



**Water Treatment Solutions**

## **ANNUAL REPORT**

# **Recycled Water Quality Management Plan (RWQMP) Parry House/Hostel Recycling Scheme**

**Date: 30st September 2018**

## 1. Introduction

Following Appendix K from RWQMP, this report corresponds to the immediately preceding financial year and contains detailed information on sampling results from Parry House/Hostel scheme.

**Table 1: Summary of the Parry House-Hostel general information**

Name of Scheme	Parry House and Parry Hostel Recycled Water Scheme
Local Government	Shire of Kalamunda
Address of Scheme Owner	74 Warlingham Drive, Lesmurdie
Scheme Information	Reuse treated wastewater for irrigation
Location	Parry House - 74 Warlingham Drive, Lesmurdie
Source of recycled water	Waste water from retirement village
Volumes of recycled water produced per year	Approx 13,000Klt /year
End uses of the recycled water	Subsurface irrigation
% of recycled water used in each one of the proposed end uses	100% reuse on irrigation
Type of treatment system	Waste Water Treatment Plant – Aerobic Treatment Unit
Location of the WWTP	Coordinates 31° 59'58.21"S; 116° 2'51.85"E
Minimum, average and maximum flows per day	12Klt/d – 15Klt/d – 17Klt/d
Peak inflow of the plant	17Klt/d
Number of people using the recycled water	90
Irrigation area in m <sup>2</sup>	3,300m <sup>2</sup>
Risk exposure level	Low

**Table 2: Approval Record**

	Approval Number	Date of Approval	Average WW Volume
Parry House	F-AA 09325	23 <sup>rd</sup> November 2012	9 Klt/d
Parry House + Hostel (upgrade)	C48/00000	16 <sup>th</sup> June 2014	15 Klt/d

## 2. Quality of recycled water

### 2.1. Guidelines and continual monitoring

**Table 3: Guidelines limits**

Exposure Risk Level	Continual Monitoring Frequency		
	Parameter	Guideline Limit	Frequency
Low	E. Coli	<1000cfu/100ml	Monthly
	BOD	< 20 mg/L	Monthly
	TSS	< 30 mg/L	Monthly
	pH	6.5 - 8.5	Continual
	Disinfection	Cl: 0.2-2.0 mg/L residual	Continual

### 2.2 Recycled water quality sampling

**Table 4: Summary of laboratory recycled water quality results**

Parameter	Units	Frequency of sampling	Total No of samples	Min	Max	Median	Complying
E.Coli	cfu/100ml	Monthly	9	0	77	7.75	Yes
BoD	mg/L	Monthly	9	5	5	5	Yes
TSS	mg/L	Monthly	9	5	25	10.8	Yes
pH		Continuously	11	5.5	7.8	6.6	Minimum level slightly below the limit
Disinfection	mg/L	Continuously	11	0.02	8.8	1.79	Few samples over and below the limit.

## 2.3 Sampling Record

**Table 5: Sampling summary**

Sample Date	Parameter	Results	LAB	Report Number
<b>2016/2017</b>				
July 2017.	E.Coli	0.5 CFU/100ml	ARL	17-10289
	BOD	5 mg/L	ARL	17-10289
	TSS	17 mg/L	ARL	17-10289
	pH	7.8	AQ Online	
	Disinfection	0.4 mg/L	AQ Online	
August 2017.	E.Coli	- CFU/100ml	ARL	
	BOD	- mg/L	ARL	
	TSS	- mg/L	ARL	
	pH	-	AQ Online	
	Disinfection	- mg/L	AQ Online	
Sept 2017.	E.Coli	- CFU/100ml	ARL	
	BOD	- mg/L	ARL	
	TSS	- mg/L	ARL	
	pH	6.3	AQ Online	
	Disinfection	0.9 mg/L	AQ Online	
Oct 2017.	E.Coli	0 CFU/100ml	ARL	17-15889
	BOD	5 mg/L	ARL	17-15889
	TSS	25 mg/L	ARL	17-15889
	pH	7.1	AQ Online	
	Disinfection	0.7 mg/L	AQ Online	
Nov 2017.	E.Coli	0 CFU/100ml	ARL	17-17300
	BOD	5 mg/L	ARL	17-17300
	TSS	17 mg/L	ARL	17-17300
	pH	7.5	AQ Online	17-17300
	Disinfection	0.21 mg/L	AQ Online	17-17300
Dec 2017.	E.Coli	0 CFU/100ml	ARL	17-20067
	BOD	5 mg/L	ARL	17-20067
	TSS	5 mg/L	ARL	17-20067
	pH	5.9	AQ Online	17-20067
	Disinfection	7.2 mg/L	AQ Online	17-20067
Jan 2018.	E.Coli	77 CFU/100ml	ARL	18-00448
	BOD	5 mg/L	ARL	18-00448
	TSS	5 mg/L	ARL	18-00448
	pH	5.8	AQ Online	18-00448
	Disinfection	0.03 mg/L	AQ Online	18-00448

