# Annual System Performance Report

# Cootamundra Sewerage Treatment System

# Environmental Protection License No. 1603

May 2024

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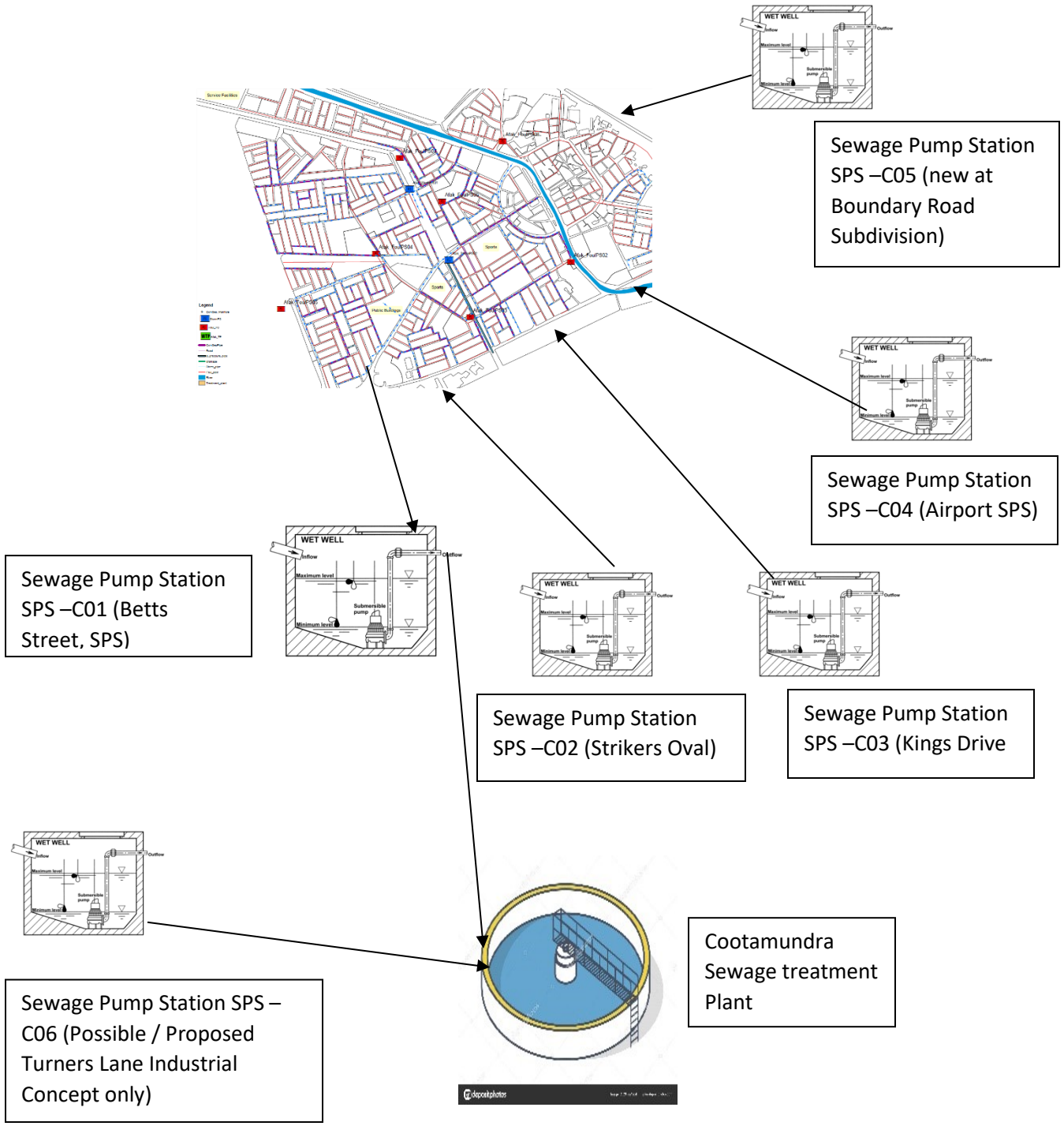
# 1.0 Cootamundra Sewerage System

The sewerage system at Cootamundra consists of four minor sewage pumping stations, a large sewer reticulation network consisting of pipe diameters DN150 to DN450, and a major sewage pumping station at Betts Street which is pumping the entire sewage to the existing sewage treatment plant. Figure 1 shows the system layout.



