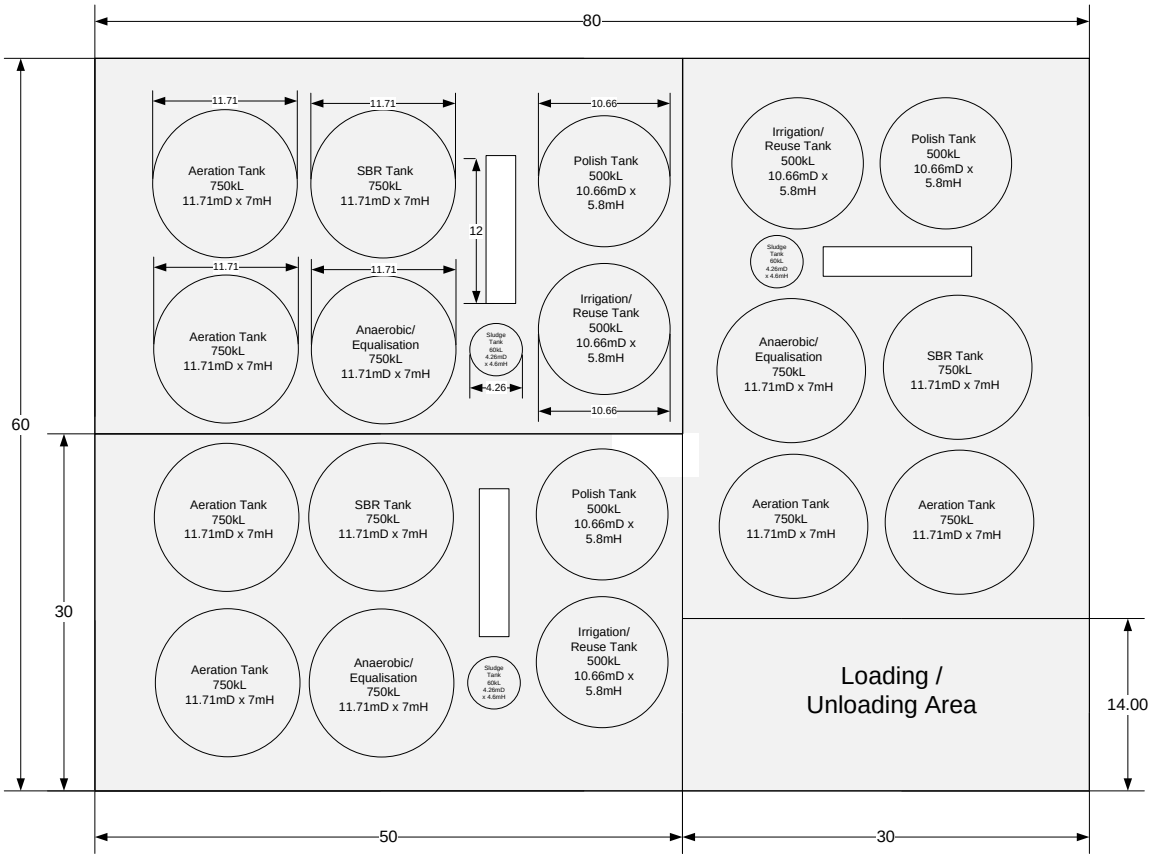
Table 2: WWTP Tanks Capacity

Tank	Total Capacity
Collection/ Anaerobic Tank 1	750kL
Aeration Tank 2	750kL
Aeration Tank 3	750kL
SBR Tank 4	750kL
Polish Tank 5	500kL
Irrigation Tank 6	500kL
Sludge Tank 7	50kL

Smaller equipment (screen, filters, chemicals, control box, pumps, etc) will be installed inside a 40 foot sea container.

The area required to install the whole WWTP facility (including the 3 modules) will require approximately 60m x 80m.

Figure 8: WWTP Area.



1.3.6 Potable Process

- Potable and Non Potable Treatment.

Bore water from the Leederville Aquifer will be pumped out through an Iron and metal filtration media - AQ6500, the media has been chosen to counter any changes in raw water conditions. Should at any time manganese, arsenic, nickel or any other heavy metals become present in the raw water, the AQ6500 media will remove them whereas ordinary sand or glass media will not. Chlorine dose is required on the filter inlet to activate the media and provide preliminary disinfection.

After the preliminary filtration, water is collected in the non-potable Water Tank for non potable purpose only (when/if required).

After preliminary treatment, water continues treatment passing through carbon filters to remove any remaining particle and excess of free chlorine from the water.
All media and carbon filters have an automatic backwash function with the backwash time and interval user set through the touch screen HMI on the control panel.
After Carbon filtration, water passes through a bank of 1 micron filters to remove any suspended solids down to below 1 micron.
Then the high pressure RO pump now pumps the pre-filtered water through the RO membranes. A side stream of the reject water is recycled back into the RO pump suction to improve system recovery. Water is then collected on 2 x 500kL Potable Water tanks.

On each water tank, a side-stream sample of the treated water pass through pH, TDS and chlorine analysers to ensure water quality at all times. Residual chlorine level detected by the chlorine analyser will activate chlorine dosing pumps, if the level falls below acceptable storage levels.

The Water Treatment Plant will be automatic, requiring some maintenance to replace chemical drums, compile data logged information and undertake mandatory sampling.

All alarms in the system will be recorded in a PLC, and activate a flashing light on the control box.

- Validation of treatment efficacy to remove contaminants

Water analysis from raw water was reviewed against Australian Drinking Water Guidelines (ADWG), confirming the purposed treatment is suitable.

A summary of the raw bore water quality data is shown in the Table below. The complete report can be found enclosed in document 16.- Raw Water Quality.

Table 3: Water Analysis

Compound	Unit	Value
pH		7.4
Conductivity	uS/cm	1020
TDS	mg/L	684
Turbidity	NTU	7.3
Total Hardness	mg/L	80
Calcium	mg/L	9
Aluminium	mg/L	0.01
Sodium	mg/L	165
Manganese	mg/L	14
Zinc	mg/L	0.007
Iron	mg/L	2.66

Based on raw bore water data, the following comments can be made:

- Total dissolved solids (TDS) are over the maximum desired concentration (500mg/L)
- Raw water soluble iron is higher than treated water target;
- Turbidity is higher than treated water target;

- Proposed treatment for iron reduction

Raw water quality data shows an elevated iron levels. These levels are typical of water yielded from the Leederville aquifer. These levels can be reduced by oxidation of iron using a specific filtration media and chlorination.

