

Interim Resource Operations Licence for Three Moon Creek Water Supply Scheme

Issued to Sunwater

June 2021



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1.0 Introduction

1.1. Title

This licence (“the Licence”) may be cited as the Interim Resources Operations Licence for the Three Moon Creek Water Supply Scheme.

1.2. Licensee

The Licensee under the Licence is Sunwater (“the Licensee”).

1.3. Water Managed under the Licence

The Licence authorises the diversion, storage and management of water in Three Moon Creek for the ponded area of Cania Dam and downstream to AMTD 13.2 km which includes the ponded area of Youlambie Weir, Monto Weir, Bazley Weir, Avis Weir and Mulgildie Weir; Monal Creek from AMTD 2.8 km to the junction with Three Moon Creek and the Three Moon Creek benefited underground water area.

1.4. Effect of Licence

The Licence may be subsequently amended or otherwise dealt with in accordance with the *Water Act 2000* including, but not limited to, being amended to more correctly or more comprehensively state the operating arrangements as they were at the date of commencement of the Licence.

The Licence provides no guarantee and makes no assurances with regard to the performance of water entitlements associated with the Licence.

1.5. Commencement Date and Term of the Licence

The Licence commences on the day of issue and continues until replaced by a Resource Operations Licence under the *Water Act 2000* or until it is amended, transferred, cancelled, or otherwise dealt with under the *Water Act 2000*.

2.0 Water infrastructure and operating arrangements

The water infrastructure and operating arrangements approved under the Licence are described in Schedules 1 and 2. Where there is any conflict between the requirements of Schedule 1 and Schedule 2, then the requirements of Schedule 2 shall prevail. Schedule 1 sets out:

- (a) The water infrastructure to which the Licence applies including the watercourses used for water distribution and drainage.
- (b) The operating arrangements for water infrastructure including operating arrangements designed to protect natural resources that may be adversely affected by the operation of the infrastructure.

3.0 Interim water allocation, management and sharing

Terms relating to water managed under the Licence, water sharing rules, other water supply responsibilities and the apportionment of interim water allocations in accordance with the *Water Act 2000*, are detailed in Schedule 2.

Interim water allocation granted to the Licensee for water losses may not be transferred. However, interim water allocation may be the subject of seasonal water assignments in accordance with the Licence.

4.0 Monitoring and reporting

- 4.1 The Licensee must monitor and report on activities under the Licence in accordance with Schedule 3. Where Schedule 1 or Schedule 2 lists activities of a monitoring or reporting nature, the Licensee must also undertake those activities in addition to the requirements of Schedule 3.
- 4.2 The Licensee must provide any monitoring data required under schedule 3.1 to the chief executive within a stated time upon request.
- 4.3 The Licensee must ensure that the monitoring, including the measurement, collection, analysis and storage of data, is consistent with the Water Monitoring Data Collection Standards¹.
- 4.4 The Licensee must ensure that the transfer of data and reporting are consistent with the Water Monitoring Data Reporting Standards¹.
- 4.5 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 Licensee must comply with the reporting requirements for operational or emergency events prescribed in Schedule 3.

5.0 Amendment history

The original licence was issued on 10 November 2000. The amendments since that date are shown in Schedule 4.

6.0 Dictionary

All terms referred to in the Licence have the same meaning given to them in the *Water Act 2000* unless a contrary interpretation is specified in the Licence.

Chief Executive means chief executive of the Department of Regional Development, Manufacturing and Water. DRDMW or department means the Department of Regional Development, Manufacturing and Water.

Surface water means water in a watercourse, lake, spring, dam or weir managed under the Licence.

SW means surface water.

UW means underground water.

The Licence is issued on the 17 June 2021

Ian Gordon
Director, Water
Divisional Support

¹ The Water Monitoring Data Collection Standards and the Water Monitoring Data Reporting Standards can be accessed online at: www.business.qld.gov.au

7.0 Schedule 1 - Water Infrastructure and Operating Arrangements

1.0 Surface water infrastructure & operating arrangements

S1.1 Cania Dam – Three Moon Creek – AMTD 110.1 km

ITEM	DESCRIPTION
Description of water infrastructure	
Main embankment	Earth and Rockfill Dam
Fully supply level	EL 331.0m AHD
Saddle dam(s)	Nil
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	88,500 ML
Commandable storage capacity	87,850 ML
Dead storage capacity	650 ML. [The volume below the level of the outlet works (EL 300 m AHD) is 650 ML. A volume of 650 ML was adopted in hydrologic modelling.]
Storage curve	Drawing No. A3-202490
Spillway arrangement	
Description of works	An unlined spillway through the ridge about 1km to the west of the dam. The spillway consists of a 90m free overfall concrete crest discharging into a 40m wide chute down the ridge and a 60m wide discharge channel through the alluvial terrace of the creek.
Spillway level	EL 331.00 m AHD spillway overflow
Spillway width	90m
Discharge characteristics	Drawing No. 44780-B Maximum outflow capacity of 3,150 m ³ /s.
River inlet/outlet works	
Description of outlet works	The outlet works consist of a 2159mm diameter pipe. On the downstream end of the outlet pipe is a bifurcate and 2 short lengths of 900mm diameter pipe to which are fitted 2 x 900mm butterfly guard valves and 2 x 750mm hollow jet control valves discharging into a short concrete outlet structure.
Description of inlet works	Single level offtake – The intake tower is a concrete structure which rises 42m above the creek bed, to 5m above the full supply level of the dam.
Cease to flow level	Sill of intake tower is at EL 300.00m AHD. Invert level of the cone valve is EL 293.13m AHD.
Discharge characteristics	Drawing No. A1-44829-C The maximum discharge capacity of the river outlet is approximately 1036 ML/day.
Fish transfer system	
Description of works	Nil – No fish transfer systems at Cania Dam.
Other information	
Pass flows: a) Environmental provisions b) Volume of first flush currently required to be passed through structure	During periods of low water levels in Three Moon Creek from AMTD 110.1km to AMTD 105km, releases may be made to support a community of platypus from AMTD 110.1km to AMTD 105km taking into account advice from the Department of Environment and Science regarding releases for this purpose. There is currently no requirement.

ITEM	DESCRIPTION
<p>c) Riparian/stock and domestic flows</p> <p>d) Other compensation flows (e.g. for underground water resources)</p> <p>e) Flow variations</p> <p>f) Maximum Release Rates, actual as agreed for Resource Protection</p>	<p>Releases of water from Cania Dam will not be made solely for stock or domestic purposes.</p> <p>Releases are made depending on available storage. If storage is greater than 11,000 ML capacity, scaled releases of between 6,000 ML and 13,500 ML can be made (refer to schedule 2.4).</p> <p>No maximum rates are in place. Releases greater than 400ML / day, will flood crossings in Three Moon Creek and so releases do not generally exceed this.</p>
<p>Operational constraints: a) Flood Mitigation</p>	<p>No provision for flood mitigation.</p>
<p>Management of storage water levels and quality:</p> <p>a) Water Quality Management, e.g.: Algal Management, multi-level offtakes including release strategies</p> <p>b) Minimum operating level for protection of fauna</p> <p>c) Storage fringe margin management</p>	<p>Single level offtake, no provisions for changing levels for water quality. Contingency plan as outlined in the Licensee's Blue-Green Algae Monitoring Manual.</p> <p>Storage is not to be drawn down below dead storage level of EL 300 m AHD (650 ML). The volume corresponding to 2.5 metres depth of water is 10 ML. Although not agreed, this depth of water has been discussed as an absolute minimum volume for the protection of fauna.</p> <p>The Licensee owns and controls the flood margin. Much of this land is leased to adjoining landholders. Leases require landowners to keep land free of noxious weeds and vermin.</p>

S1.2 Youlambie Weir (Including Anabranh Weir) - Three Moon Creek - AMTD 70.3 km

ITEM	DESCRIPTION
Description of water infrastructure	
Main embankment	Steel Sheet piling cascade Weir and Anabranh Weir, for storage, underground water recharge and Youlambie diversion.
Full supply level	EL 235.58m AHD.
Saddle dam(s)	Anabranh Weir.
Fabridams	Nil.
Gates	Nil.
Storage volume and surface area	
Full supply volume	142ML commandable from outlet works.
Commandable storage capacity	143 ML for recharge purposes.
Dead storage capacity	1ML. As a recharge weir the effective dead storage is zero.
Storage curve	Drawing No.39483
Spillway arrangement	
Description of works	Steel Sheet piling cascade (No separate spillway. Flows overtop full weir).
Spillway level	EL 235.58m AHD crest level of Youlambie Weir. EL 236.65m AHD crest level of Youlambie Anabranh Weir.
Spillway width	Not available at time of publication.
Discharge characteristics	Not available at time of publication.
River inlet/outlet works	
Description of outlet works	Main embankment: A single 600mm diameter pipe with a 300mm diameter gate valve. Outlet works are silted up. Presently water goes over the top of the structure or seeps into underground water. Anabranh outlet: Concrete structure 2.13m long x 1.94m high x 1.37m wide fitted with trash racks. Water level is controlled by drop boards with a 0.46m high x 0.91m wide outlet gate for releases.
Description of inlet works	Single Level Offtake. Inlet works consist of an inlet box with provision for dropboards. (EL 231.77m AHD).
Cease to flow level	EL 231.92m AHD level of outlet works of Youlambie Weir. EL 234.970m AHD level of outlet works of Youlambie Anabranh Weir.
Discharge characteristics	Maximum release rate from Youlambie anabranh outlet 64 ML/day.
Fish transfer system	
Description of works	No fish transfer systems at Youlambie Weir.
Other information	
Pass flows: a) Environmental provisions b) Volume of first flush currently required to be passed through structure c) Riparian/stock and domestic flows d) Other compensation flows (e.g. for underground water resources) e) Flow variations	No releases currently made specifically for environmental purposes. There is currently no obligation to pass flows downstream. Releases of water from Youlambie Weir will not be made solely for stock or domestic purposes. Flows down the Youlambie Channel to recharge the area of alluvium between Three Moon and Monal Creek. Water stored in this weir is for underground water recharge. Flows down Youlambie diversion channel: No agreed maximum release rates are in place.