## 2.0 Sewage Treatment Process

Cootamundra sewage treatment plant is an activated sludge sewage treatment plant consisting of unit processes, inlet screens, aeration system with three surface aerators with return activated sludge and waste activated sludge facilities, a final clarifier from there the water is stored in Maturation Ponds.

Treated effluent is stored in an 80 ML capacity storage pond storage from there treated effluent is pumped for Municipal and golf course irrigation.


*Figure 1- STP Layout*

# 3.0 Plant Performance

This information contained below is for License No. 1603 from 1 May 2023 to 30 April 2024.

## 3.1 Customer Complaints

During the reporting period the following complaints were recorded.

*Table 1- Customer Complaints*

| Date | | Description | System | Comments |
|---|---|---|---|---|
| | Air | | | No complaints received during this reporting period |
| | Water | | | No complaints received during this reporting period |
| | Noise | | | No complaints received during this reporting period |
| | Waste | | | No complaints received during this reporting period |
| | Other | | | No complaints received during this reporting period |

## 3.2 Concentration Monitoring

Concentration monitoring was done at the designated monitoring point and the summary of Concentration Monitoring is given in Appendix 1.

## 3.3 Volume Monitoring

The following volumes were monitored and recorded at monitoring points in Kl per year during the reporting period.

*Table 2- Volume Monitoring Summary*

| Point No. | Description | 2023/24 |
|---|---|---|
| 1 | Spill way from 80 Meg dam to Muttama Creek | 477277 |
| 2 | Outlet weir Maturation Pond No. 2 | 769829 |
| 3 | Mitchell Park | 101705 |
| 4 | Albert Park Reserve | 6110 |
| 5 | Jubilee Park | 91033 |
| 6 | Clarke Oval Reserve | 111535 |
| 7 | Fisher Park | 8351 |
| 8 | Bradman Oval | 129957 |
| 9 | Cameron Square Park | 9706 |
| 10 | Nicholson Park | 11658 |
| 11 | Country Club Oval | 165750 |
| 12 | 80 Megalitre storage pond outlet reuse | 157590 |
| 13 | EA Southee Public School | 3785 |
| 14 | Cootamundra High School | 31890 |
| 15 | Cootamundra Public School | 18756 |

## 3.4 Bio Solids

During the reporting period biosolids were not disposed off site and stored in the sludge lagoon.

# 4.0 Treatment Plant inflows

Cootamundra Sewage Treatment Plant receives the inflow from a major sewage pumping station known as Betts Street SPS, SPS-C01. This pumping station is fitted with two submersible pumps (duty + standby) which are two speed pumps. It runs on low speed during dry weather flow condition and designed to move to high speed during high inflow during wet weather conditions.

Low flow pumping rates is 100 L/s and the plant inlet works has the capacity to take the entire flow during dry weather conditions. However, the wet weather overflow will occur during highspeed operation / pumping and during this diluted sewage is overflowing from the inlet works will be directed to the maturation pond.

## 4.1 Catchment Rainfall

Rainfall recorded in the catchment area is provided below. The data was taken from Bureau of Meteorology web site for rainfall recorded at Cootamundra Sewer Treatment Plant during May 2023 to April 2024.

*Table 3- Monthly Rainfall Data*

| **Month** | May 23 | Jun 23 | Jul 23 | Aug 23 | Sep 23 | Oct 23 | Nov 23 | Dec 23 | Jan 24 | Feb 24 | Mar 24 | Apr 24 | **Total** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Rainfall** | 38 | 64 | 30.5 | 46.5 | 5 | 44.5 | 119 | 29.5 | 160.5 | 38 | 19.5 | 79 | 674 |