The iron in the raw water is predominantly contained in the aqueous (soluble) phase. Filtration Media AQ6500 micro porous structure acts as an oxidization catalyst allowing immediate oxidization and removal of the insoluble precipitate.

- Chlorine Injection (pH correction):

For this design, it was proposed to have 3 chlorine dosing points, one for the AQ6500 filtration system (oxidant agent for iron removal purposes), and 2 for the final disinfection and pH control (one at each tank).

For the filtration stage, the required chlorine dose rate is governed by the oxidation requirements for precipitation of soluble iron. For the final stage, DoH guidelines will be followed targeting free residual chlorine at range of 0.2 - 2 mg/L.

Chlorine is widely accepted as the preferred chemical disinfection for water treatment processes.

- Carbon Filtration:
  Is a method of filtering using a block of activated carbon to remove contaminants and impurities by chemical adsorption. Each block of carbon is designed to provide a large section of surface area in order to allow contaminants the most possible exposure to the filter media.

  Carbon Filtration is widely used in water filtration systems, very effective removing chlorine excess and many other contaminants.

- Cartridge Filter:
  Versatile design which can be used for the removal of any unexpected turbidity, precipitated iron, rust, scale, cysts and other micron-level particulates.

- Reverse Osmosis
  Water under pressure is used to force molecules through a very fine membrane leaving the contaminants behind. Purified water is collected from the "clean" or “permeate” side of the membrane, and water containing the concentrated contaminants is flushed down the drain from the "contaminated" or “concentrate” side. Reverse osmosis removes salt, turbidity and most other inorganic material present in the water.

- Capacity of storage apparatus.

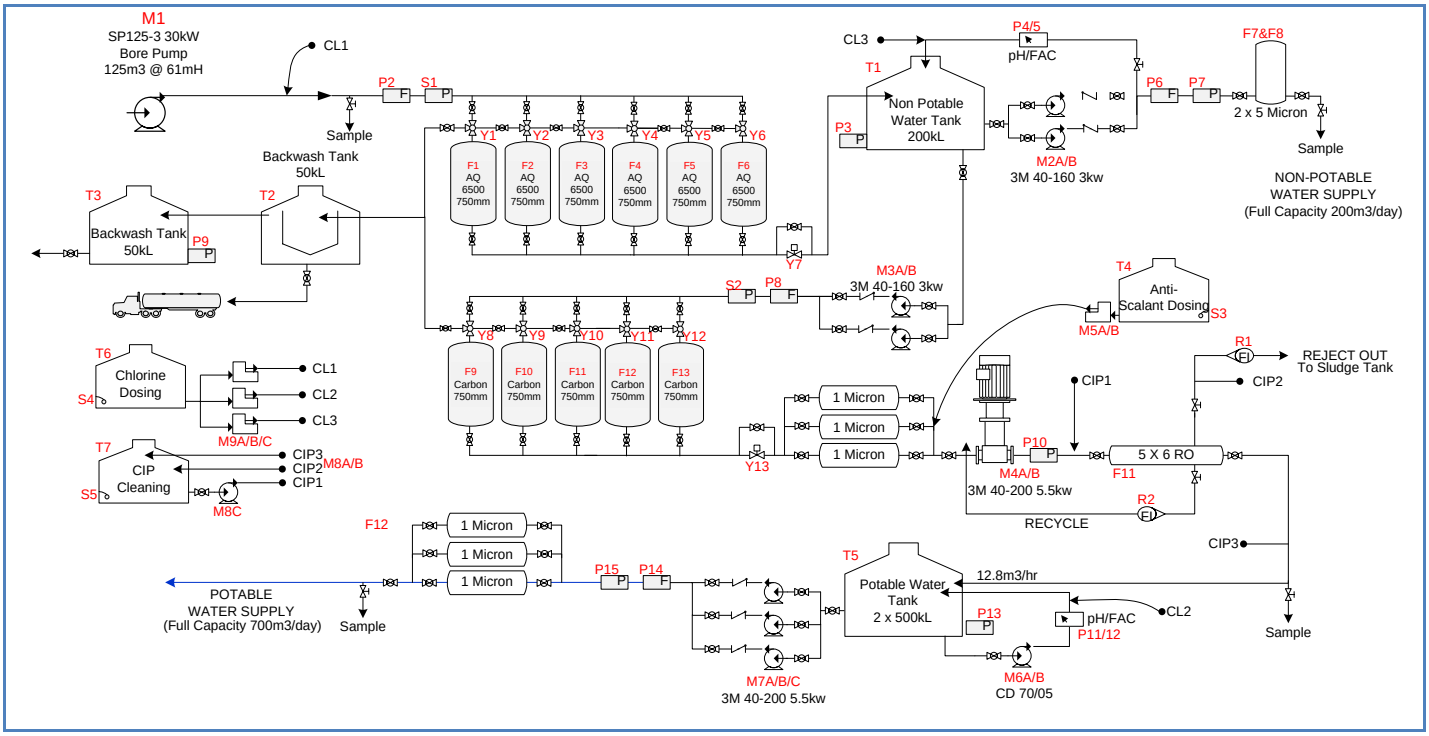
A total area of approximately 30m x 30m is required for the potable treatment plant module, including a 40 foot sea container for smaller equipment (filtrations media, pumps, chemicals, etc), 3 x galvanized tanks for storage and distribution and 2 x PE tanks for sludge/backwash collection.