ITEM	DESCRIPTION
f) Maximum Release Rates, actual as agreed for Resource Protection	
Operational constraints: a) Flood Mitigation	No provision for flood mitigation.
Management of storage water levels and quality: a) Water Quality Management, e.g.: Algal Management, multi-level offtakes including release strategies b) Minimum operating level for protection of fauna c) Storage fringe margin management	Single level offtake. No provision for changing levels for water quality. Not monitored for Blue Green Algae. No minimum operating level is set for protection of fauna. This weir rarely dries out, as the bed level is approximately the same as underground water in this area. The storage fringe margin is maintained by land holders adjacent to the storage.

S1.3 Monto Weir - Three Moon Creek - AMTD 64.8 km

ITEM	DESCRIPTION
Description of water infrastructure	
Main embankment	Weir (Steel Sheet Piling) for storage and underground water recharge.
Full supply level	EL 226.74m AHD.
Saddle dam(s)	Nil
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	27 ML.
Commandable storage capacity	27 ML.
Dead storage capacity	As a recharge weir the effective dead storage is zero.
Storage curve	Drawing No.42612
Spillway arrangement	
Description of works	Steel sheet piling (No separate spillway. Flows overtop full weir).
Spillway level	EL 226.74m AHD.
Spillway width	Not available at time of publication.
Discharge characteristics	Not available at time of publication.
River inlet/outlet works	
Description of outlet works	There are no inlet or outlet works for Monto Weir.
Description of inlet works	N/A.
Cease to flow level	N/A.
Discharge characteristics	N/A.
Fish transfer system	
Description of works	No fish transfer systems at Monto Weir.
Other information	
Pass flows: a) Environmental provisions	No releases possible. No flows through this structure are possible.
b) Volume of first flush currently required to be passed through structure	No releases are possible.
c) Riparian/stock and domestic flows	No flows through this structure are possible. Water stored in the weir is for underground water recharge.
d) Other compensation flows (e.g. for underground water resources)	No flows through this structure are possible.
e) Flow variations	No releases are possible.
f) Maximum Release Rates, actual as agreed for Resource Protection	No releases are possible.
Operational constraints: a) Flood Mitigation	No flood mitigation.
Management of storage water levels and quality: a) Water Quality Management, e.g.: Algal Management, multi-level offtakes including release strategies	No offtake structure. No control measures or evasive actions have been implemented.
b) Minimum operating level for protection of fauna	No minimum operating level is set for protection of fauna.

ITEM	DESCRIPTION
c) Storage fringe margin management	The storage fringe margin is maintained by land holders adjacent to storage.

S1.4 Bazley Weir – Three Moon Creek – AMTD 58.7 km

ITEM	DESCRIPTION
Description of water infrastructure	
Main embankment	Weir (Steel Sheet Piling Cascade) for storage and underground water recharge.
Full supply level	EL 221.50m AHD.
Saddle dam(s)	Nil.
Fabridams	Nil.
Gates	Nil.
Storage volume and surface area	
Full supply volume	75 ML.
Commandable storage capacity	56 ML but as a recharge weir the effective commandable storage is 75ML.
Dead storage capacity	19 ML but as a recharge weir the effective dead storage is bed level.
Storage curve	Drawing No. 81406
Spillway arrangement	
Description of works	Steel sheet piling cascade (No separate spillway. Flows overtop full weir).
Spillway level	EL 221.50m AHD.
Spillway width	Not available at time of publication.
Discharge characteristics	Not available at time of publication.
River inlet/outlet works	
Description of outlet works	Outlet works are silted up. Presently water goes over the top of the structure or seeps into underground water. Outlet works consist of a single 300mm diameter reinforced concrete pipe 700mm in length. Control is provided at the inlet by a single 300mm-batescrew gate.
Description of inlet works	Single level offtake. Inlet works consist of a 1000mm wide x 3850mm long inlet chute fitted with a trash screen and a grating cover.
Cease to flow level	EL 219.90m AHD invert level of outlet pipe.
Discharge characteristics	Outlet not used. Maximum release rate 24 ML/day.
Fish transfer system	
Description of works	No fish transfer systems at Bazley Weir
Other information	
Pass flows: a) Environmental provisions b) Volume of first flush currently required to be passed through structure c) Riparian/stock and domestic flows d) Other compensation flows (e.g. for underground water resources) e) Flow variations f) Maximum Release Rates, actual	No releases currently made specifically for environmental requirements. There is currently no obligation to pass flows downstream. Releases of water from Bazley Weir are not made solely for stock or domestic purposes. Flows downstream are for underground water recharge and surface water allocations. Releases made from this weir are made over the spillway and records of releases from the outlet works are not recorded. No agreed maximum release rates are in place.

ITEM	DESCRIPTION
as agreed for Resource Protection	
Operational constraints: a) Flood Mitigation	No provision for flood mitigation.
<p>8. Management of storage water levels and quality:</p> <p>a) Water Quality Management, e.g.: Algal Management, multi-level offtakes including release strategies</p> <p>b) Minimum operating level for protection of fauna</p> <p>c) Storage fringe margin management</p>	<p>Single level offtake, no provision for changing levels for water quality. No control measures or evasive actions have been implemented.</p> <p>No minimum operating level is set for protection of fauna. With the current operating strategy for Cania Dam releases, this weir would be empty for the majority of the year.</p> <p>The storage fringe margin is maintained by land holders adjacent to storage.</p>

S1.5 Avis Weir - Three Moon Creek - AMTD 46.8 km

ITEM	DESCRIPTION
Description of water infrastructure	
Main embankment	Weir (Steel Sheet Piling Cascade) for storage and underground water recharge.
Full supply level	EL 210.05m AHD.
Saddle dam(s)	Nil.
Fabridams	Nil.
Gates	Nil.
Storage volume and surface area	
Full supply volume	250 ML.
Commandable storage capacity	250 ML.
Dead storage capacity	0 ML.
Storage curve	Drawing No. 35362
Spillway arrangement	
Description of works	Steel sheet piling cascade (No separate spillway. Flows overtop full weir).
Spillway level	EL 210.05m AHD.
Spillway width	Not available at time of publication.
Discharge characteristics	Drawing No. A1-81386
River inlet/outlet works	
Description of outlet works	Outlet works consist of a single barrel 1085mm diameter pipe that reduces to a 300mm diameter outlet. A single 300mm gate valve contained within an outlet structure provides control.
Description of inlet works	Single level offtake structure 1.61m long x 1.5m wide x 4.2m high with trash racks and a 1085mm diameter outlet pipe.
Cease to flow level	EL204.75m AHD invert level.
Discharge characteristics	Outlet is unsafe to operate and is not used. Maximum release rate 64 ML/day.
Fish transfer system	
Description of works	No fish transfer systems at Avis Weir.
Other information	
Pass flows: a) Environmental provisions b) Volume of first flush currently required to be passed through structure c) Riparian/stock and domestic flows d) Other compensation flows (e.g. for underground water resources) e) Flow variations	No releases currently made specifically for environmental requirements. There is currently no obligation to pass flows downstream. Releases of water from Avis Weir are not made solely for stock or domestic purposes. Avis weir recharges underground water, water passed downstream to Mulgildie Weir is used for surface water allocations. No maximum release rates actual are in place.

ITEM	DESCRIPTION
f) Maximum Release Rates, actual as agreed for Resource Protection	
Operational constraints: a) Flood Mitigation	No provision for flood mitigation.
Management of storage water levels and quality: a) Water Quality Management, e.g.: Algal Management, multi-level offtakes including release strategies b) Minimum operating level for protection of fauna c) Storage fringe margin management	Single level offtake, no provision for changing levels for water quality. No control measures or evasive actions have been implemented. No minimum operating level is set for protection of fauna. With the current operating strategy for Cania Dam releases, this weir could be empty for part of the year. The storage fringe margin is maintained by land holders adjacent to storage.