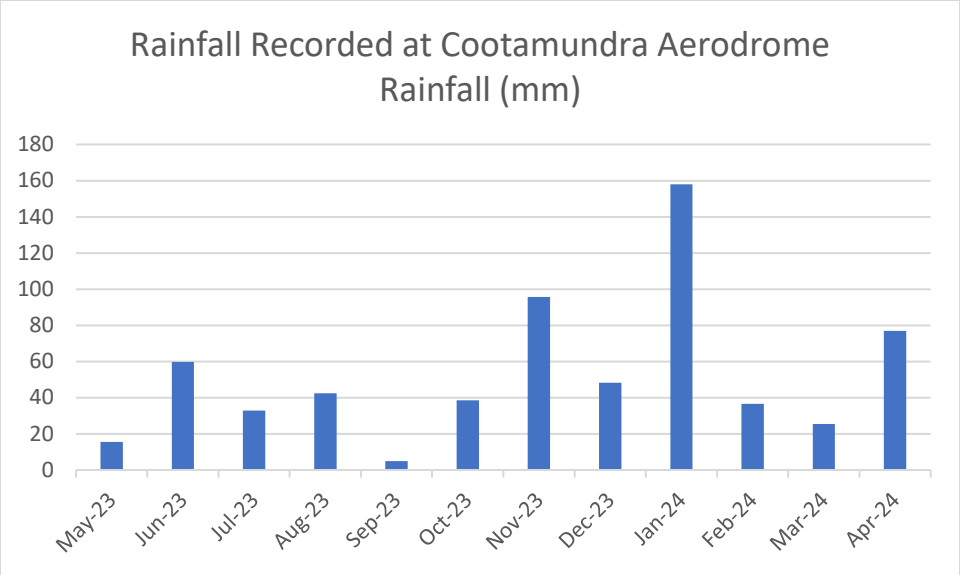



*Figure 2-Monthly Rainfall*

## 4.2 Plant Overflows

On the following days the wet weather overflows occurred at Cootamundra STP.

The estimated quantify based on the pump run and related information is used to estimate the wet weather overflows.

*Table 4 - Plant Wet weather overflows*

| Date | Rainfall | Wet weather Overflow (kL) |
|---|---|---|
| 05-10-23 | 33 | 2388 |
| 25-11-23 | 23.5 | 24597 |
| 29-11-23 | 69 | 59038 |
| 17-01-24 | 30 | 1886 |
| 18-01-24 | 27 | 5139 |
| 06-04-24 | 34 | 36879 |
| 07-04-24 | 26 | 38624 |