Feb 2018.	E.Coli	0	CFU/100ml	ARL	18-03009
	BOD	5	mg/L	ARL	18-03009
	TSS	5	mg/L	ARL	18-03009
	pH	6.3		ARL	18-03009
	Disinfection	8.8	mg/L	ARL	18-03009
March 2018.	E.Coli	-			
	BOD	-			
	TSS	-			
	pH	7.3		AQ Online	
	Disinfection	0.02		AQ Online	
April 2018.	E.Coli	0	CFU/100ml	ARL	18-06637
	BOD	5	mg/L	ARL	18-06637
	TSS	6	mg/L	ARL	18-06637
	pH	7.2		ARL	18-06637
	Disinfection	0.05	mg/L	ARL	18-06637
May 2018.	E.Coli	0	CFU/100ml	ARL	18-06829
	BOD	5	mg/L	ARL	18-06829
	TSS	5	mg/L	ARL	18-06829
	pH	5.5		ARL	18-06829
	Disinfection	0.86	mg/L	ARL	18-06829
June 2018.	E.Coli	0	CFU/100ml	ARL	18-09726
	BOD	5	mg/L	ARL	18-09726
	TSS	12	mg/L	ARL	18-09726
	pH	6.5		ARL	18-09726
	Disinfection	0.55	mg/L	ARL	18-09726

