

# Resource Operations Licence

## Water Act 2000



### Name of licence

Rookwood Weir Water Supply Scheme Resource Operations Licence

### Holder

State of Queensland (as represented by Department of Regional Development, Manufacturing and Water).

### Water plan

The licence relates to the Water Plan (Fitzroy Basin) 2011.

### Water infrastructure

The water infrastructure to which the licence relates is detailed in attachment 1.

### Authority to interfere with the flow of water

The licence holder is authorised to interfere with the flow of water to the extent necessary to operate the water infrastructure to which the licence relates.

### Authority to use watercourses to distribute water

The licence holder is authorised to use the following watercourses for the distribution of supplemented water, including sections of tributaries where supplemented water is accessible—

**Table 1 - use of watercourses for distribution**

Watercourse	Description
Fitzroy River	Extending from the Fitzroy Barrage (AMTD 59.6 km) upstream to the Dawson River junction (AMTD 310.3 km)
Dawson River	Extending from the Fitzroy River junction (AMTD 0 km) to the upstream limit of Rookwood Weir (AMTD 11.5 km)
Mackenzie River	Extending from the Dawson River junction (AMTD 310.3 km) to the upstream limit of Rookwood Weir (AMTD 322.4 km)

### Conditions

#### 1. Requirement for operations manual

- 1.1. The licence holder must operate in accordance with an approved operations manual.
- 1.2. The approved operations manual must include:
  - 1.2.1. operating rules for water infrastructure
  - 1.2.2. water sharing rules
  - 1.2.3. seasonal water assignment rules.

#### 2. Environmental management rules

- 2.1. The licence holder must comply with the requirements as detailed in attachment 2.

### **3. Metering**

- 3.1.** The licence holder must meter the taking of water under all water allocations and seasonal water assignments managed under this licence.
- 3.2.** All meters must comply with the non-urban metering standard as defined in the Water Regulation 2016.

### **4. Monitoring and reporting requirements**

- 4.1.** The licence holder must carry out and report on the monitoring requirements as set out in attachment 3.
- 4.2.** The licence holder must provide any monitoring data required under condition 4.1 to the chief executive within a stated time upon request.
- 4.3.** The licence holder must ensure that the monitoring, including the measurement, collection, analysis and storage of data, is consistent with the Water Monitoring Data Collection Standards<sup>1</sup>.
- 4.4.** The licence holder must ensure that the transfer of data and reporting are consistent with the Water Monitoring Data Reporting Standards<sup>1</sup>.

### **5. Other conditions**

- 5.1.** The operating and supply arrangements, and the monitoring required under this licence do not apply in situations where implementing the rules or meeting the requirements would be unsafe to a person or persons. In these circumstances the licence holder must comply with the reporting requirements for operational or emergency prescribed in attachment 3.
- 5.2.** The licence holder is required to collect and make publicly available through an industry accepted digital channel, updated at least monthly, details of each seasonal water assignment managed under this licence, including the sale price, the volume of water assigned and the location of where the water was assigned to and from.
- 5.3.** The licence holder must provide the chief executive information about seasonal water assignments as directed by the chief executive within the stated time upon request<sup>1</sup>.
- 5.4.** The licence holder is required to record and make publicly available through an industry accepted digital channel, daily continuous time series flow data of Rookwood Weir inflows.
- 5.5.** From the day this licence commences until the sooner of, 18 months after the day this licence takes effect or the water level in Rookwood Weir exceeds EL 46.20m AHD for the first time, the licence holder must comply with the operating arrangements and supply requirements in attachment 5.

This Resource Operations Licence is subject to the conditions attached.