## Location of Monitoring Points


*Figure 3- Monitoring Points*

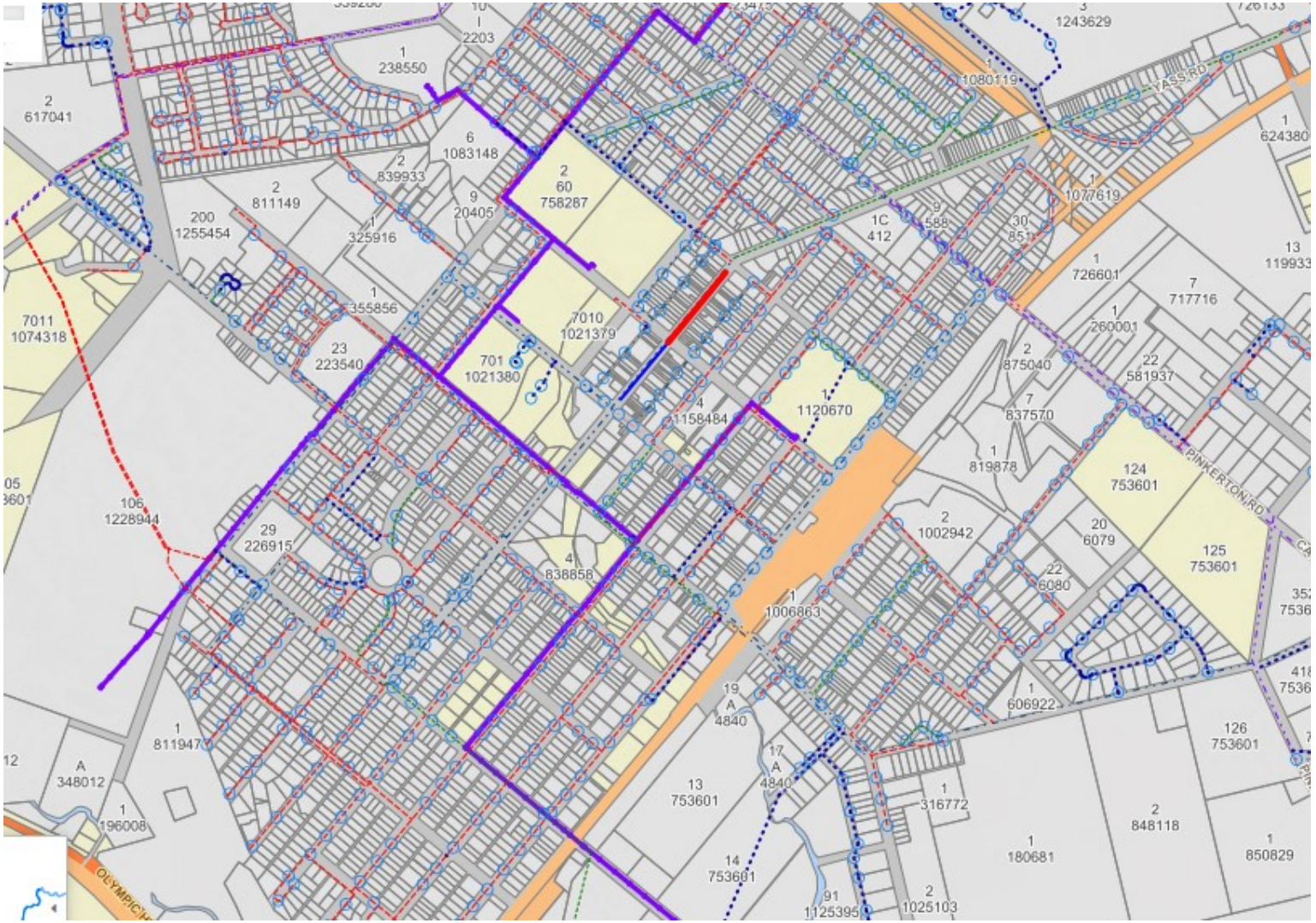



*Figure 4 - Parks and Garden Irrigation Wastewater with Sewage Effluent*

# Appendix 1 – Concentration Monitoring

The information contained below is for License No 1603 from 1 May 2023 to 30 April 2024.

**80 ML Dam Muttuma Creek**

| Point No | Parameter | Unit | LOR | 100 percentile concentration limit | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| 1 | **BOD** | mg/L | | | 4 | 4 | 1 | 2.5 | 4 |
| 1 | **Faecal Coliforms** | cfu/100mL | | | 4 | 4 | 0 | 13 | 26 |
| 1 | **Nitrogen (total)** | mg/L | | | 4 | 4 | 0.3 | 0.55 | 0.8 |
| 1 | **Oil & Grease** | mg/L | | | 4 | 4 | 1 | 1.5 | 2 |
| 1 | **pH** | pH | | | 4 | 4 | 6.2 | 7.65 | 9.1 |
| 1 | **Phosphorus (total)** | mg/L | | | 4 | 4 | 0.01 | 0.11 | 0.21 |
| 1 | **Total suspended solids** | mg/L | | | 4 | 4 | 1 | 14 | 27 |

**Mitchell Park – Irrigation**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 3 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 2 | 128 | 133 | 130.5 |
| 3 | **Conductivity** | dS/m | 0.01 | 1 | 2 | 166 | 320 | 243 |
| 3 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 2 | 5.89 | 11.8 | 8.845 |
| 3 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 2 | 3.5 | 5.45 | 4.475 |
| 3 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 2 | 0.63 | 1.07 | 0.85 |
| 3 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 2 | 0.1 | 0.89 | 0.495 |
| 3 | **Nitrate** | mg/kg | 0.1 | 1 | 2 | 16 | 57 | 36.5 |
| 3 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 2 | 2630 | 2950 | 2790 |
| 3 | **Organic matter** | w/w% | 0.5 | 1 | 2 | 7.1 | 11.1 | 9.1 |
| 3 | **pH** | pH | 0.1 | 1 | 2 | 7.1 | 7.6 | 7.35 |
| 3 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 2 | 408 | 484 | 446 |