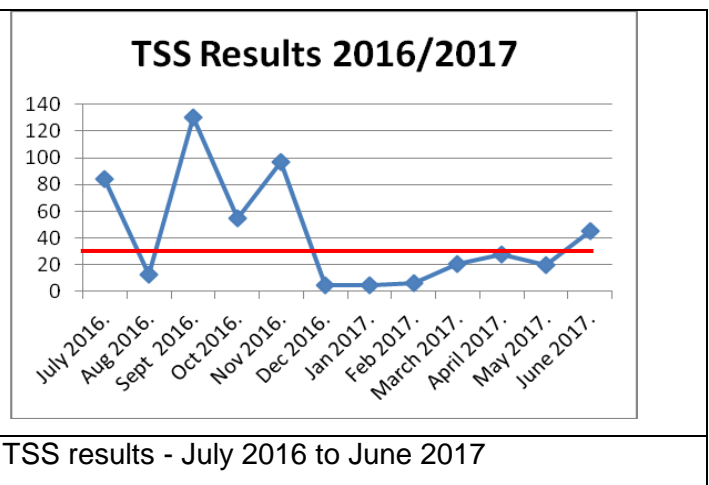
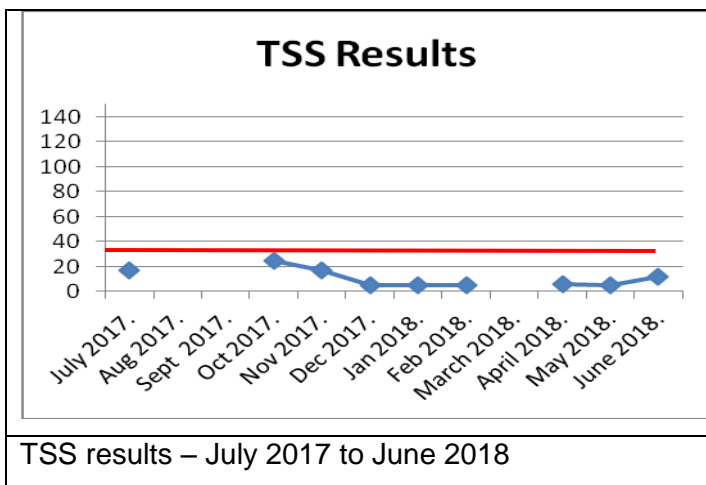
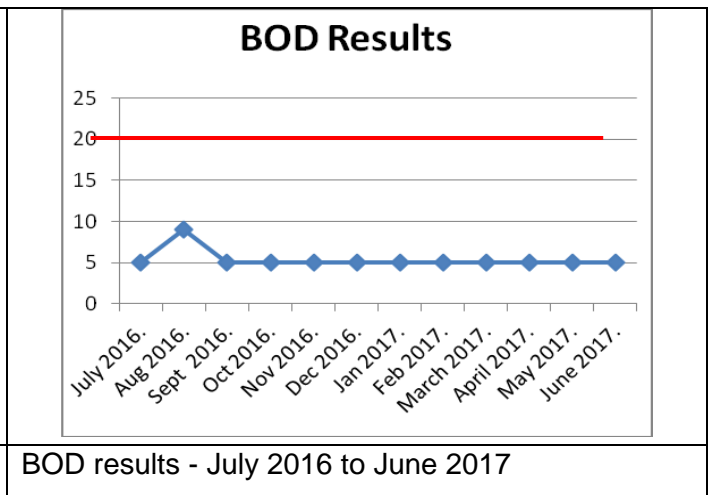
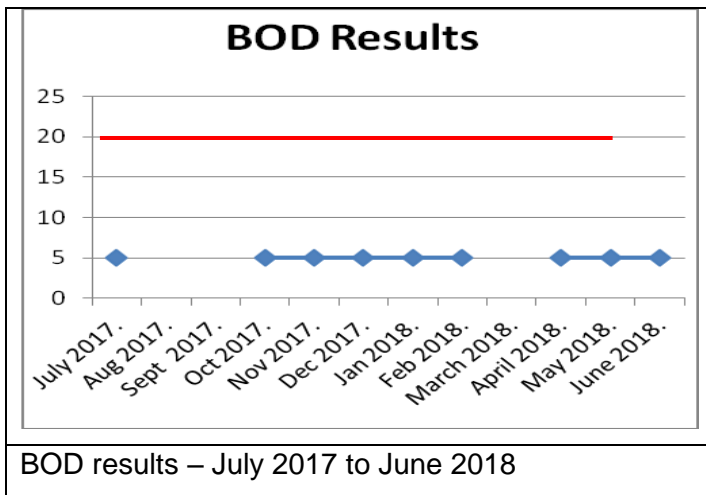
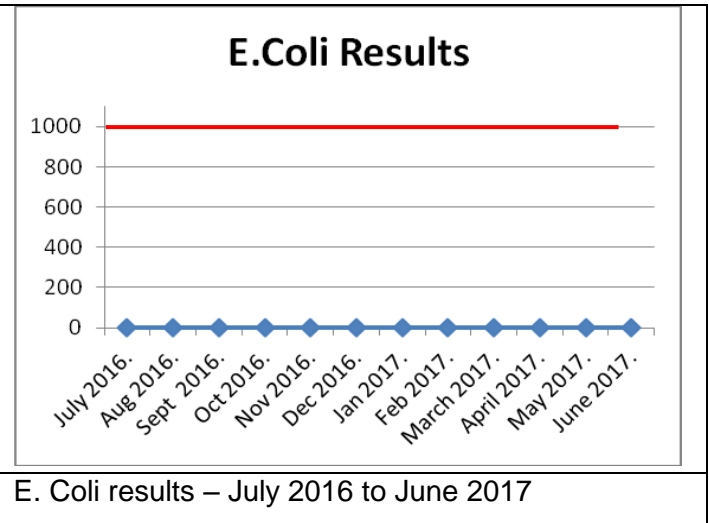
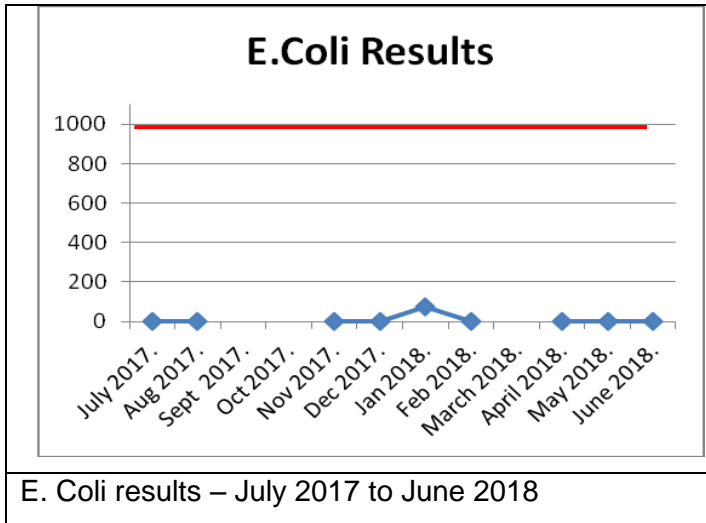
#### Comments on Sampling Summary