Table 4: Tanks Capacity

Tank	Total Capacity
Non Potable Tank 1	200kL
Backwash Tank 2 & 3	50kL (each)
Chemical Tanks 4, 6 & 7	1000L (each)
Potable Tank 5 A/B	500kL (each)

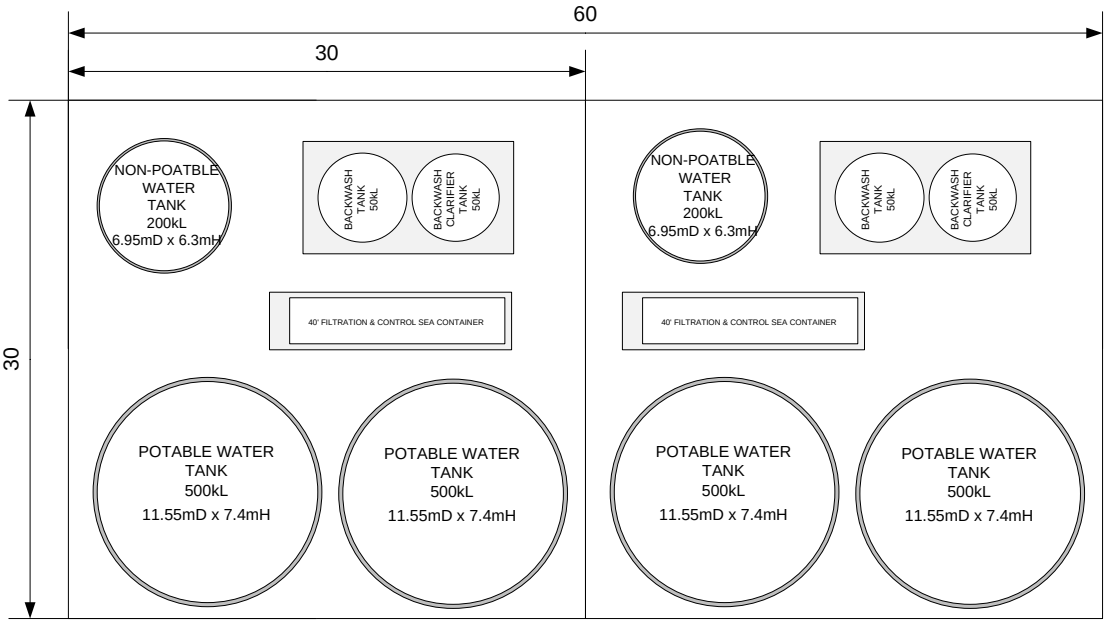
- Treatment Design

Figure 9: Treatment Train – Module 1: 900kL/d



The area required to install the whole WTP facility (including the 2 modules) will require approximately 60m x 30m.

Figure 10: WTP Area.



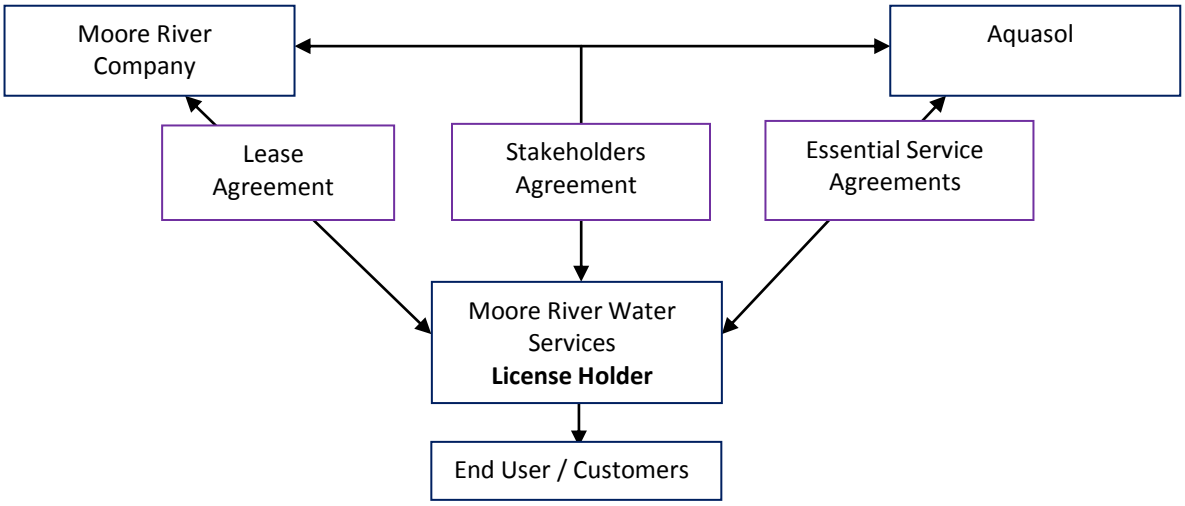
1.4 Information on the status of other essential regulatory approvals

Table 5: Approval Status

Authority	Licence	Status
WAPC	Subdivision Approval	Approved “6.- Subdivision Approval”
Department of Water and Environmental Regulation	Waste Water Treatment Plant Application	Approved “11.- DWER Approval”
Department of Health	Waste Water Treatment Plant Application	In principle approval granted Enclosed “12.- DoH - In Principle Approval”
Local Shire	Waste Water Treatment Plant Application	Approved “13.- Shire Approval”
Department of Water and Environmental Regulation	Abstraction Licence	Application submitted, pre-approval granted, subject to ERA approval. “14.- DWER Abstraction Licence - GWL184415”
Department of Water and Environmental Regulation	Operation Strategy	Submitted, pre-approval granted, subject to ERA approval.
Department of Water and Environmental Regulation	DWSPP	Approved “17.- Water Reserve Endorsement”
Department of Health	Water Treatment Plant Application	Application submitted.
Development Assessment	Development Approval	District and Local Water Management Strategy

1.5 A description of any public consultation / stakeholder engagement processes undertaken concerning the licence project.

- Stakeholder Agreement/Engagement:



- Public consultation:

A series of community consultations were undertaken during the preparation of the FMP. These are summarised in the table below.

A community open day was held on 16 February 2013 at the community centre in Guilderton. Following the open day, the community was encouraged to provide feedback on the proposed design and management of the foreshore reserve via a questionnaire consisting of five questions. The public submission period ended on 4 March 2013.