**Albert Park**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 4 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 2 | 16 | 21 | 18.5 |
| 4 | **Conductivity** | dS/m | 0.01 | 1 | 2 | 110 | 172 | 141 |
| 4 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 2 | 5.62 | 7.42 | 6.52 |
| 4 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 2 | 3.72 | 4.87 | 4.295 |
| 4 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 2 | 0.87 | 1.45 | 1.16 |
| 4 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 2 | -0.02 | 0.11 | 0.045 |
| 4 | **Nitrate** | mg/kg | 0.1 | 1 | 2 | 5 | 27 | 16 |
| 4 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 2 | 2520 | 2890 | 2705 |
| 4 | **Organic matter** | w/w% | 0.5 | 1 | 2 | 8.8 | 9.2 | 9 |
| 4 | **pH** | pH | 0.1 | 1 | 2 | 7 | 6.8 | 6.9 |
| 4 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 2 | 264 | 329 | 296.5 |

**Jubilee Park Irrigation**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 5 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 2 | -5 | 22 | 8.5 |
| 5 | **Conductivity** | dS/m | 0.01 | 1 | 2 | 72 | 127 | 99.5 |
| 5 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 2 | 5.37 | 7.24 | 6.305 |
| 5 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 2 | 4.39 | 3.49 | 3.94 |
| 5 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 2 | 0.56 | 0.99 | 0.775 |
| 5 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 2 | 0.16 | 0.24 | 0.2 |
| 5 | **Nitrate** | mg/kg | 0.1 | 1 | 2 | 4 | 20 | 12 |
| 5 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 2 | 972 | 3130 | 2051 |
| 5 | **Organic matter** | w/w% | 0.5 | 1 | 2 | 6.5 | 9 | 7.75 |
| 5 | **pH** | pH | 0.1 | 1 | 2 | 7.2 | 6.9 | 7.05 |
| 5 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 2 | 133 | 351 | 242 |

**Clarke Oval**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 6 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 2 | 124 | 133 | 128.5 |
| 6 | **Conductivity** | dS/m | 0.01 | 1 | 2 | 160 | 239 | 199.5 |
| 6 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 1 | 7.53 | 11.5 | 9.515 |
| 6 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 2 | 6.16 | 9.67 | 7.915 |
| 6 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 2 | 1.23 | 2.26 | 1.745 |
| 6 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 2 | 0.2 | 0.9 | 0.55 |
| 6 | **Nitrate** | mg/kg | 0.1 | 1 | 2 | 24 | 39 | 31.5 |
| 6 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 2 | 3010 | 4050 | 3530 |
| 6 | **Organic matter** | w/w% | 0.5 | 1 | 2 | 10.2 | 9.1 | 9.65 |
| 6 | **pH** | pH | 0.1 | 1 | 2 | 7 | 7 | 7 |
| 6 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 2 | 518 | 563 | 540.5 |

**Fisher Park**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 7 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 2 | 210 | 199 | 204.5 |
| 7 | **Conductivity** | dS/m | 0.01 | 1 | 2 | 174 | 218 | 196 |
| 7 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 1 | 7.24 | 9.14 | 8.19 |
| 7 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 2 | 4.74 | 6.49 | 5.615 |
| 7 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 2 | 0.92 | 1.46 | 1.19 |
| 7 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 2 | 22 | 0.71 | 11.355 |
| 7 | **Nitrate** | mg/kg | 0.1 | 1 | 2 | 22 | 31 | 26.5 |
| 7 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 2 | 3060 | 3450 | 3255 |
| 7 | **Organic matter** | w/w% | 0.5 | 1 | 2 | 8.8 | 9 | 8.9 |
| 7 | **pH** | pH | 0.1 | 1 | 2 | 7 | 6.9 | 6.95 |
| 7 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 2 | 583 | 614 | 598.5 |