S1.6 Mulgildie Weir - Three Moon Creek - AMTD 35.9 km

ITEM	DESCRIPTION
Description of water infrastructure	
Main embankment	Weir (Timber Piled encased in concrete) for storage and underground water recharge.
Full supply level	EL 201.75m AHD
Saddle dam(s)	Nil.
Fabridams	Nil.
Gates	Nil.
Storage volume and surface area	
Full supply volume	330 ML.
Commandable storage capacity	230 ML.
Dead storage capacity	100 ML.
Storage curve	Drawing No. 35216C
Spillway arrangement	
Description of works	Timber piled encased in concrete (No separate spillway. Flows overtop full weir).
Spillway level	EL 201.75m AHD
Spillway width	Not available at time of publication.
Discharge characteristics	Not available at time of publication.
River inlet/outlet works	
Description of outlet works	Outlet works consist of 900mm x 750mm box culverts through the centre of the weir structure. This is controlled by a 900 x 750 slide gate before emptying into a cascade outlet structure.
Description of inlet works	Inlet works consist of a 1,200mm wide x 2,400mm reinforced concrete inlet chute provided with shut off facility provided by dropboards.
Cease to flow level	EL 199.00m AHD.
Discharge characteristics	Maximum release rate 128 ML/day.
Fish transfer system	
Description of works	No fish transfer systems at Mulgildie Weir.
Other information	
Pass flows: a) Environmental provisions	No releases currently made specifically for environmental requirements.
b) Volume of first flush currently required to be passed through structure	There is currently no obligation to pass flows downstream.
c) Riparian/stock and domestic flows	Releases of water from Mulgildie Weir are not made solely for stock or domestic purposes.
d) Other compensation flows (e.g. for underground water resources)	No releases made.
e) Flow variations	Releases from Cania Dam may be passed through the outlet works.
f) Maximum Release Rates, actual as agreed for Resource Protection	No maximum release rates are in place.
Operational constraints: a) Flood Mitigation	No flood mitigation.
Management of storage water levels and quality:	

ITEM	DESCRIPTION
a) Water Quality Management, e.g.: Algal Management, multi-level offtakes including release strategies	Single level offtake, no provision for changing levels for water quality. No control measures or evasive actions have been implemented.
b) Minimum operating level for protection of fauna	No minimum operating level is set for protection of fauna. With the current operating strategy for Cania Dam releases, this weir would store water for the majority of the year.
c) Storage fringe margin management	The storage fringe margin is maintained by landholders adjacent to storage.

S1.7 Watercourses used for water distribution and drainage - Three Moon Creek / Monal Creek

ITEM	DESCRIPTION
1. Name of watercourse:	i. Three Moon Creek. ii. Monal Creek.
2. Location:	i. <u>Three Moon Creek</u> . The storage area of Cania Dam AMTD 130.6km to Abercorn Gauging Station AMTD 13.2 km. ii. <u>Monal Creek</u> . From the outlet of Youlambie Diversion AMTD 2.8km to its junction with Three Moon Creek AMTD 00.
3. Use of watercourse:	Water distribution.
4. Drainage Inlet Structures: a) Location	No drainage inlet structures. N/A.
5. Maintenance: a) Weed control measure b) Silt removal	No weed control is undertaken on these regulated streams. No silt removal is undertaken.
6. Improvements: a) Recharge works b) Other improvements	Recharge works are: Cania Dam. Youlambie Weir. Youlambie Channel. Monto Weir. Bazley Weir. Avis Weir. Mulgildie Weir. No improvements made to watercourses.
7. Watercourse Relocations:	The Licensee has not carried out any works to relocate or change the route of the original watercourses.
8. Management and use of natural waterways (including return flows) used for water distribution and drainage: a) Management plans and guidelines b) Summary of any maintenance and operation programs, specifically related to protection of these natural waterways c) Minimum Water hole levels/ capacities d) Constraints on return flows to stream from the Licensee's water infrastructure or from private works	No management plans / guidelines developed. Nil. Waterhole levels do not provide operational constraints. No Licensee constraints on these flows.

8.0 Schedule 2 – Interim Water Allocation, Management and Sharing

S2.1 Interim Water Allocation to be managed under the Licence

The Department of Regional Development, Manufacturing and Water database of individual entitlements provides the current record of IWA ownership.

S2.2 Volumes of major storages in the Scheme

Table 1: Capacity of Three Moon Creek WSS storages and corresponding full storage elevations.

Storage Name	Capacity* at FSL (ML)	EL at FSL (m AHD)
Cania Dam	88,500	331.0
Youlambie Weir	140	235.58
Monto Weir	20	226.74
Bazley Weir	70	221.50
Avis Weir	250	210.05
Mulgildie Weir	330	201.75
TOTAL	89,310	

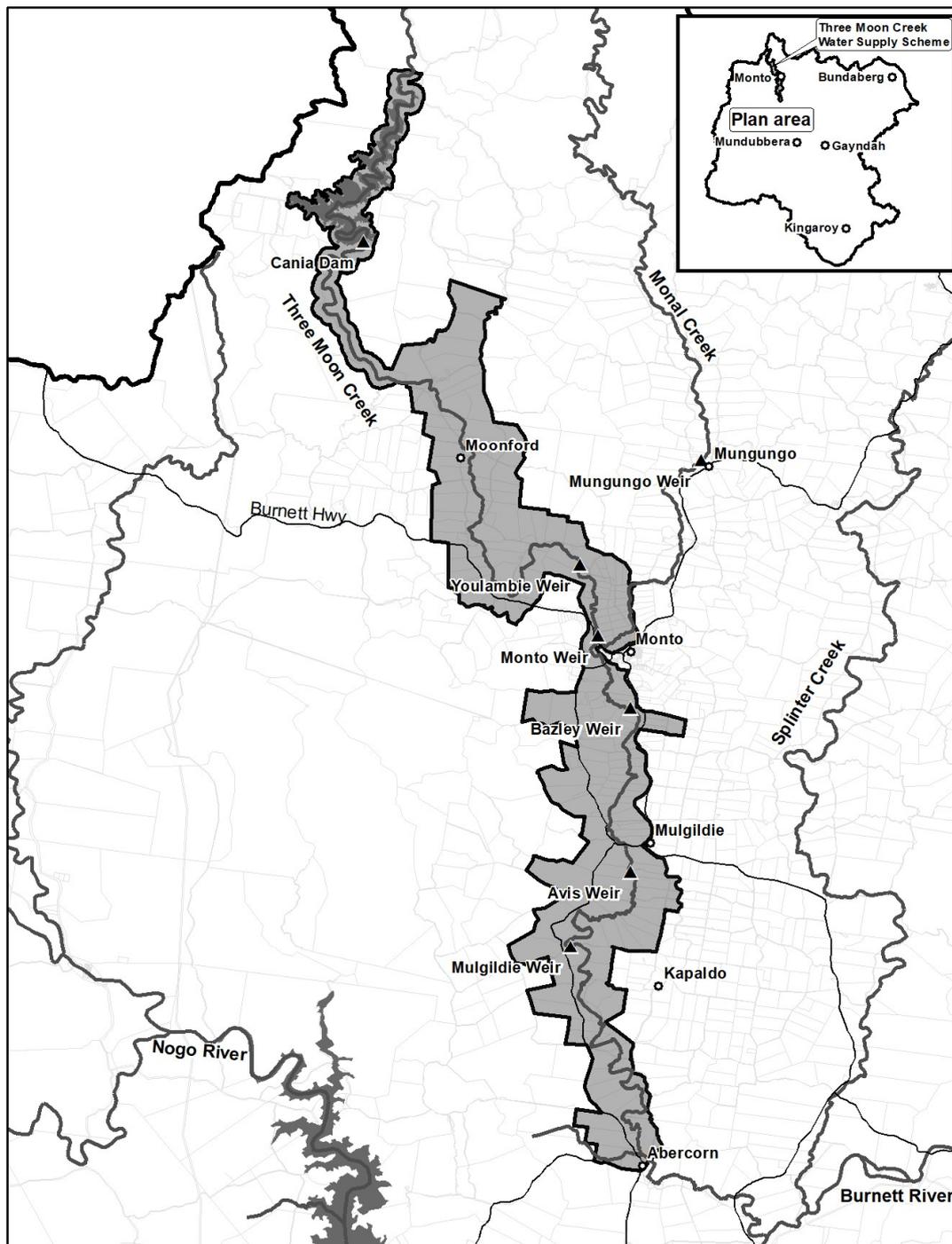
* Total storage volume including dead storage. Total capacities have been rounded down for reporting purposes. The dead storage of Cania Dam is 650 ML.

S2.3 Management Zones

Table 2: Description of AMTDs and locations for each management zone.