- It is noted that 3 samples were not taken to the lab during this period. Unfortunately, there is no formal register on why they were not taken. Technician has been notified about this situation.

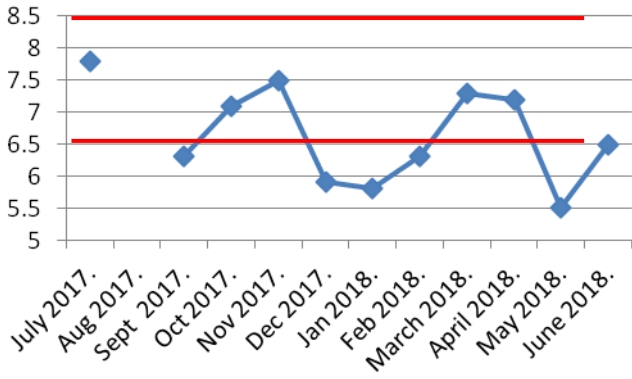
2.4 Comparison against guidelines and data from previous years (limits in red)

**Current Period**

**Previous Period**

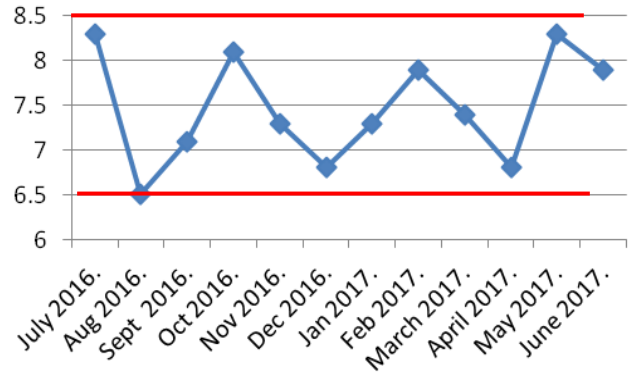


### pH Results



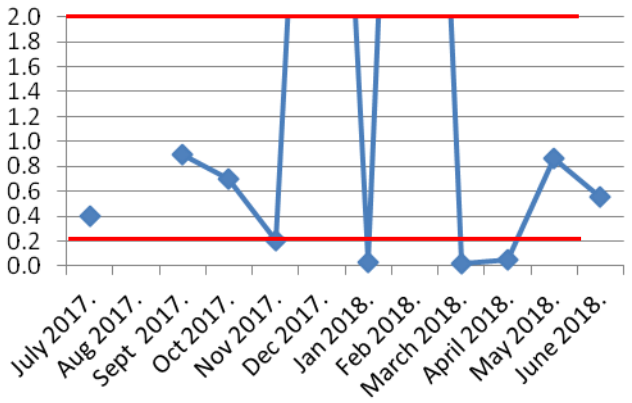
pH results - July 2017 to June 2018

### pH Results



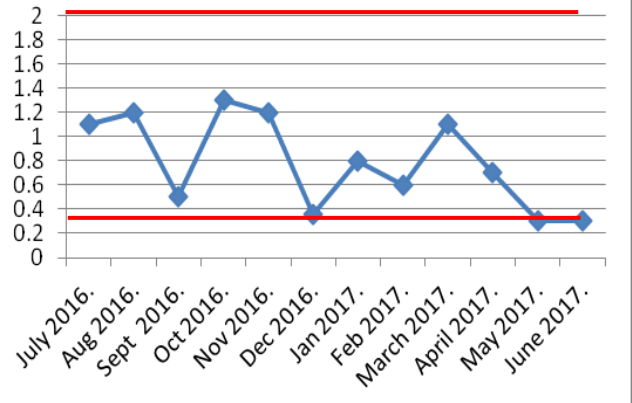
pH results - July 2016 to June 2017