**Bradman Oval**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 8 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 2 | 17 | 12 | 14.5 |
| 8 | **Conductivity** | dS/m | 0.01 | 1 | 2 | 324 | 777 | 550.5 |
| 8 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 2 | 6.82 | 9.74 | 8.28 |
| 8 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 2 | 5.1 | 9.4 | 7.25 |
| 8 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 2 | 0.5 | 0.93 | 0.715 |
| 8 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 2 | 0.93 | 2.91 | 1.92 |
| 8 | **Nitrate** | mg/kg | 0.1 | 1 | 2 | 6 | 14 | 10 |
| 8 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 2 | 2390 | 2330 | 2360 |
| 8 | **Organic matter** | w/w% | 0.5 | 1 | 2 | 8.8 | 9.2 | 9 |
| 8 | **pH** | pH | 0.1 | 1 | 2 | 7 | 6.7 | 6.85 |
| 8 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 2 | 244 | 193 | 218.5 |

**Cameron Square**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 9 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 2 | 6 | 10 | 8 |
| 9 | **Conductivity** | dS/m | 0.01 | 1 | 2 | 70 | 164 | 117 |
| 9 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 2 | 4.67 | 7.36 | 6.015 |
| 9 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 2 | 2.15 | 2.96 | 2.555 |
| 9 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 2 | 1.01 | 2.1 | 1.555 |
| 9 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 2 | -0.02 | 0.18 | 0.08 |
| 9 | **Nitrate** | mg/kg | 0.1 | 1 | 2 | 4 | 42 | 23 |
| 9 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 2 | 1630 | 2220 | 1925 |
| 9 | **Organic matter** | w/w% | 0.5 | 1 | 2 | 6.4 | 7.2 | 6.8 |
| 9 | **pH** | pH | 0.1 | 1 | 2 | 7 | 6.7 | 6.85 |
| 9 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 2 | 208 | 213 | 210.5 |

**Nicholson Park**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 10 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 2 | 58 | 28 | 43 |
| 10 | **Conductivity** | dS/m | 0.01 | 1 | 2 | 205 | 295 | 250 |
| 10 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 2 | 10.1 | 14.4 | 12.25 |
| 10 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 2 | 6.05 | 9.96 | 8.005 |
| 10 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 2 | 0.84 | 1.44 | 1.14 |
| 10 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 2 | 0.46 | 1.34 | 0.9 |
| 10 | **Nitrate** | mg/kg | 0.1 | 1 | 2 | 11 | 14 | 12.5 |
| 10 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 2 | 3450 | 3850 | 3650 |
| 10 | **Organic matter** | w/w% | 0.5 | 1 | 2 | 11.3 | 10.8 | 11.05 |
| 10 | **pH** | pH | 0.1 | 1 | 2 | 7.2 | 7.3 | 7.25 |
| 10 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 2 | 418 | 264 | 341 |

**Country Club**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 11 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 2 | 53 | 44 | 48.5 |
| 11 | **Conductivity** | dS/m | 0.01 | 1 | 2 | 200 | 235 | 217.5 |
| 11 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 2 | 7.52 | 7.76 | 7.64 |
| 11 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 2 | 3.95 | 4.53 | 4.24 |
| 11 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 2 | 0.7 | 0.76 | 0.73 |
| 11 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 2 | 0.27 | 0.79 | 0.53 |
| 11 | **Nitrate** | mg/kg | 0.1 | 1 | 2 | 8 | 28 | 18 |
| 11 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 2 | 2930 | 2420 | 2675 |
| 11 | **Organic matter** | w/w% | 0.5 | 1 | 2 | 10.3 | 10.1 | 10.2 |
| 11 | **pH** | pH | 0.1 | 1 | 2 | 6.9 | 7.3 | 7.1 |
| 11 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 2 | 344 | 467 | 405.5 |