### **Commencement of licence**

The licence took effect on *[DD month year]*

**Granted on *[dd month year]***

**Signature**

**Name of the delegate of the CE  
Position**

---

<sup>1</sup> The Water Monitoring Data Collection Standards and the Water Monitoring Data Reporting Standards can be accessed online at [www.business.qld.gov.au](http://www.business.qld.gov.au)

# Attachment 1 Infrastructure details for Rookwood Weir Water Supply Scheme

**Table 1 - Rookwood Weir - Fitzroy River AMTD 265.3 km**

Description of water infrastructure	
Main embankment	Conventional Vibrated Concrete (CVC) ogee spillway
Full supply level	EL 46.20m AHD
Fixed crest level	EL 46.20m AHD
Minimum operating level	EL 31.00m AHD
Saddle dam(s)	Nil
Fabridams	Nil
Gates	Nil
Storage capacity	
Full supply volume	74,325 ML
Minimum operating volume	119 ML
Non-commandable volume in water holes in the impounded area upstream of weir	6,411 ML
Surface area/elevation and storage volume/elevation relationship	Drawing no. 253790 Rev A
Spillway arrangement	
Description of works	Uncontrolled gravity ogee weir
Spillway level	EL 46.20m AHD
Spillway width	202 m
Discharge characteristics	Drawing reference RWW-RWA-STR-DG-010-011
River inlet/outlet works	
Description of works	Multi-level fishlock with 1800mm low-flow outlet
Multi-level inlet	Works can accommodate selective withdrawal
Discharge characteristics	Drawing no. RWW-RWA-GNL-DG-000-002
Aquatic fauna transfer system	
Description of works	<p>Fishlock located near the right bank adjacent to the outlet works, drawing reference RWW-RWA-STR-DG-012-011.</p> <p>Turtle passage located on the right bank, drawing reference RWW-RWA-STR-DG-016-011.</p>
Local supply level / area	
Medium Priority Local Supply Level	EL 38.93m AHD

High Priority Local Supply Level	EL 34.80m AHD
Local Supply Area	Zones Rookwood E (Rookwood Weir ponded area) and Rookwood D (Fitzroy River section between downstream of Rookwood Weir to the upper extent of the Eden Bann Weir ponded area).

Draft for consultation

# Attachment 2 Environmental management rules

## 1 Quality of water released

The licence holder must draw water using the multi-level inlet from the level that optimises the quality of water released.

## 2 Change in rate of release from infrastructure

The licence holder must minimise the occurrence of adverse environmental impacts by—

- (1) ensuring that any change in the rate of release of water from a storage into a watercourse occurs incrementally; and
- (2) managing weir releases into a watercourse that targets downstream water levels that are conducive to—
  - (a) the establishment of downstream turtle nesting sites between May and July; and
  - (b) the incubation of downstream turtle nesting between August and January.

## 3 Operation of Rookwood Weir fishway and turtleway

- (1) When the water level in Rookwood Weir is above EL 35.20m AHD—
  - (a) the licence holder must, where practicable, use the fishway and turtleway to release water from Rookwood Weir; and
  - (b) when the release of water is greater than the capacity of the fishway, the licence holder must, where practicable, first release water to operate the fishway and turtleway, and then through the outlet valve or over the crest of the weir.
- (2) When the water level in Rookwood Weir is equal to or below EL 35.20m AHD, the licence holder must—
  - (a) for four consecutive weeks release 2.2 ML/day through the fishway; and
  - (b) following the four consecutive weeks, for one week, release 8.64 ML/day comprising of fishway and turtleway releases and
  - (c) after one week of releases under subsection (b), recommence releases under subsection (a) again.
- (3) Releases under subsection (2) (a) or (b) cease when the water level in Rookwood Weir is above EL 35.20m AHD.

# Attachment 3 Licence holder monitoring and reporting

## Part 1 Monitoring requirements

### Division 1 Water quantity

#### 1 Streamflow and infrastructure water level data

- (1) The licence holder must record water level and volume data, and stream flow data in accordance with attachment 3, table 1.
- (2) Infrastructure inflows may be determined based upon an infrastructure inflow derivation technique or alternate methodology supplied by the licence holder and approved by the chief executive.