Table 6 - Community Consultation

Task	Date
Reference Group meeting 1 – scope and process	14 December 2012
Community open day at Guilderton	16 February 2013
Public submission period – feedback on the design and management of the foreshore reserve followed by the community open day	February/March 2013
Reference group meeting 2 – draft FMP and response to public submissions	23 May 2013
Consultation with the Shire and WAPC	June 2013
Advertise draft FMP (by the Shire of Gingin)	June 2013
Public submission period – community/agency feedback on the draft FMP	July - September 2013
Council meeting – consideration of public/agency submissions and endorsement of the FMP subject to a number of listed modifications.	18 March 2014

Public advertising of the draft FMP lasted for 42 days from late-July to mid-September 2013. As a result of public notices, 68 submissions were received. Of those submissions the primary concerns related to:

- Limiting access to coast and river;
- Environmental concerns;
- Maintenance and management concerns (i.e. funding to maintain);
- Increased visitor numbers i.e. day trippers;
- Objection from Department of Water; Requires a biophysical assessment;
- Heritage Listed sites; and
- All infrastructure should be delivered on the river in Stage 1 and not staged i.e. inclusion of ablutions in Stage 1 at Node 8.

The Council of the Shire of Gingin considered the public/agency submissions at its meeting held on 18 March 2014 and resolved that the FMP be endorsed subject to a number of modifications which were incorporated into the final version of the FMP, dated September 2014.

II. Corporate information

2.1 Identity information including legal and, if relevant, trading name and ABN or ACN

Trading Name: Moore River Water Services Pty Ltd
ACN : 624 903 073

2.2 Address and contact details for entity
Address: Unit 5, 80 Colin Street, West Perth, 6005.
Contact number: 08 321 2283

2.3 Name and contact details for primary contact person
Primary contact person,

- Name of person: Graeme Sampson
- Position: MRWS Director
- Email address: [redacted]

Secondary contact persons,

- Name of person: Francisca Haro
- Position: Aquasol Project Co-ordinator
- Email address: [redacted]

2.4 Type of company
MRWS was registered 9 March 2018 and is a Proprietary Limited Company.

2.5 A list of all company directors, partners or principals.

The Directors details are below:

- Marcus Plunkett
- Simon Plunkett
- Scott Plunkett
- Graeme Sampson

2.6 A description of company ownership such as the proportions of equity held by the individuals involved in the company.

The holding company is Moore River Company Pty Ltd. Refer to the share certificate below.

Share Certificate

MOORE RIVER WATER SERVICES PTY LTD
ACN 624 903 073
(Incorporated under the Corporations Act 2001)

Unit 5, 80 Colin Street
West Perth WA 6005

Certificate Number: 1

Number of Shares: 100

This is to certify that Moore River Company Pty Limited ACN 008 670 399 of Unit 5, 80 Colin Street, West Perth WA 6005 *is the registered holder of those shares set out in the panel herein, each fully paid, subject to the Constitution of the Company.*

Issued 9 March 2018

Number	Class
100	ORD

2.7 Associated and/or controlled entities.
MRC is the holding company of MRWS.

2.8 A statutory declaration from the company directors or principals of the entity that they have not been or would not be disqualified under the *Corporations Act 2001 (Cwlth)* from managing corporations.

Please refer to attached document“18.- Statutory Declaration”

2.9 A declaration certifying that the information provided in the application is correct

Please refer to attached document“18.- Statutory Declaration”

III. Financial information

3.1 Current financial position

3.1.1 Most recent audited general purpose financial reports

N/A, Moore River Water Services is a new company. The pro-forma balance sheet of the company is included in the supplemental information provided by Moore River Company Pty Ltd

3.1.2 Audited financial reports for the last three years

N/A, Moore River Water Services is a new company.

3.1.3 For new entities, financial information which demonstrates that the applicant has an acceptable financial standing/capacity commensurate with its potential financial exposure.

Due to the confidentiality requested by the Developer, all financial information will be provided directly by the Developer to the allocated ERA officer once this proposal is formally submitted. Refer to the supplementary information provided by Moore River Company Pty Ltd

3.1.4 Where the applicant is a subsidiary company, financial reports for the parent company

Refer to the supplementary information provided by Moore River Company Pty Ltd

3.1.5 Copies of any information submitted to ASIC under chapter 2M of the *Corporations Act 2001* (Cwlth) over the past three years.

N/A

3.1.6 Declaration from independent auditor or principal financial institution

As per 3.1.3, due to the confidentiality requested by the Developer, all financial information will be provided directly to the ERA officer once this proposal is formally submitted. Refer to supplementary information provided by Moore River Company Pty Ltd

3.2 Financing

3.2.1 Extent to which financial obligations are guaranteed by other group companies

Refer to the supplementary information provided by Moore River Company Pty Ltd which will confirm that:

- MRC will fund the capital cost of the WTP & WWTP, and the interconnected infrastructure.
- MRC will provide at no cost to MRW/Aquasol access to the land necessary to build and manage the WTP & WWTP.
- MRC will underwrite the operational losses incurred by MRW/Aquasol in operating the WTP & WWTP until such time as the project reached a breaks even point.

3.2.2 Contractual arrangements within any group of companies associated with the licensee

Please refer to enclosed documents:
4.- Lease Agreement and
5.- ESA agreement.

3.2.3 Declaration specifying lenders financing the application and type of funding or support obtained

Funding for the development will be internal to the Developer. Refer to supplemental information provided by Moore River Company.

3.2.4 Evidence that the applicant is able to finance the assets and investment necessary to undertake the licensed activities.

Refer to supplemental information provided by Moore River Company Pty Ltd.

3.3 Financial projections

3.3.1 Intended services and related business activities

The intention of the project is to provide sewer, potable and non potable services to MRS Development. The applicant intends to be built a WTP and a WWTP and become the formal Service Provider.

3.3.2 Projected revenue and expenditure figures.

Refer to the enclosed document “19.- Cashflow Projection”. The summary below explains the key outputs of the financial model evaluating the service scheme at the Moore River South Development.

- Total initial cost to build the treatment plants and conveyance infrastructure is: $24,338,053 (‘Summary’ cell D41).
- Total revenue by the end of 25 years is: $99,399,487 (‘Summary’ cell D33).
- The income from the annual water and wastewater charges will be sufficient to cover all outgoing cash flows in year 11.