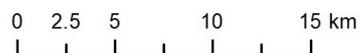
Zone	AMTD (km)	Location
Underground Water Zones		
RA	12.6 - 48.5	Below Abercorn Gauging Station to Hughes Street, Mulgildie. Includes Avis Weir.
RB	48.5 - 64	Hughes Street, Mulgildie to Burke Street/Rifle Range Road, Monto. Includes Bazley Weir.
RC	64 – 69.1 Monal Creek: 0 – 5.4	Burke Street/Rifle Range Road, Monto to Powers Road. Includes Monto Weir, Youlambie Diversion and supplemented section of Monal Creek.
RD	69.1 – 96.2	Powers Road to confluence of Cedar Creek and Three Moon Creek. Includes Youlambie Weir.
Surface Water Zone		
RE	12.6 – 130.6	Below Abercorn Gauging Station to Cania Dam full supply ponded area.

Note: The exact boundaries for management zones are held electronically by the Department of Regional Development, Manufacturing and Water (DRDMW) and can be viewed at the department's business centres.



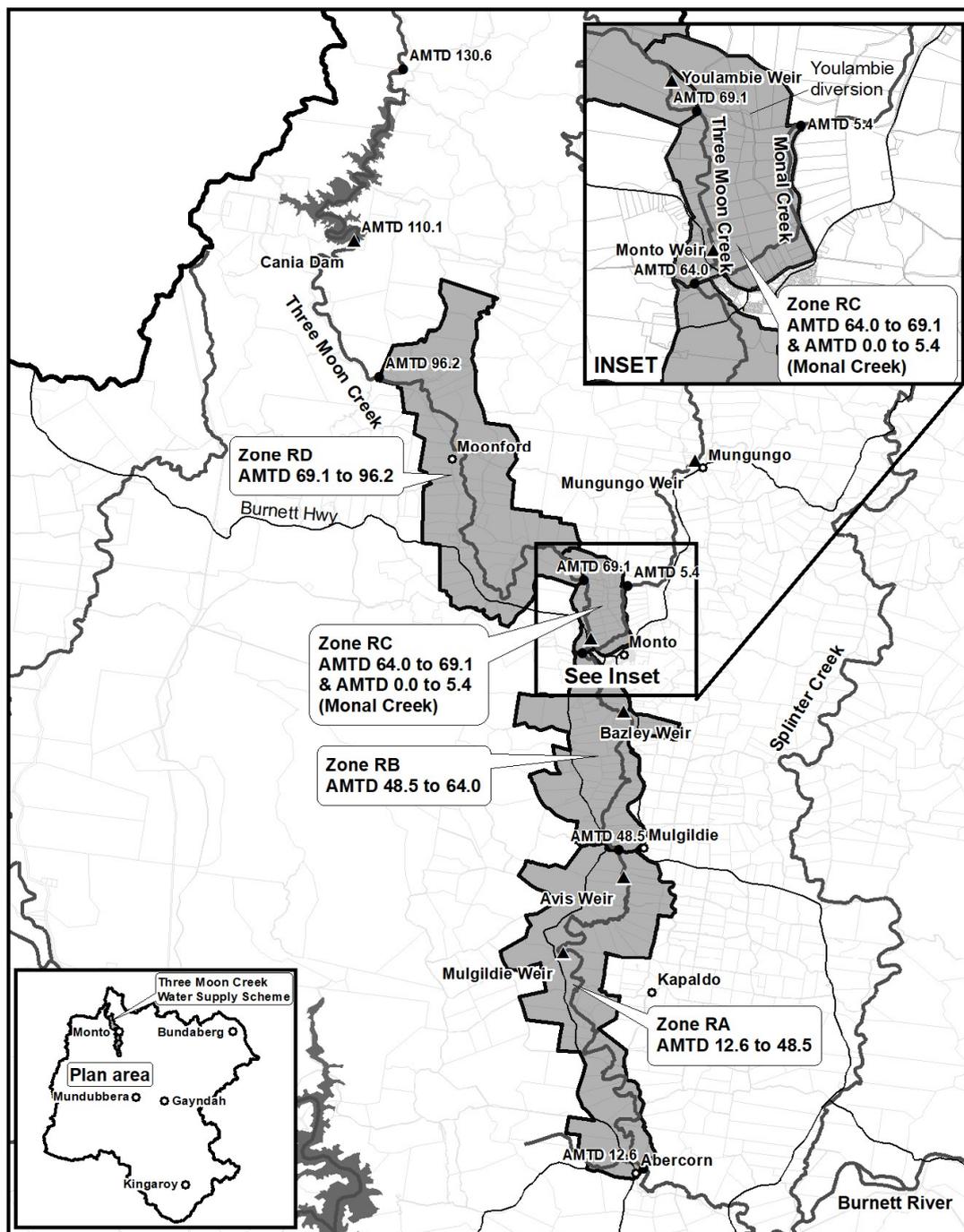
Three Moon Creek Water Supply Scheme Area

- Legend**
- ▲ Existing storage
 - Watercourse
 - Road
 - Three Moon Creek water supply scheme area
 - Burnett Basin Water Plan area
 - DCDB



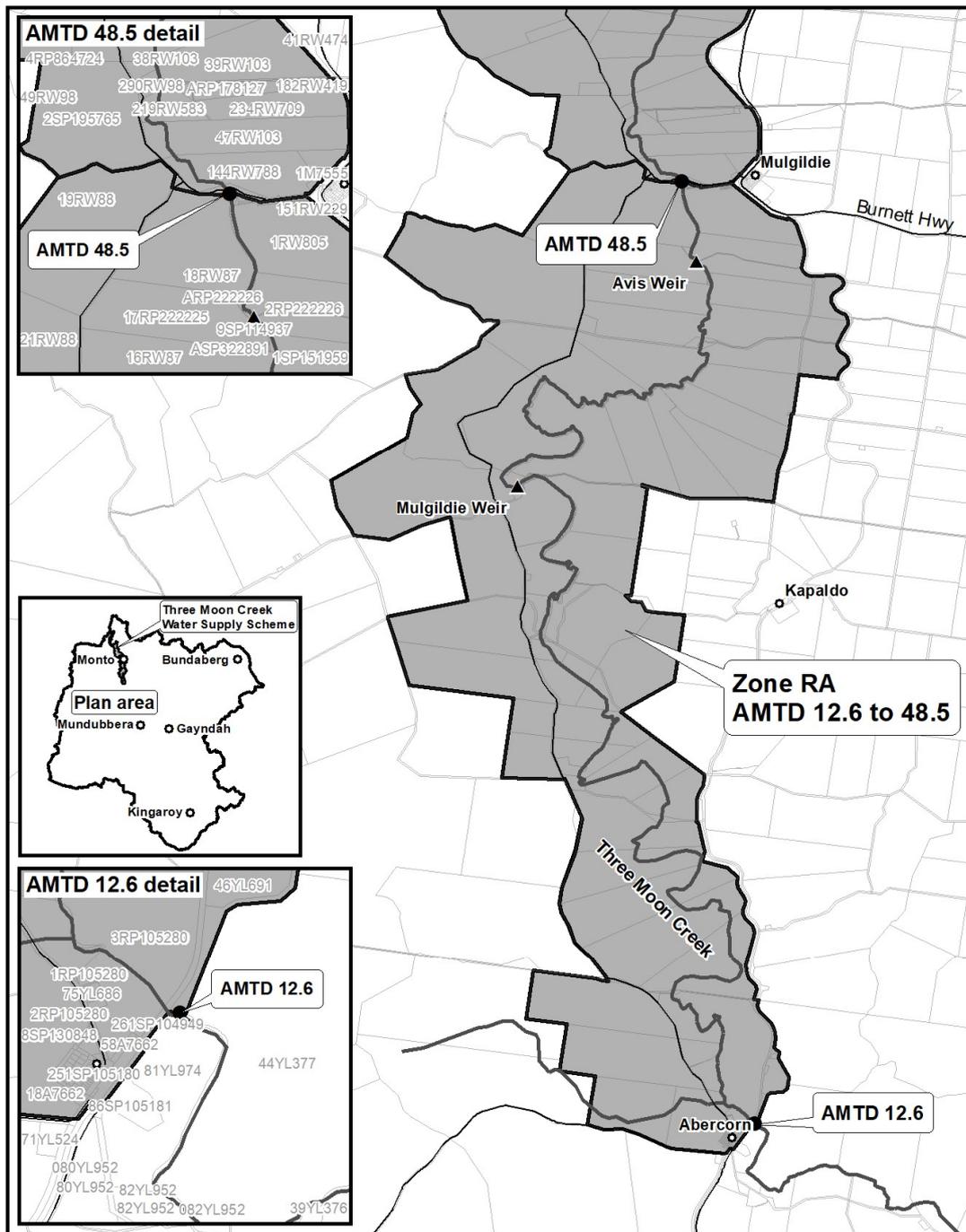
Map projection GDA2020 CAS2026.2-1

Figure 1: Map of Three Moon Creek Water Supply Scheme area



Three Moon Creek Water Supply Scheme Groundwater Zones

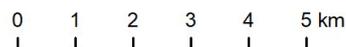
Figure 2: Map of underground water zones in Three Moon Creek Water Supply Scheme area