### CI Results



Disinfection results - July 2017 to June 2018

### CI Results



Disinfection results - July 2016 to June 2017

### 3. Details of Replaced Equipments

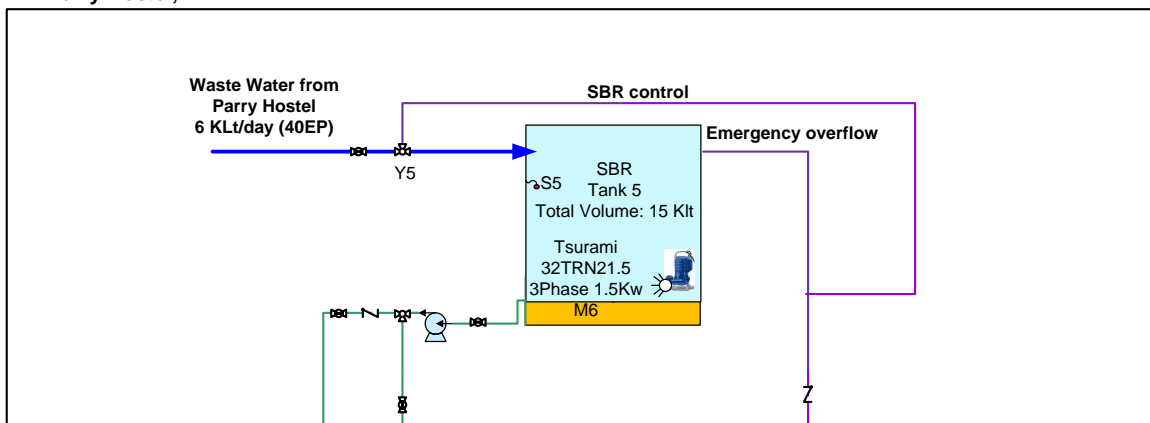
The Parry House/Hostel WWTP was upgraded during this period.

Upgrade summary:

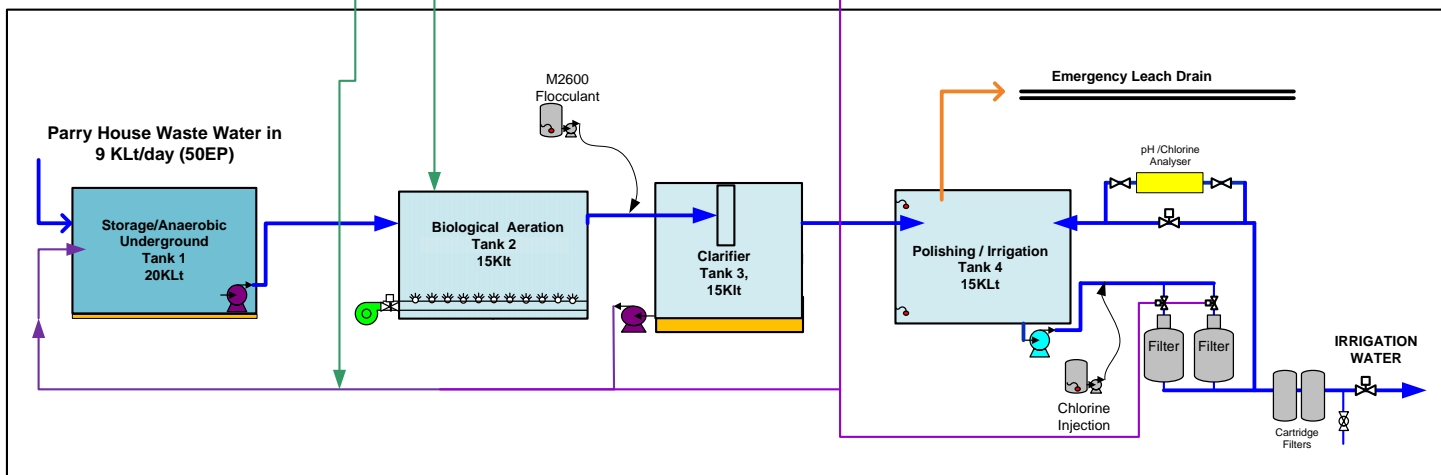
- Aerobic Tank was converted into a SBR
- Flocculent injection points were added into the 2 x SBR tanks
- Electronic pressure sensors were installed to measure the water levels in the tanks.
- Stand by pump at the underground/anaerobic pit was added