3.3.3 Methods or principles that will be applied to determine prices or charges.

In the first instance, it is intended that fees will be applied to all properties, and prices set up at a rate of:

- $830 per lot per year for sewer services,
- $3 per kilolitre for potable water usage, plus a flat charge of $180 per lot per year,
- No charges are proposed to be applied to the delivery of non-potable water services for irrigation in Public Open Space when/if required.

These prices have been developed with reference to Water Corporation charges in Gingin Area, internal costs of operating and maintaining the infrastructure, plus the cost of administrating the services. Prices may be modified if costs are determined to be higher than initially forecasted, or if the average cost increases over time.

3.3.4 Financial policies document

Refer to document “20.- Financial Policy” in documents enclosed.

IV. Technical information

4.1 Assets

4.1.1 Description of the physical environment of the proposed activity and its immediate vicinity

The subject site is located within the Shire of Gingin and is located approximately 75 kilometres north north-west of the Perth central business district, just south of the Guilderton town site. This site is bound by the Indian Ocean to the west, Moore River to the north and pastoral and uncleared land to the east and south.

The Shire of Gingin is one of the fast growing regions in Western Australia. At present, the Perth metropolitan region is incurring significant population growth which is resulting in a high demand for residential development. The Shire of Gingin is likely to experience significant growth and change in the future as the Perth metropolitan region expands to the north along the coastal growth corridor.

Historically, the majority of the subject site was utilised for grazing and pastoral purposes, with some of the MRC landholdings still utilised for these purposes. At present the majority of land along the foreshore is only used for the occasional beach access by either foot or vehicle.

4.1.2 Description of the methods or principles proposed to apply in the provision of water services.

MRWS has engaged Aquasol to build, manage and maintain the proposed potable, non potable and waste water system to service MRS development.

Following the National Guidelines for Exposure Risk Level, the proposed Waste Water plant will achieve the required water quality to be reused for surface irrigation in the development's Public Open Space. This has been achieved in previous projects constructed and managed by Aquasol. For more information please refer enclosed to document 21.- Aquasol Experience in Waste Water Treatment Plants.

Aquasol has also built and managed potable treatment systems, refer to document 22.- Aquasol Experience in Water Treatment Plants.

Customer service provision will be managed in accordance with all required controls and regulations set by ERA including documents

23.- Financial Hardship Policy and 24.- Standard Terms and Conditions.

4.1.3 Description of the supply infrastructure and interconnected infrastructure systems

Please refer enclosed documents

8.- Sewer Catchment, 9.- Water catchment, and 25.- WTP & WWTP Design.

Both plants will include a sea container to store small equipment. All areas will be fenced with no access to general public.

Table 7: Equipment List – WWTP Module 1

Tank	Quantity	Total Capacity
Screen	2	
Collection / Anaerobic tank 1	1	750 kL
Aeration tank 2 & 3	2	750 kL
SBR tank 4	1	750 kL
Polish tank 5	1	500 klt
Irrigation tank 6	1	500 kL
Sludge tank 7 & 8	2	50 klt
Media filters	4	
UF filtration	1	
Chlorine disinfection	1	
Air scrubber (odour)	1	
Sea container with additional equipments: chemical dosing pumps, electronic control box, flow meters, pressure sensors, etc.	1	40 foot

Table 8: Equipment List – WTP Module 1

Tank	Quantity	Total Capacity
Media filters	6	750mm
Non potable tank 1	1	200kL
Carbon filters	5	750mm
Micro filters	6	1 micron
RO System	5 x 6	
Potable water tanks	2	900kL
Antiscalant system	1	
Chlorine disinfection	1	
Sea container with additional equipments: chemical dosing pumps, electronic control box, flow meters, pressure sensors, etc.	1	40 foot

Table 9: Galvanized Tanks

Water tanks – 750kL, 500kL & 200kL

- ✓ Heavy built galvanised bolt up tanks
- ✓ 3mm base panels, 2mm top.
- ✓ Top exit for aeration table d 80mm
- ✓ Sealed manhole
- ✓ 0.9mm liner pvc reinforced

Table 10: PE Tank

Water tank - 50kL

- ✓ Fiber glass water tanks
- ✓ One piece construction
- ✓ Sturdy and reliable
- ✓ UV stabilised for withstand harsh climate
- ✓ Manufactured in guidance with Australian standards

4.1.4 Information about supply connection

Network connection will be arranged to supply services to each house/lot.
Sewer and potable piping will be installed by the developer to each dwelling. Non-potable service to irrigate POS will be also installed by the Developer.
For potable and sewer services, MRWS will activate the connection as soon as a resident formally request connection, and pays the associated fees.

Table 11: Development forecast

	Year 1	Year 5	Year 10	Year 15	Year 20	Year 25	Year 30	Year 35
Lot sale (**)	1	33	40	50	60	73	87	23
Total	1	102	288	518	798	1,136	1,541	1,942

** Numbers are indicative based on lot "low" lot sales scenario.
The demand forecast takes into account all residential and commercial lots.

4.1.5 Details of the actual and proposed metering arrangements

- Forecasts of annual maximum demand for each of the next five years.

Refer to enclosed documents
7.- Water Balance,
19.- Cashflow Projection and
26.- Demand Forecast.

- Agreements with network service providers;

N/A - MRWS has contracted with Aquasol's to provide the totality of the services required.
Refer document 5 ESA agreement

- Agreements with metering agents; and

MRWS will subcontract Aquasol for all customer services required, refer to document 5 ESA Agreement enclosed.

- Arrangements for dealing with metering complaints and queries.

All service specifications, including arrangements for handling complaints and queries, will be available in the future via the Moore River Water Service website portal.

4.1.6 Detailed description of asset management system

Please refer enclosed document "27.- Asset Management Plan"

4.1.7 Construction schedule

As mentioned, the WTP and WWTP will be built in modules following the growth of the development. Full construction will be divided in 6 Stages as detailed in table below.