Three Moon Creek Water Supply Scheme Groundwater Zone RA

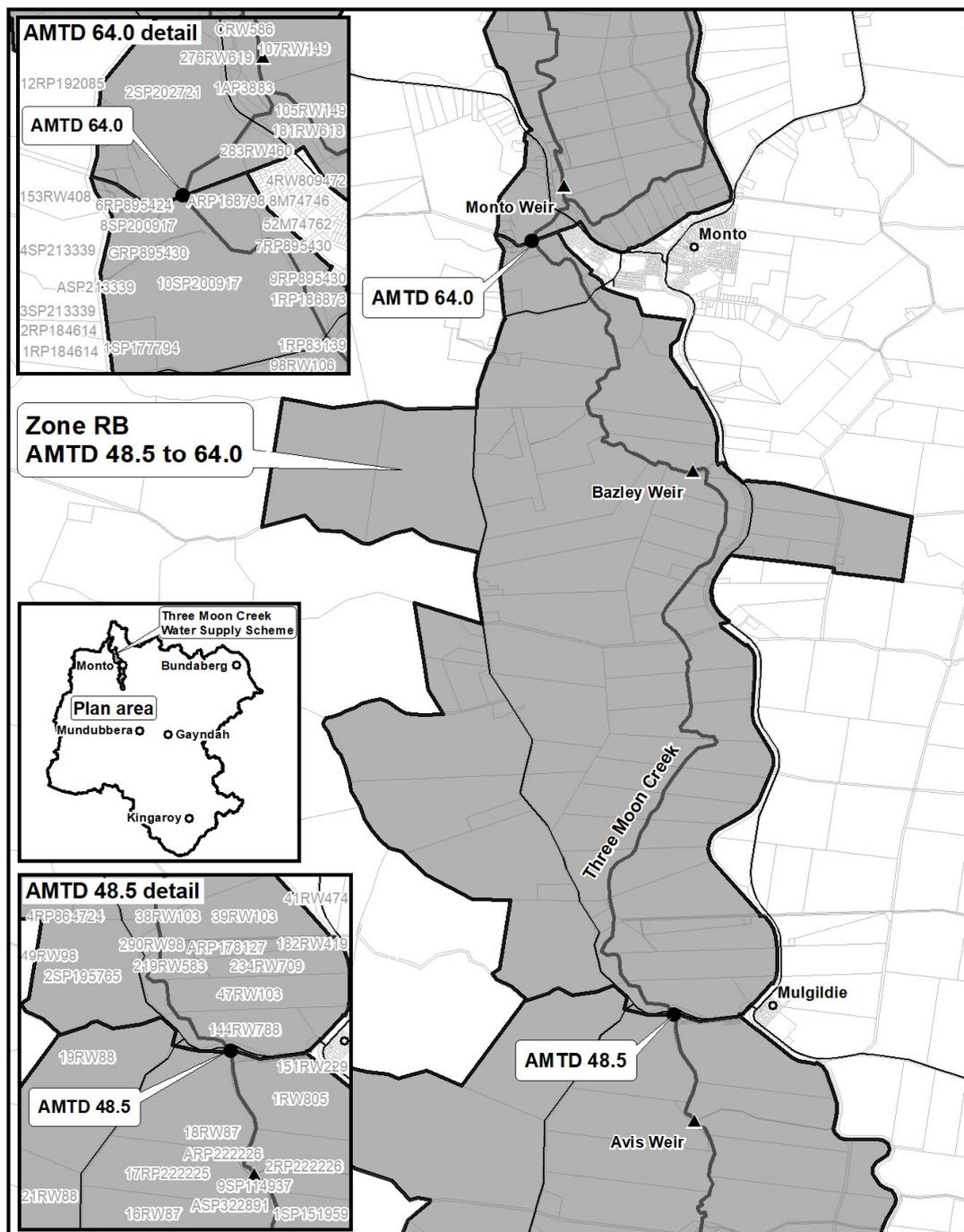
Legend

- Three Moon Creek zone AMTD
- ▲ Existing storage
- Watercourse
- Road
- Three Moon Creek groundwater zones
- Burnett Basin Water Plan area
- DCDB



Map projection GDA2020 CAS2026 2-4

Figure 3: Management Zone RA of the Three Moon Creek Water Supply Scheme



Three Moon Creek Water Supply Scheme Groundwater Zone RB

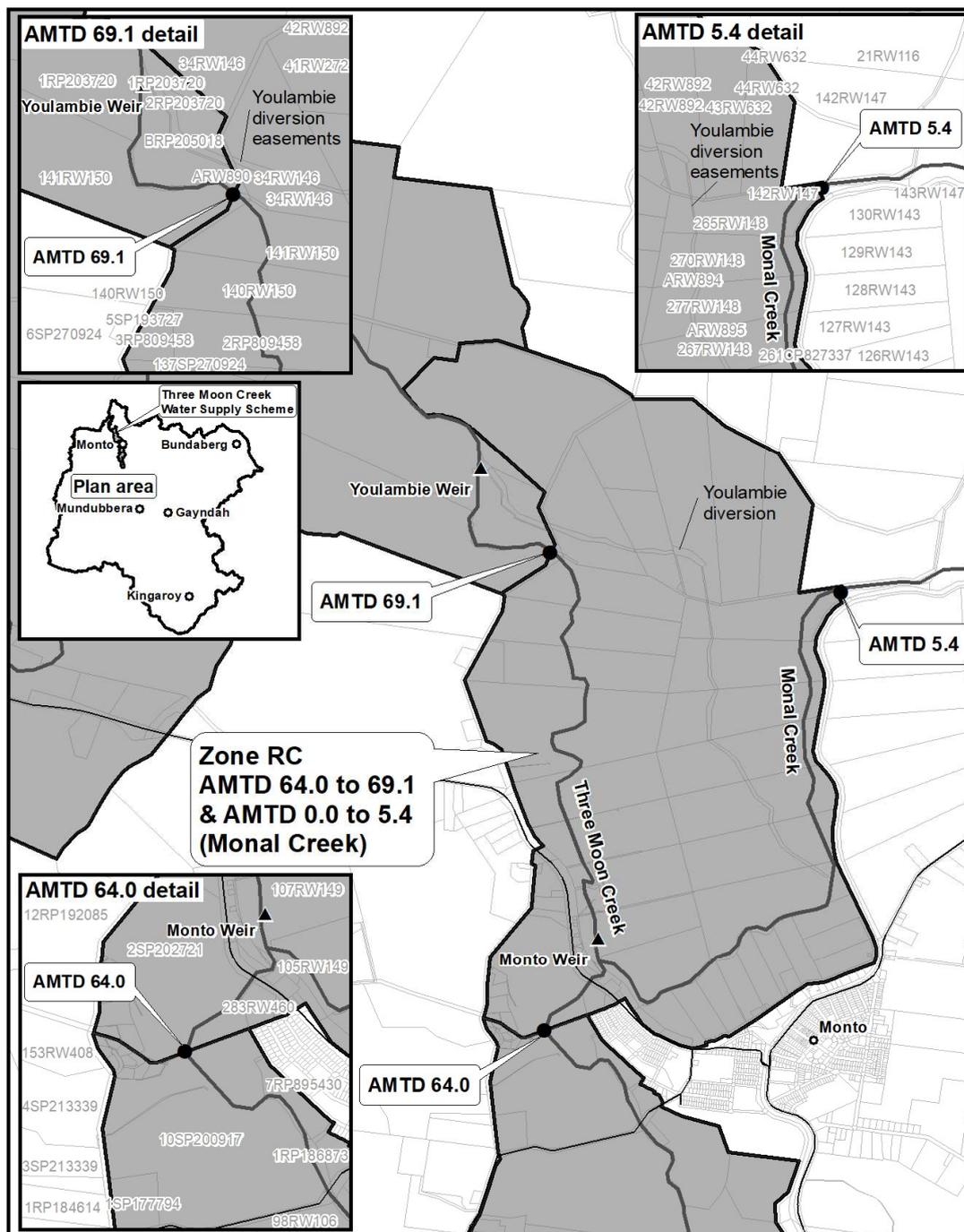
Legend

- Three Moon Creek zone AMTD
- ▲ Existing storage
- Watercourse
- Road
- Three Moon Creek groundwater zones
- ▭ Burnett Basin Water Plan area
- DCDB