**Table 1 - Locations where continuous water data recording required**

Continuous time series storage water level data	Continuous time series flow data
—	Rookwood Weir inflow*
Rookwood Weir headwater (GS 130011A – AMTD xxx.x km)	—
—	Rookwood Weir tailwater (GS 130010A – AMTD 248.6km)

\*methodology to be approved by the chief executive

#### 2 Releases from infrastructure

- (1) The licence holder must measure and record for each release of water from Rookwood Weir— +
  - (a) the daily volume released; and
  - (b) the release rate, and for any change in release rate—
    - (i) the date and time of the change; and
    - (ii) the new release rate; and
  - (c) the reason for each release.
- (2) In addition to the requirements under subsection (1), for storage outlets with selective withdrawal capabilities, the licence holder must record—
  - (a) the inlet level used for each release of water; and
  - (b) the reason for deciding to release from that particular inlet level.

#### 3 Restrictions

The licence holder must record details of any restriction on volumes for each priority group that may be supplied, including—

- (a) the start and end date; and
- (b) the volume of water to be supplied.

#### 4 Water taken by water users

The licence holder must measure and record the total volume of water taken by each water user for each zone as follows—

- (a) the total volume of water taken each quarter;
- (b) the total volume of water entitled to be taken at any time;
- (c) the basis for determining the total volume of water entitled to be taken at any time; and
- (d) the basis for determining the total volume of water entitled to be taken, including adjustments for volumes moved into or out of the water year and seasonal water assignments.

## **5 Seasonal water assignment of a water allocation**

The licence holder, upon consent to a seasonal water assignment, must record details of seasonal water assignment arrangements, including—

- (a) the name of the assignee and the assignor;
- (b) the volume of the assignment;
- (c) the location—
  - (i) from which it was assigned;
  - (ii) to which it was assigned;
- (d) the effective date of the assignment; and
- (e) the sale price.

## **Division 2 Impact of infrastructure operation on natural ecosystems**

### **6 Water quality**

The licence holder must monitor and record water quality data in relation to relevant infrastructure listed in attachment 1.

### **7 Bank condition**

- (1) The licence holder must inspect banks for evidence of collapse and/or erosion identified within ponded areas of each storage listed in attachment 1 and downstream reaches, following instances of—
  - (a) rapid water level changes; or
  - (b) large flows through storage, or
  - (c) other occasions when collapse and/or erosion of banks may be likely.
- (2) For subsection (1), downstream of the relevant infrastructure means the distance of influence of infrastructure operations.

### **8 Fish stranding**

The licence holder must record and assess reported instances of fish stranding in watercourses and ponded areas associated with the operation of the infrastructure listed in attachment 1 to determine if any instance is associated with the operation of that infrastructure.

### **9 Turtle nesting and incubation**

The licence holder must record and assess any reported issues relating to downstream turtle nesting and incubation associated with the operation of the infrastructure listed in attachment 1.

## Part 2 Reporting requirements

### 10 Reporting requirements

The licence holder must provide the following reports in accordance with this part —

- (a) quarterly report;
- (b) annual report for the previous water year; and
- (c) operational report and emergency reports.

### Division 1 Quarterly reporting

#### 11 Quarterly reporting

- (1) The licence holder must submit a quarterly report to the chief executive after the end of each quarter of every water year.
- (2) The quarterly report must include—
  - (a) stream flow, storage inflow and water level data—records referred to under attachment 3, section 1;
  - (b) releases from storage—all records referred to under attachment 3, section 2;
  - (c) the total quarterly volume of water taken under each water allocation—all records referred to in section attachment 3, section 4;
  - (d) water quality—all records referred to under attachment 3, section 6; and
  - (e) summary of bank condition monitoring and incidences of slumping carried out in accordance with attachment 3, section 7.

### Division 2 Annual reporting

#### 12 Annual report

- (1) The licence holder must submit an annual report to the chief executive after the end of the water year.
- (2) The annual report must include—
  - (a) water quantity monitoring results required under attachment 3, section 13;
  - (b) details of the impact of storage operation on natural ecosystems as required under attachment 3, section 14;
  - (c) a discussion on any issues that arose as a result of the implementation and application of the rules and requirements of this licence; and
  - (d) a summary of sale price disclosure information and other seasonal water assignment information as per Attachment 3, section 5.