Table 12: Development Stages

	Year 1	Year 5	Year 10	Year 15	Year 20	Year 25
Development Stages	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
WTP - Modules Capacity	900kL/d			900kL/d		
WWTP(2) - Modules Capacity	450kL/d		450kL/d		450kL/d	

Each module will service the development for a number of years before the new module is built.

The expected timeframe for the construction of the first WTP module has been forecasted as below:

- Phase 1: approximately 5 months.
- Phase 2 (in green circle): will be built /installed by year 5, taking approximately 10-16 weeks to be completed.
- Phase 3 (in red circle): will be built /installed by year 10, taking approximately 12 weeks to be completed

Next module will be built by year 15.

Figure 11: WTP Module: Construction Phases

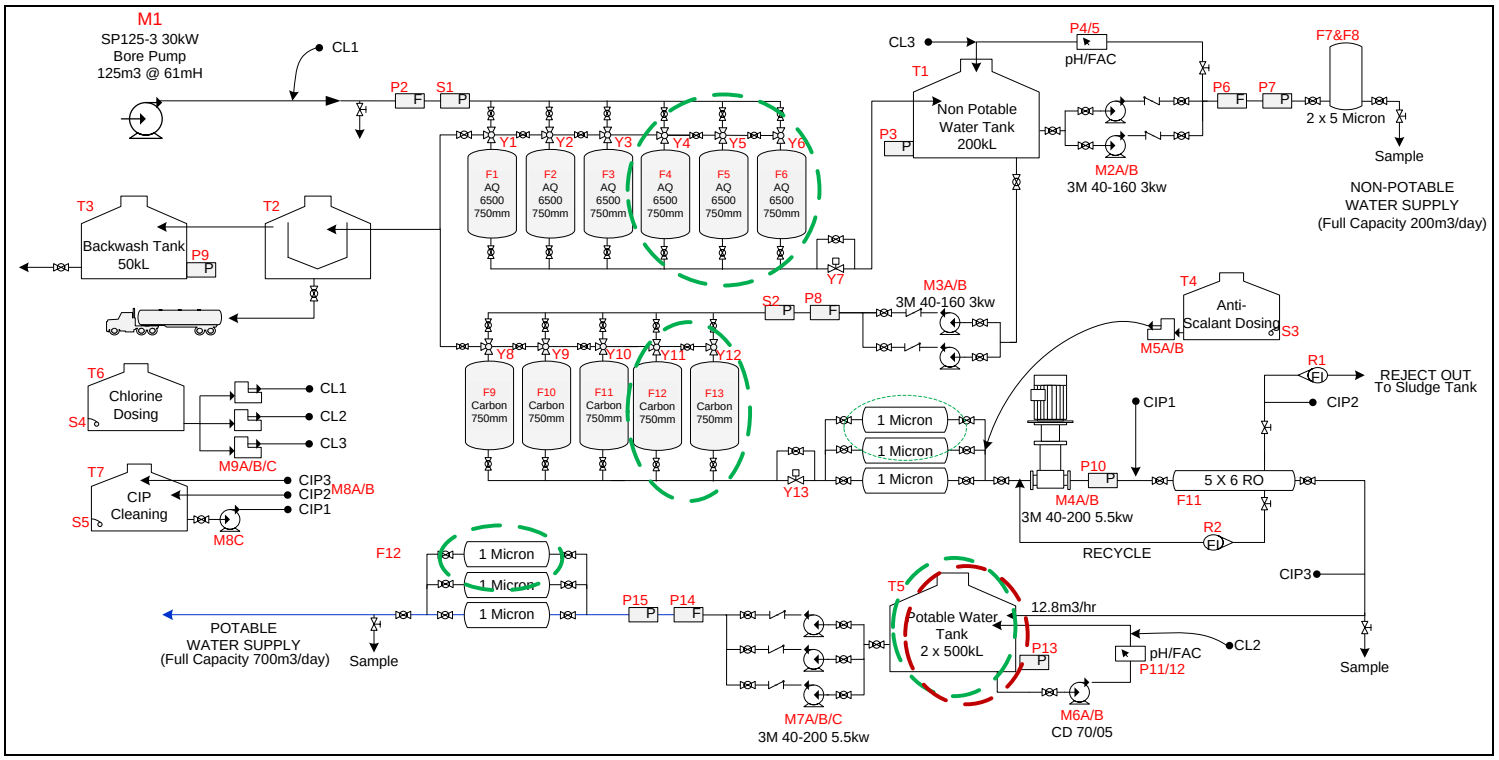
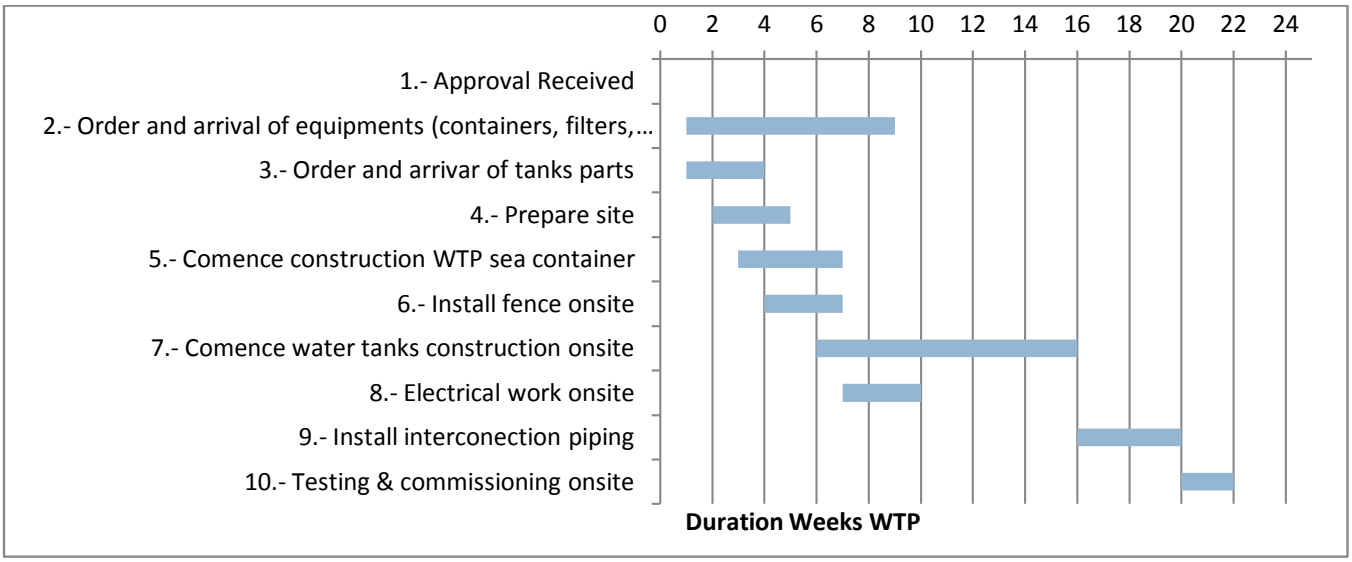