Map projection GDA2020 CAS2026.2.5

Figure 4: Management Zone RB of the Three Moon Creek Water Supply Scheme



Three Moon Creek Water Supply Scheme Groundwater Zone RC

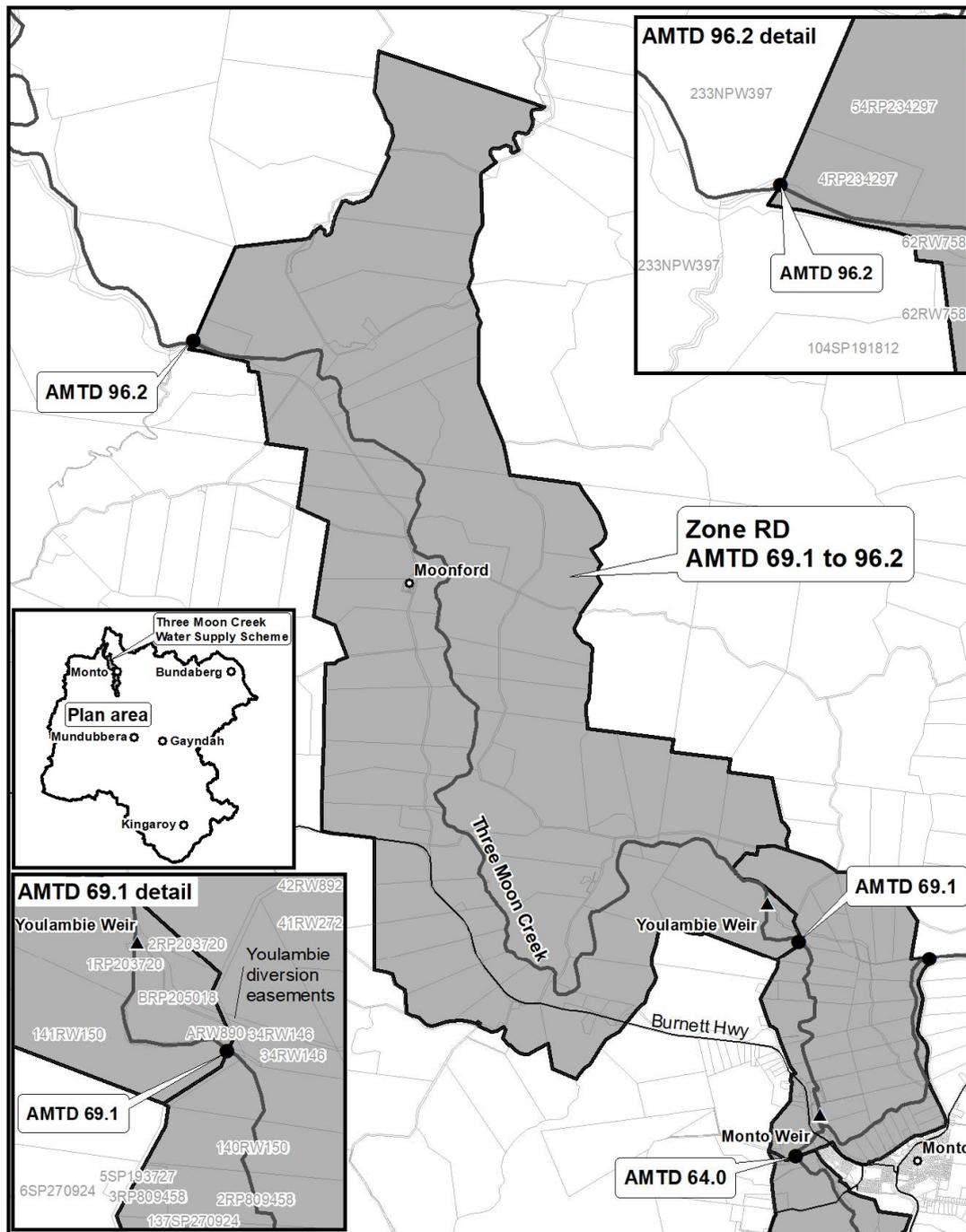
Legend

- Three Moon Creek zone AMTD
- ▲ Existing storage
- Watercourse
- Road
- Three Moon Creek groundwater zones
- Burnett Basin Water Plan area
- DCDB



Map projection GDA2020 CAS2026.2-6

Figure 5: Management Zone RC of the Three Moon Creek Water Supply Scheme



Three Moon Creek Water Supply Scheme Groundwater Zone RD

Legend

- Three Moon Creek zone AMTD
- ▲ Existing storage
- Watercourse
- Road
- Three Moon Creek groundwater zones
- Burnett Basin Water Plan area
- DCDB

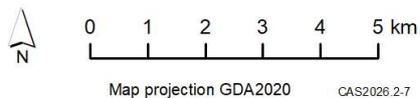
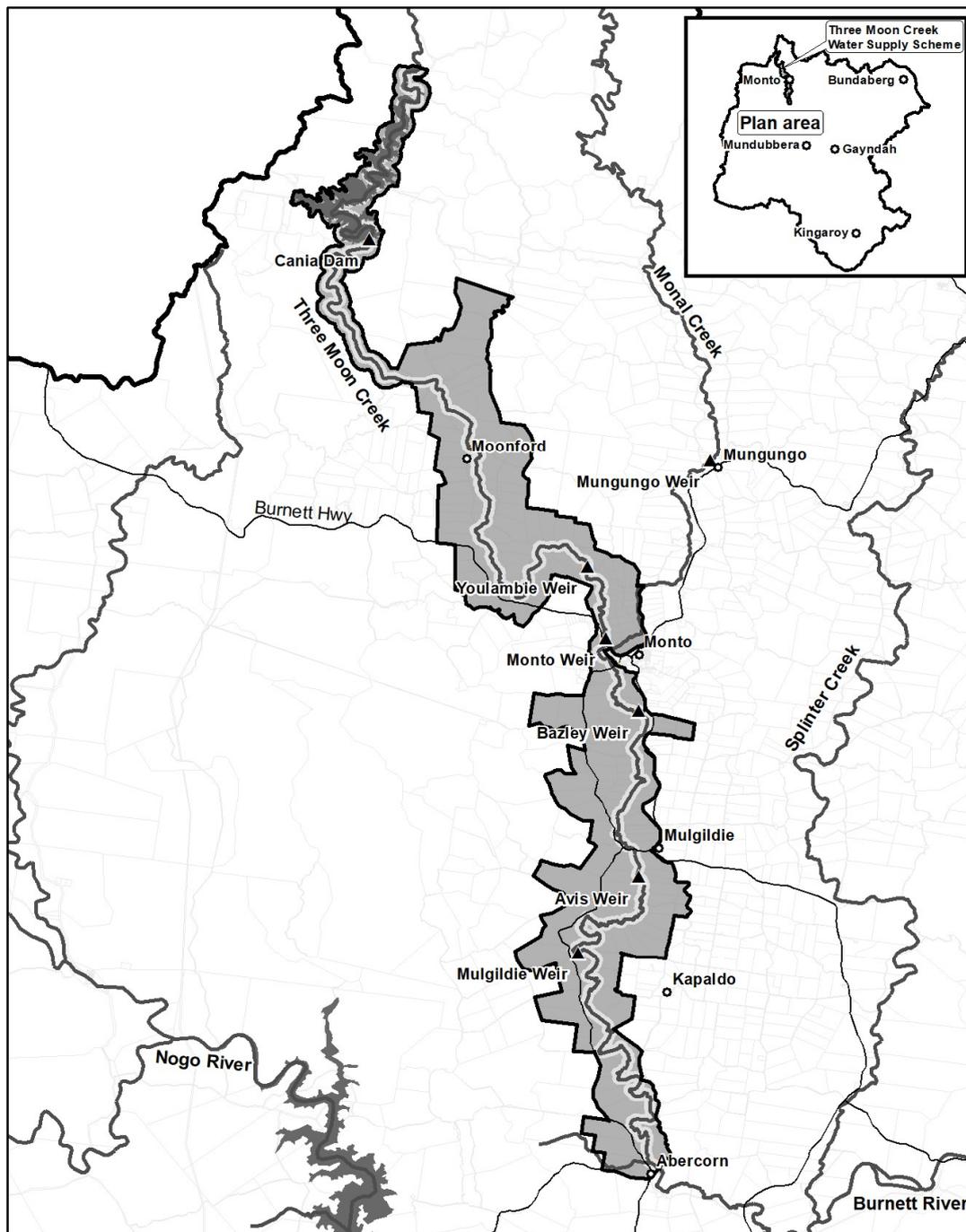


Figure 6: Management Zone RD of the Three Moon Creek Water Supply Scheme



Three Moon Creek Water Supply Scheme - Surface Water Zone RE

Legend

- ▲ Existing storage
- Watercourse
- Road
- Three Moon Creek surface water zone RE
- Three Moon Creek water supply scheme area
- Burnett Basin Water Plan area
- DCDB



Map projection GDA2020 CAS2026.2-2

Figure 7: Management Zone RE (Surface water zone) of Three Moon Creek Water Supply Scheme

S2.4 Operating Rules for Cania Dam

Release Decisions:

A decision about the volume of water to be released from Cania Dam made at the start of the water year may be revised upwards if the storage volume of the dam increases, provided that a release of 13,500 ML or greater has not been made for the water year.