### Previous Design

Parry Hostel, WWTP

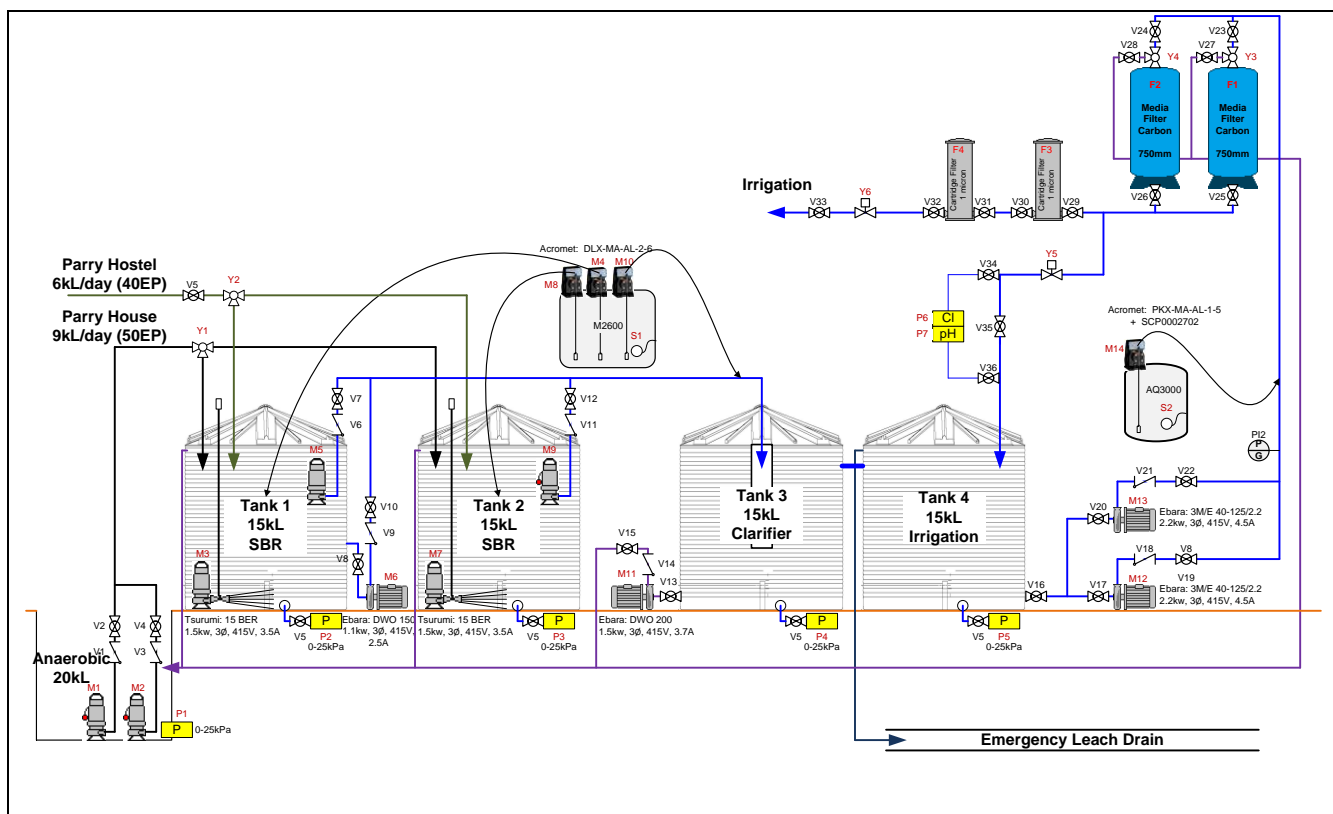


Parry House, WWTP





# Upgrade



Equipments replaced during this period:

- Compressor
- Cartridge filters
- 2 x 3 way valves
- Chemical pump

## 4. Emergency and Incident Management

No emergency events during this period.