Table 13: Construction schedule WTP – Module 1, Phase 1



The expected timeframe for the construction of the first WWTP module has been forecasted as below:

- Phase 1: approximately 6 months.
- Phase 2 (in green circle): including the Aerator and SBR tanks, will be built /installed by year 5, taking approximately 12 weeks.

Next module will be built by year 10.

Figure 12: WWTP: Construction Phases.

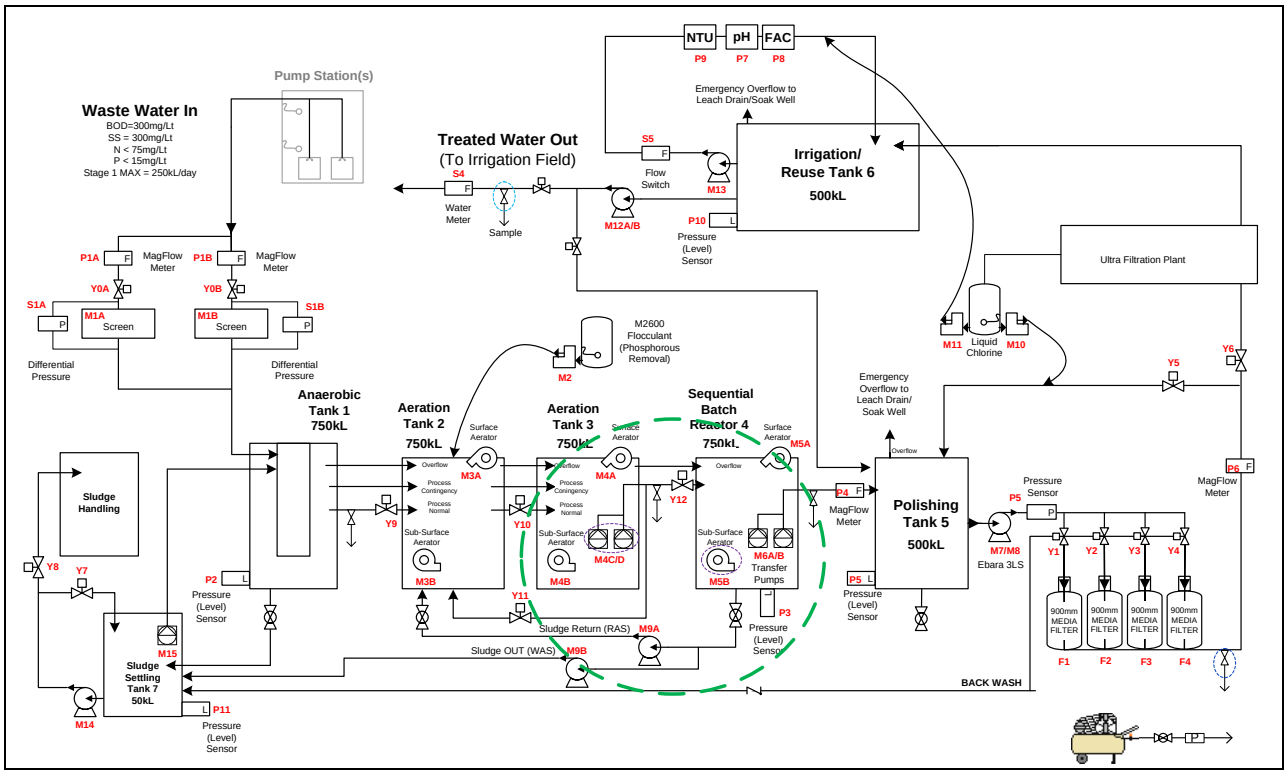
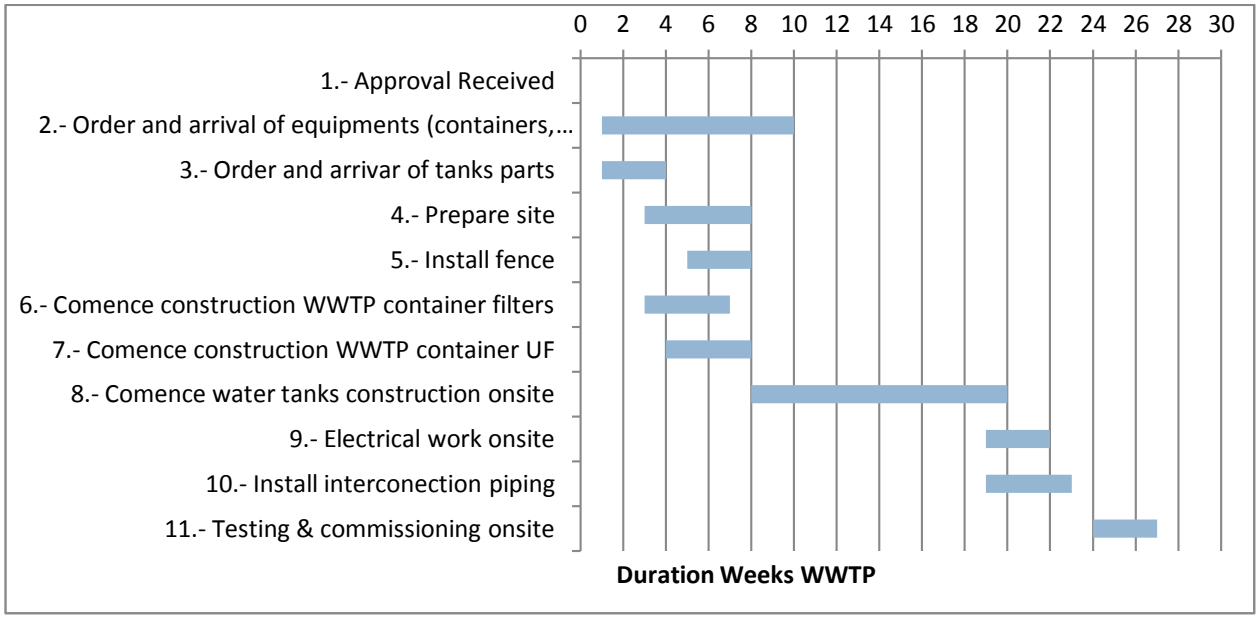