Storage release rules from Cania Dam are outlined in Table 3:

Table 3: Release rules for Cania Dam.

Dam storage volume threshold (ML)	m AHD (equivalent threshold)	Release decision (from 1 July)
≥ 18,500	≥ 316.34m AHD	No constraints up to 13,500 ML release from Cania Dam
11,000 to 18,500	312.69m AHD - 316.34m AHD	6,000 to 13,500 ML ²
3,150 to 7,500 ¹	305.92m AHD – 310.31m AHD	2,500 ML (only for high priority if required)

Notes:

¹. Allows for two high priority releases (i.e. two consecutive years), with the understanding that dam level can be drawn down to dead storage.

². Where the release volume (ML) = dam storage volume (ML) – 5,000 ML. e.g. minimum dam storage level for a maximum full 13,500 ML release would be 18,500 ML.

Partial Releases:

If the level in Cania Dam is between 7,500 ML and 11,000 ML, the Licensee may consult with the Irrigators Advisory Committee and choose to provide a partial release of between 2,500 ML and 6,000 ML. Releases made for medium priority needs cannot result in the Cania Dam storage being drawn down below 5,000 ML capacity.

S2.5 Water Sharing Rules

S2.5.1 Terms for announced allocation

1. The water year is from 1st July to 30th June.
2. The announced allocation percentage is limited to a maximum of 100% of the interim water allocation in any water year.
3. A decision about the announced allocations made at the start of the water year may be revised upwards if the storage volume of Cania Dam or the underground water levels increase, provided that a release of 6000 ML or greater has not been made for the water year.
4. Separate announced allocations calculations are made for each of the surface water and underground water zones within the Three Moon Creek Water Supply Scheme based on the volume of water held in storage in Cania Dam and water levels in the underground water zones.
5. If an interim water allocation states dual water sources, the interim water allocation will be subject to the underground water announced allocation.
6. The announced allocation percentage will not be reduced during the water year.
7. Announced allocations for high priority interim water allocations will be 100%. Note that this announced allocation may be restricted to the available water supply, watercourse or

underground water, during periods of severe drought (i.e. consecutive years when the announced allocation for medium priority interim water allocations is zero).

S2.5.2 Announced allocation procedure for medium priority interim water allocation (surface water)

The announced allocation percentage for surface water at the beginning of the water year is outlined in Table 4:

Table 4: Announced allocation percentages for surface water.

Cania Dam storage volume		AA Percentage	
ML	m AHD	Located at Cania Dam, weirs and waterholes	Located elsewhere
≥ 18,500	≥ 316.34	100%	100%
≥ 11,000 to < 18,500	≥ 312.69 to < 316.34	100%	50%
< 11,000	< 312.69	0%	0%

Note: 18,500ML as a threshold allows for a full 13,500ML release + 5000ML high priority reserve.

Water releases in accordance with the Operating Rules for Cania Dam (schedule 2.4), can be **ceased** or **suspended** by the Licensee. When water releases have been **ceased** or **suspended**, the holders of surface water interim water allocations may take water from waterholes or storages as available or during flow events. The total volume of water taken in the relevant water year must not exceed the interim water allocation holder's nominal volume.

For schedule 2.5.2–

1. **“Ceased”** means seven days after releases from Cania Dam are shut off, as notified by the Licensee to interim water allocation holders.
2. **“Suspended”** means immediately when releases from Cania Dam are shut off, as notified by the Licensee to interim water allocation holders.
3. Notwithstanding subsection 1 and 2, when the surface water announced allocation are 100%, the Licensee is not required to notify interim water allocation holders.

Note:

- Water releases are deemed to have ceased after seven days from the end of a release decision allowing for the last of the releases to distribute throughout the Scheme.
- Water release suspensions may be implemented following a localised inflow event that occurs during a release decision.
- To be clear, when surface water announced allocations are 100%, there are no restrictions on accessing water releases or inflows up to the interim water allocation holder's nominal volume.

S2.5.3 Announced allocation procedure for medium priority interim water allocation (underground water)

The announced allocation percentage for underground water when Cania Dam storage level is greater than 312.69m AHD is outlined in Table 5:

Table 5: Announced allocation percentages for underground water, when releases from Cania Dam are available.

Dam storage volume (ML)		Underground water levels	AA value	Comments
ML	m AHD			
≥ 18,500	≥ 316.34	N/A	100%	Maximum 13,500 ML release available
≥ 11,000 to < 18,500	≥ 312.69 to < 316.34	N/A	75%	Minimum 6,000 ML release available

When Cania Dam is less than 312.69m AHD:

- An announced allocation of 50% is determined by underground water levels in *more than one* key indicator bore being **above** the target water level for a zone.
- An announced allocation of 25% is determined by underground water levels in *more than one* key indicator bore being **below** the target water level for a zone.

The key indicator bores and corresponding target water levels are outlined in Table 6:

Table 6: Key indicator bores in each underground water zone, and corresponding target water levels (for when Cania Dam is less than 312.69m AHD)

Zone	Key indicator bores	Water level (m AHD)
RA	RN 13610458	200.43
	RN 13610124	195.03
	RN 13610130	188.95
RB	RN 13610250	211.72
	RN 13610359	204.14
	RN 13610246	201.63
RC	RN 13610241	220.71
	RN 13610038	216.57
	RN 13610043	216.14
RD	RN 13610409	234.85
	RN 13610237	229.47
	RN 13610228	248.56

S2.6 Seasonal Water Assignments

A seasonal water assignment, commonly referred to as a temporary transfer, is a transfer of part or all of an announced allocation within a water year. The Licensee may approve a seasonal water assignment of water within the scheme, for water managed under the Licence, subject to the following:

1. The approval may only be given for up to the end of the water year in which the approval is given.
2. No approval or undertaking of approval is to be given in advance of the current water year.
3. All seasonal water assignments must be applied for and official approval obtained from the Licensee prior to the taking of water.

4. The approval must not be inconsistent with any aspect of the Licence.
5. Approval is not to be given for anyone to use water under a seasonal water assignment if an authorisation for works is required and they do not have such authorisation.
6. The Licensee is required to collect and make publicly available through any digital channel, at least monthly, the sale price for each seasonal water assignment of an interim water allocation managed under the licence.

Permitted seasonal water assignments

1. At times when the announced allocation for medium priority underground water interim water allocations is greater than 75%, the following seasonal water assignments are permitted, subject to zone limits as shown in Table 7.
2. Only one permitted assignment per interim water allocation per water year is allowed.

Table 7: Maximum volumes for permitted seasonal water assignments.

Seasonal water assignment type	Maximum volume per trade (ML)	
	Within same zone	Between different zones
Surface water to surface water (Zone RE to Zone RE)	50 ML	N/A
Surface water to underground water (Zone RE to Zones RA, RB, RC or RD)	N/A	50 ML
Underground water to surface water (Zones RA, RB, RC or RD to Zone RE)	N/A	50 ML
Underground water to underground water (Zones RA, RB, RC or RD to Zones RA, RB, RC or RD)	100 ML	50 ML

Other permitted seasonal water assignments

Interim water allocations holders who hold “*in conjunction interim water allocations*” or “*interim water allocations which state a dual water source*”, are permitted to seasonally assign up to the full volume of their announced allocation (portion of nominal entitlement announced for the water year) to themselves as an alternate water source. For example, an interim water allocation with a dual water source will be subject to the underground water announced allocation but may wish to take that water as surface water. There is no limit to the number of these assignments.

For “other permitted seasonal water assignments”–

4. “*In conjunction interim water allocations*” means an interim water allocation which states a water source with a nominal entitlement of zero megalitres. The interim water allocation will have a condition pairing it with another interim water allocation which has an alternate water source and the nominal entitlement that may be used between both water sources.
5. “*Interim water allocations which state a dual source*” means an interim water allocation which has both “underground water from Three Moon Creek Alluvium” and “surface water from Three Moon Creek” listed as an authorised activity. Activity locations may or may not be on different land parcel titles.

Prohibited seasonal water assignments

If the announced allocation procedure for medium priority underground water interim water allocation is equal to or less than 50%, then trading between zones is prohibited.

Assessed seasonal water assignments

If an application for a seasonal water assignment doesn't fall within the permitted or prohibited rules, the Licensee must use the assessment guidelines below in making a determination to approve or reject the application.

Example of an assessed seasonal water assignment—

- for times when the medium priority announce allocation is less than 75%;
- when an assignee is seeking a second seasonal water assignment in a water year' or
- for volumes greater than those stated in Table 7.

Assessment guidelines

When assessing a seasonal water assignment the Licensee must consider the following matters.