#### 13 Water quantity monitoring

The licence holder must include in the annual report—

- (a) instances where any restrictions have been implemented, including—
  - (i) an evaluation of the effectiveness of the limitation or restriction procedures and outcomes; and
  - (ii) the date and value for each restriction;
- (b) details of seasonal water assignments, including—
  - (i) the total number of seasonal water assignments;
  - (ii) the total volume of water seasonally assigned; and
  - (iii) the total sale price.
- (c) the total annual volume of water taken by all water users, specified by zone, including—



- (i) the total volume of supplemented water taken;
- (ii) the total volume of supplemented water entitled to be taken; and
- (iii) the basis for determining the total volume entitled to be taken;
- (d) all details of changes to the storage and delivery infrastructure or the operation of the storage and infrastructure that may impact on compliance with this licence; and
- (e) details of any new monitoring devices used, such as equipment to measure stream flow.
- (f) a discussion on any other issues that arose as a result of the implementation and application of the rules and requirements in this licence.

## 14 Impact of infrastructure operation on natural ecosystems

- (1) The licence holder must include in their annual report—
  - (a) a summary of the environmental considerations made by the licence holder in making operational and release decisions;
  - (b) a summary of the environmental outcomes of the decision, including any adverse environmental impacts;
  - (c) a summary of bank condition, fish stranding monitoring and assessment, and turtle nesting and incubation including—
    - (i) results of investigations of bank slumping and/or erosion identified in the ponded areas and/or downstream of the storages;
    - (ii) results of any investigations of fish stranding downstream of the storages; and
    - (iii) changes to the operation of the storage to reduce instances of bank slumping and/or erosion or fish stranding; and
    - (iv) results of any investigations into turtle nesting and incubation issues downstream of the storages; and
  - (d) a discussion and assessment of the following water quality issues—
    - (i) thermal and chemical stratification in the storage;
    - (ii) contribution of the storage and its management to the quality of water released;
    - (iii) cyano-bacterial population changes in response to stratification in the storage; and
    - (iv) any proposed changes to the monitoring program as a result of evaluation of the data.

## Division 3 Operational or emergency reporting

### 15 Operational or emergency reporting<sup>2</sup>

- (1) The licence holder must notify the chief executive within one business day of becoming aware of—
  - (a) any of the following operational incidents—
    - (i) a non-compliance by the licence holder with the conditions of this licence;
    - (ii) instances of fish stranding, cyanobacteria growth or bank slumping within the ponded area or downstream of the water infrastructure to which this licence relates;
  - (b) an emergency where, as a result of the emergency, the licence holder cannot comply with the conditions of this licence.
- (2) The licence holder must provide to the chief executive upon request, and within the timeframe requested, a report which includes details of—
  - (a) the incident or emergency;
  - (b) the conditions under which the incident or emergency occurred;

<sup>2</sup> This does not preclude requirements for dam safety under the *Water Act 2000* and any other applicable legislation.

- (c) any responses or activities carried out as a result of the incident or emergency; and
- (d) in relation to an emergency only, any requirements under this licence that the licence holder is either permanently or temporarily unable to comply with due to the emergency.