Table 14: Construction schedule WWTP - Module 1, Phase 1



4.2 Customer contracts

4.2.1 Proposed standard terms and conditions for the provision of sewer, potable and non potable services.

Refer enclosed to documents:
28.- Customer Supply Agreement and
24.- Standard Terms.

4.3 Customer information

4.3.1 Commitment to become or remain a member of an approved ombudsman scheme and to be bound by its decisions.

As soon as MRWS receives the status of Service Provider, it will commit to become a member of an approved ombudsman scheme.

4.3.2 Evidence of compliance with relevant supply industry methods, quality, standards and codes including compliance with relevant consumer protection arrangements.

Aquasol has been contracted by MRWS to provide all required documentations for customer protection.

As soon as the Licence is granted, MRWS will create a website including all relevant information publically available to all customers/residents, including the following:

- Account enquiries,
- Payment arrangements,
- Hardship policies and procedures,
- Complains and dispute,
- Service provision standards;
- Billing information
- Newsletters;
- Technical information
- Builders information

4.3.3 A description of how customer accounts will be managed.

For potable service, bills will be issued 4 times a year, due for payment on 31st of January; 30th of April; 31st July; and 31st October of each year. Each customer will be provided with a reference number for payment and enquiries purposes.

For sewer services, bills will be issued once a year, on 1st of June. Each customer will be provided with a reference number used for payment and enquiry purposes.

Payment methods accepted are:

- Electronic Fund Transfers EFT
- By direct debit arrangement in accordance with previous agreement
- In advance using any of the methods described before.
- Bpay

4.3.4 Details on customer information provision policies, customer consultation processes, account enquiries processes, payment arrangements and hardship policies and procedures, complaints and dispute resolution processes, account termination procedures and customer performance measures.

As soon as MRWS becomes a service provider and commences services, all relevant customer consultation will be available in the future website.

Aquasol will assist MRWS in all technical and customer services and will provide guidance and advice following its existing approved documentation form current WL042 licence.

4.3.5 Information on the customer information management systems used by the applicant, including any billing systems.

Account Information Management will provide comprehensive end-user data integration for:

- Location of information
- Billing account management (billing, addresses, reference number, etc.)

As well as customer account history

- Record of payments

- Record delayed payments
- Preferred communication
- Preferred payment method

For the first stages of the development, MRWS will manage customer information manually in an internal data base; for future increases in customers' accounts, MRWS will update the manual management for an automatic system.

4.3.6 Proposed financial hardship policy for residential customers

Refer enclosed document 23.- Financial Hardship Policy.

4.4 Other regulatory approvals

4.4.1 A description and written evidence of the status of applications for environmental, planning and health approvals, permits or licences.

Table 15: Approval Status

Authority	Licence	Status
WAPC	Subdivision Approval	Approved
DWER	Waste Water Treatment Plant Application	Approved
DoH	Waste Water Treatment Plant Application	In principle approval granted
Local Shire	Waste Water Treatment Plant Application	Approved
DWER	Abstraction Licence	Pre-approval granted
DWER	Operation Strategy	Pre-approval granted,
DWER	DWSPP	Approved
DoH	Water Treatment Plant Application	Submitted
Development Assessment	Development Approval	District and Local Water Management Strategy

4.5 Relevant experience

4.5.1 Prior experience and training

Based on the ESA Agreement, Aquasol will contracted to assist MRWS in providing technical and customer services to residents of the MRS development.

Aquasol has been engaged by numerous clients to design, build, install and maintain water and waste water treatment facilities in Australia and overseas. Aquasol has a proven track record of being able to run and maintain a waste water treatment system from its inception. For additional information refer to documents

21.- Aquasol Experience in Waste Water Treatment Plants' and
22.- Aquasol Experience in Water Treatment Plants in documents enclosed.

4.5.2 Key personnel

Please refer enclosed document "29.- Key Personnel"

4.5.3 Details of relationship with entity supplying staff and resources.

Refer to document 5.- ESA Agreement

4.5.4 Licences or approvals held for the supply of electricity, gas or water services

No previous licences held by MRWS.
Aquasol currently holds Water Service Licence - WL42.

4.6 Other equivalent licences

4.6.1 Details of other equivalent licence held by it or their associated or controlled entities under the law of another State or Territory including a signed statutory declaration giving particulars of the applicant's interstate licence(s).

No licences held by MRWS under the law of another State or Territory.

4.6.2 The applicant must provide details of any regulatory action taken by a regulator in another jurisdiction in relation to the businesses above.

No actions taken by a regulator in relation to MRWS's businesses.

V. Public interest information

5.1 Statement and evidence about any information that might assist the Authority forming the view that the application is not contrary to the public interest.

The MRS project has obtained all required planning and Agency approvals to obtain the approved structure plan and subdivision approvals. In doing so the project has undertaken exhaustive public engagement and input from key agency stakeholders. The project will provide a supply of residential and light industrial land to meet long term forecasted demand in the coastal region to the north of the suburb of Two Rocks

The exhaustive approvals process and the forecast demand attached as document 26 – Demand Forecast, demonstrates that the development is not contrary to public interest. .

VI. Licence, Supply and Operating Areas information

6.1 Identify the proposed area within which the applicant intends to provide a licensed water service.

Please refer enclosed document “30.- Service Area”