**80 ML Storage Reuse**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 12 | **BOD** | mg/L | 2 | 4 | 4 | 1 | 2.5 | 4 |
| 12 | **Faecal Coliforms** | cfu/100mL | 1 | 4 | 4 | 0 | 19 | 38 |
| 12 | **Nitrogen (total)** | mg/L | 2 | 4 | 4 | 0.3 | 0.55 | 0.8 |
| 12 | **Oil & Grease** | mg/L | 1 | 4 | 4 | 0 | 0.5 | 1 |
| 12 | **pH** | pH | 0.1 | 4 | 4 | 6.3 | 7.8 | 9.3 |
| 12 | **Phosphorus (total)** | mg/L | 0.01 | 4 | 4 | 0.01 | 0.2 | 0.48 |
| 12 | **Total suspended solids** | mg/L | 2 | 4 | 4 | 1 | 9.5 | 18 |

**Cootamundra High School**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 13 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 1 | 22 | 22 | 22 |
| 13 | **Conductivity** | dS/m | 0.01 | 1 | 1 | 121 | 121 | 121 |
| 13 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 1 | 3.84 | 3.84 | 3.84 |
| 13 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 1 | 1.95 | 1.95 | 1.95 |
| 13 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 1 | 0.88 | 0.88 | 0.88 |
| 13 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 1 | 0.25 | 0.25 | 0.25 |
| 13 | **Nitrate** | mg/kg | 0.1 | 1 | 1 | 13 | 13 | 13 |
| 13 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 1 | 1700 | 1700 | 1700 |
| 13 | **Organic matter** | w/w% | 0.5 | 1 | 1 | 9.5 | 9.5 | 9.5 |
| 13 | **pH** | pH | 0.1 | 1 | 1 | 6.6 | 6.6 | 6.6 |
| 13 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 1 | 135 | 135 | 135 |

**Cootamundra Public School**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 14 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 1 | 88 | 88 | 88 |
| 14 | **Conductivity** | dS/m | 0.01 | 1 | 1 | 151 | 151 | 151 |
| 14 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 1 | 12.4 | 12.4 | 12.4 |
| 14 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 1 | 7.54 | 7.54 | 7.54 |
| 14 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 1 | 1.94 | 1.94 | 1.94 |
| 14 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 1 | 0.52 | 0.52 | 0.52 |
| 14 | **Nitrate** | mg/kg | 0.1 | 1 | 1 | 21 | 21 | 21 |
| 14 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 1 | 2220 | 2220 | 2220 |
| 14 | **Organic matter** | w/w% | 0.5 | 1 | 1 | 9.5 | 9.5 | 9.5 |
| 14 | **pH** | pH | 0.1 | 1 | 1 | 6.6 | 6.6 | 6.6 |
| 14 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 1 | 382 | 382 | 382 |

**Southee Public School**

| Point No | Parameter | Unit | LOR | Required tests | Undertaken tests | min | max | mean |
|---|---|---|---|---|---|---|---|---|
| 15 | **Available Phosphorus** | mg/kg | 0.1 | 1 | 1 | 101 | 101 | 101 |
| 15 | **Conductivity** | dS/m | 0.01 | 1 | 1 | 174 | 174 | 174 |
| 15 | **Exchangeable Calcium** | cmol/kg | 1 | 1 | 1 | 13.1 | 13.1 | 13.1 |
| 15 | **Exchangeable Magnesium** | cmol/kg | 1 | 1 | 1 | 6.57 | 6.57 | 6.57 |
| 15 | **Exchangeable Potassium** | cmol/kg | 1 | 1 | 1 | 1.23 | 1.23 | 1.23 |
| 15 | **Exchangeable Sodium** | cmol/kg | 0.1 | 1 | 1 | 0.37 | 0.37 | 0.37 |
| 15 | **Nitrate** | mg/kg | 0.1 | 1 | 1 | 38 | 38 | 38 |
| 15 | **Nitrogen (Total)** | mg/kg | 20 | 1 | 1 | 2480 | 2480 | 2480 |
| 15 | **Organic matter** | w/w% | 0.5 | 1 | 1 | 9.6 | 9.6 | 9.6 |
| 15 | **pH** | pH | 0.1 | 1 | 1 | 6.6 | 6.6 | 6.6 |
| 15 | **Phosphorus (total)** | mg/Kg | 2 | 1 | 1 | 457 | 457 | 457 |