Draft for consultation

## Attachment 4 Glossary

Term	Definition
AHD	Australian Height Datum, which references a level or height to a standard base level.
AMTD	Adopted middle thread distance
Assignee	The person or entity to whom an interest or right to water is being transferred (e.g. seasonally assigned).
Assignor	The person or entity that transfers an interest or right in water to an assignee (e.g. a seasonal assignment).
EL	Elevation
Full supply volume	The specified maximum volume of water within the ponded area of a dam, weir or barrage, which corresponds to the full supply level.
Headwater level	The level (or elevation) of the water immediately upstream of a dam, weir, or other hydraulic structure.
Infrastructure	A dam, weir or other water storage and any associated works for taking or interfering with water in a watercourse, lake or spring.
Inlet	Infrastructure comprised of an entrance channel, intake structure, and gate or valve, which allow for water to be taken from the storage and discharged into the watercourse downstream of the storage.
Limitation	Limiting the amount of water that may be taken during a water year.
Local supply area	A specified area to identify water allocations which are to be supplied by a local supply volume.
Local supply level	A level attributed to a volume of water that is held back in a storage to supply specified water allocations (either located in a local supply area and/or a specified water allocation priority group).
Location	For a water allocation, means the zone and/or place from which water under the water allocation can be taken. For a water licence, means the section of the watercourse, lake or spring abutting or contained by the land described on the water licence at which water may be taken.
Megalitre (ML)	One million litres
Minimum operating level	For a dam or weir, is the volume of water within the ponded area of a dam, weir or barrage below which water cannot be released or taken from the infrastructure under normal operating conditions.
Minimum operating volume	The specified minimum volume of water within the ponded area of a dam weir or barrage below which water cannot be released or taken from the infrastructure under normal operating conditions.
Outlet	Means an arrangement on a dam or weir that allows stored water to be released downstream.
Ponded area	Area of inundation at full supply level of a dam, weir or barrage.
Release	Water from a dam or weir that passes downstream from the dam or weir either through the dam or weir outlet works or over the dam spillway.
Release rate	Rate of release of water from a storage facility, for example, a dam or weir.
Streamflow	Includes flow of water resulting from tributary inflows, and does not include releases of supplemented water.
Tailwater	The flow of water immediately downstream of a dam, weir or barrage. Tailwater includes all water passing the infrastructure, for example controlled releases and uncontrolled overflows.

# Attachment 5 Rookwood Weir Water Supply Scheme Temporary Arrangements (Condition 5.5)

## 16 Wet Commissioning for Rookwood Weir Water Supply Scheme

*(To be informed by wet commissioning schedule currently being developed by Sunwater)*

## 17 Environmental release rules Attachment 2 of this licence

- (1) The operation of the Rookwood Weir fishway and turtleway will commence when the water level in Rookwood Weir is above EL 35.20m AHD.
- (2) Once the operation of the Rookwood Weir fishway and turtleway has commenced, the licence holder must comply with attachment 2, section 3 of this licence.

## 18 Operating Rules – Chapter 2 of the Rookwood Weir Water Supply Scheme Operations Manual

- (1) Until Condition 5.5 is met, where possible, the licence holder must release water from Rookwood Weir—
  - (a) to maintain the operating level of the Fitzroy Barrage as stated in section 5 of the Rookwood Weir Water Supply Scheme Operations Manual;
  - (b) to maintain Eden Bann Weir above EL 14.40m AHD;
  - (c) in accordance with section 18, comply with the environmental management rules prescribed in attachment 2 of this licence; and
  - (d) to give effect to the water sharing rules within the Fitzroy Basin Water Management Protocol for unsupplemented water allocations within the Fitzroy Water Management Area.
- (2) To be clear, until condition 5.5 is met, section 5 and 6 of the Rookwood Weir Water Supply Scheme Operations Manual is not to be adhered to.

## 19 Water Sharing Rules – Chapter 3 of the Rookwood Weir Water Supply Scheme Operations Manual

- (1) Until condition 5.5 is met, medium priority water allocations associated with Rookwood Weir Water Supply Scheme must not take water.
- (2) Until condition 5.5 is met, high priority water allocations associated with Rookwood Weir Water Supply Scheme must not take water unless the storage level in the—
  - (a) Fitzroy Barrage is equal to or above EL3.38m AHD; and
  - (b) Eden Bann Weir is equal to or above EL14.40m AHD; and
  - (c) Rookwood Weir is equal to or above EL 42.60m AHD.
- (3) The licence holder must start supplying all water allocations associated the Rookwood Weir Water Supply Scheme in accordance with Chapter 3 of the Rookwood Weir Water Supply Scheme Operations Manual once condition 5.5 is met.

## **20 Other arrangements**

All other conditions and rules stated in this licence or the Rookwood Weir Water Supply Scheme Operations Manual must commence on the day this licence takes effect.

Draft for consultation