## 5. Complaints

No complaints received during this period.

## 6. Audit

An internal audit was conducted in the period 2016/2017, below is the summary of the comments and requests.

- Section 2.5 - the Complaints register should be developed for record purposes.  
Refer below to Appendix 1
- Section 4.1 – please include photos of irrigation area signs.



- Section 4.3 - please include photos of above ground pipes being clearly identifiable and coloured purple.



- Section 5.1 - Service Reports for July and August 2016 have not been included as an attachment but mentioned in the report.

Refer enclosed.

- Section 5.4, 5.6 and 5.7 – Inspection Procedures and Maintenance of Assets must be improved. Reports/check list of the regular inspections should be developed and sighted for record purposes.

A template for maintenance records has been developed (Appendix 2) however not used during this period, just the Service Reports available. However, it has been formally instructed to commence using it.

- Section 7.5 - evidence of OHS training should be provided and sighted for record purposes.  
Scott Speris and Dane de Ruwe, both sites operator, have been trained with basic OHSE instruction for:
  - OHSE 015 Plant and Equipment
  - OHSE 025 Injury and Incident Investigation
  - OHSE 029 Injury management and return-to-work
  - OHSE Working Alone Policy

I trust this information demonstrates that Aquasol has maintained the plant and carried out the sampling program as required by the Authority.

In the meantime, should you have any queries regarding the information contained in this report, please do not hesitate to contact Paul Savage or myself at Aquasol.

*Francisca Haro*

Project & Environmental Co-ordinator  
Aquasol Pty Ltd

## Appendix 1

### Parry House/Hostel - Complaint register

Date and complaint no.	Received by (initials)	Received from (name, phone no.)	Issue	Action	Outcome	Active or closed

## Appendix 2

### MONTHLY ROUTINE MAINTENANCE PLAN

<b>Customer/Client:</b> <i>Amana Living</i> <b>Works description:</b> <i>Waste Water Treatment System</i> <b>Water Servicing Coordinator:</b> <i>Aquasol</i>	<b>Service Technician:</b> _____ <b>Date:</b> _____	<b>Signature:</b> _____
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No	Maintenance / Inspection Activity	Task / What to do	Frequency	✓ ick if done	Comments
1	<b>General Checks</b>				
1.1	Alarm system	Visual check, carry out any corrective action to respective alarm	At each visit		
1.2	Clean and site tidiness	Visual check, corrective actions if need	At each visit		
1.3	Security	Visual check on fence, equipments onsite	At each visit		
1.4	Check sewage pit at development	Visual check, organize pump out if required	At each visit		
2	<b>System Checks</b>				
2.1	Tanks general - leaks , conditions and levels	Walk around tanks make sure there no leaks, no rust, levels as set.	Monthly visual check		
2.2	Filters additional clean / manual backwash	Check media status, confirm if additional backwash, media cleaning or replacement is required.	As required		
2.3	PVC Pipe Work & Fittings	Check pipes, make sure good conditions and no leaks	Visual check at each visit		
2.4	Chemical injection	Check correct dose, leaks or unusual noises in pump. Check correct injection. For refill, put on all required PPE, refill with 20L drums until reach 90% full, close lid tank, make sure of no spillage.	Visual check at each visit		
2.5	Water Pumps	Check correct pump, leaks or unusual noises	Visual check at each visit		
2.6	Cartridge filters	Open vessel, visual check, remove and replace if cartridges look blocked/dirty.	Every 2 month or as required		
2.7	Chlorine/pH probes clean	If slow stabilization, or erroneous or erratic readings , remove, clean and rinse electrode with deionised water,	Every 2 month or as required		
2.8	Check on air compressor	Drain the air compressor tank through the drain port at the base of the tank	Monthly		
2.9	Water sample	Follow 'Water sampling procedure' provided	Monthly		
2.10	Provide service report	Fill in internal AQ Service Report	At each visit		
2.11	Check Irrigation time	Make sure irrigation schedule is working as planed	At each visit		
2.12	Warning Signs	Make sure warning signs are in place and visible to public	At each visit		