1. The location of the proposed offtake must be within the bounds of the Three Moon Creek Water Supply Scheme (Figure 1).
2. The seasonal water assignee (buyer) must have a supply contract with The Licensee (Sunwater) prior to approval.
3. The Licensee must consider the following to determine the impact of the proposed activity on other interim water allocation holders:
 - a. If the proposed location of take is a surface water location, check the proposed release strategy and flow conditions at the time of assessment. The following locations may be used to determine if water can be extracted with minimal impacts on other water users—
 - i. Cania Dam Tailwater (GS No 136116A);
 - ii. Monto (GS No 136119A);
 - iii. Abercorn (GS 136101C); and
 - iv. Relevant weir and waterhole levels may also be checked.
 - b. If a surface water seasonal water assignment is moved to a waterhole or weir pond, the Licensee must assess whether there is likely to be an unacceptable impact on other surface water users located near the same location. The assessment may consider—
 - i. Capacity of the weir pond or waterhole;
 - ii. Rate of take of installed works located on the weir pond or waterhole;
 - iii. The current announced allocation and potential for a future increase; and
 - iv. Capability for additional volume to be taken from this point.
 - c. If an underground water seasonal water assignment, the Licensee must assess whether there is likely to be an unacceptable impact on other underground water users. The assessment must consider—
 - i. If there are neighbouring equipped operating bores within $\leq 200\text{m}$ of the proposed location and any potential impacts;
 - ii. Determine if the full release strategy is likely occur; and
 - iii. If nearby monitoring bores indicate normal trends for the season.

S2.7 General Conditions

1. The entitlements in the Licence do not include water-harvesting (high flow access) entitlements, which may be held as separate entitlements by Sunwater or individual customers.
2. Non-riparian stock and domestic entitlements are included in the interim water allocations in the Licence.
3. Any storage volume shown after a storage level is approximate only and based on current storage survey information.
4. The Licensee is authorised to develop and offer water services and products designed to facilitate the use of water in this scheme provided that the services and products offered do not result in the total water usage for the scheme exceeding the total announced allocation volume (including an allowance for carryovers and forward draws) in each water year.
5. Necessary statutory approvals will be required for destroying vegetation, excavating, or placing fill in a watercourse, lake or spring.

9.0 Schedule 3 - Monitoring and Reporting

S3.1 Water Monitoring

The Licensee must:

- A. Implement and maintain a water quantity monitoring program which stipulates the measurement and recording of:
 - i. Continuous water level and volume data, and stream flow data for infrastructure listed in schedule 3.6;
 - ii. In addition, the components of such releases are to be measured and recorded for each of the following:
 - (a) The daily volume released;
 - (b) The release rate;
 - (c) The date and time for any change in release rate;
 - (d) The reason for each release including any environmental flow provisions in Schedules 1 and 2; and
 - (e) for other purposes as determined by the Chief Executive.
 - iii. Underground water levels in accordance with the Chief Executive approved monitoring network program for the Three Moon Creek Water Supply Scheme;
 - iv. Key monitoring bores identified for each management zone, as per Schedule 2.5.3 on a quarterly basis or as required by the Chief Executive. To be coordinated with timing of collection of measurements for metered use;
 - v. The start and finish date of diversions and volume diverted into Youlambie channel;
 - vi. Announce allocation determinations for medium priority interim water allocations including:
 - (a) The date the announced allocation was determined; and
 - (b) The value of each parameter applied for calculating the announced allocation.
 - vii. Water use on a quarterly basis, including:
 - (a) measure and record the total volume of water taken by each water user for each zone; and
 - (b) water use for each grouping of interim water allocation in Schedule 2.3.
 - viii. Upon consent to a seasonal water assignment, record details of seasonal water assignment arrangements, including:
 - (a) The name of the assignee and assignor;
 - (b) The volume of the assignment;
 - (c) The zone from which it was assignment and to which it was assigned;
 - (d) The effective date of the seasonal water assignment; and
 - (e) The sale price.
- B. Implement and maintain the following water quality monitoring program to measure and record details of physico-chemical and biological conditions of natural ecosystems and report as follows:
 - i. For headwater of the infrastructure listed in schedule 3.6, on a quarterly basis:
 - (a) Dissolved oxygen, electrical conductivity, pH and temperature;

- (b) Total Nitrogen and Total Phosphorus; and
 - (c) Cyanobacteria populations using methods, frequencies and sites in accordance with the Licensee's Blue-Green Algae Monitoring Manual.
- ii. For tailwater of the infrastructure listed in schedule 3.6, on a quarterly basis:
 - (a) Dissolved oxygen, conductivity, pH, temperature, Total Nitrogen, Total Phosphorus and Total Sulphides; and
 - (b) During periods of no overflow, measurements are to be taken when normal releases are being made.
- iii. Inspect banks and report to the department within 24 hours of becoming aware of the evidence of bank collapse or erosion identified with the ponded areas and *downstream of the relevant infrastructure*² listed in Schedule 1, following instances of:
 - (a) Rapid water level changes;
 - (b) Large flows through infrastructure; or
 - (c) Other occasions when collapse or erosion of banks may be likely.
- iv. Record and assess reported instances of fish stranding in watercourses and ponded areas associated with the operation of the infrastructure listed in Schedule 1 to determine if any instance is associated with the operation of that infrastructure.

S3.2 Disclosure of sale price for seasonal water assignments

The Licensee must:

- i. Collect and make publicly available sale price data for each seasonal water assignment at least monthly.
- ii. The information of sales price data for seasonal water assignment must include the data collected in schedule 3.1.

S3.3 Quarterly Provision of Data

The Licensee must provide data collected quarterly under the Licensee's monitoring responsibilities to the Chief Executive after the end of each quarter of every water year, in an electronic format as specified by the Chief Executive, which will allow direct entry to the department's databases. The data must include the following collected under schedule 3.1:

- i. Water level and volume data, and stream flow data;
- ii. Releases from infrastructure;
- iii. Underground water levels;
- iv. Water diversions; and
- v. Water quality.

² Downstream of the relevant infrastructure means the distance of influence of infrastructure operations.

S3.4 Annual Reporting

S3.4.1 Annual report

The Licensee must report to the Chief Executive 90 days after the end of each water. The annual report must include:

- A. Water quantity monitoring data required under schedule 3.3.2;
- B. Water quality monitoring data required under schedule 3.3.3;
- C. A discussion on any issues that arose as a result of operating in accordance with this licence;
and
- D. A summary of sale price disclosure information and other supporting information for seasonal water assignments.

S3.4.2 Water quantity monitoring

The Licensee must include in the annual report:

- A. A summary of announced allocation determinations including:
 - i. An evaluation of the announced allocation procedures and outcomes; and
 - ii. The date and value for each announced allocation.
- B. Instances where any restrictions, other than an announced allocation, have been implemented, including:
 - i. An evaluation of the effectiveness of the limitation or restriction procedures and outcomes;
and
 - ii. The date and value of each restriction.
- C. Details of seasonal water assignments, including:
 - i. The total number of seasonal water assignments,
 - ii. The total volume of water seasonally assigned.
- D. A summary of carryover and determinations, including:
 - i. The total carryover to the water year from the previous water year; and
 - ii. The total carryover from the water year to the next water year;
- E. The total annual volume of water taken by all water users, specified by each 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.
- F. A summary of release decisions, including:
 - i. The level (m AHD) in Cania Dam prior to the commencement of a release;
 - ii. The date releases commenced and ceased;
 - iii. The volume of water released during the release event.
- G. 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;
- H. Details of any new monitoring devices used, such as equipment to measure stream flow.

S3.4.3 Water quality monitoring

The Licensee must include in the annual report:

- A. A summary of bank condition and fish stranding monitoring and assessment, including:
 - i. Results of investigations of bank slumping and/or erosion identified in 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.
- B. 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.

S3.5 Operational or emergency reporting

S3.5.1 The Licensee 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 Licensee with the conditions of this licence; and
 - ii. Instances of fish stranding or bank slumping downstream of the infrastructure listed in Schedule 1.
- B. An emergency where, as a result of the emergency, the Licensee cannot comply with the conditions of this licence.

S3.5.2 The Licensee must provide to the chief executive upon request, and within the timeframe requested, a report which includes details of:

- i. The incident or emergency;
- ii. The conditions under which the incident or emergency occurred;
- iii. Any responses or activities carried out as a result of the incident or emergency; and
- iv. in relation to an emergency only, any requirements under this licence that the Licensee is either permanently or temporarily unable to comply with due to the emergency.

S3.6 Infrastructure to which Schedule 3 applies

Table 8: Monitoring requirements for Cania Dam

Infrastructure	Headwater		Tailwater	
	Levels	Quality	Flow	Quality
Cania Dam	Yes	Yes	Yes	Yes

10.0 Schedule 4 – Amendment History

This licence was originally issued on 10 November 2000 and has been amended as follows:

Revision 1 (29 May 2006) under Section 184 of the *Water Act 2000*

- a) In Schedule 3, S3.1 Water Monitoring

Replace

- (C) Implement and maintain the following environmental water quality monitoring program in accordance with the Department of Natural Resources water quality monitoring standards and protocols, to measure and record details of physico-chemical and biological conditions of natural ecosystems as follows:
- (i) for headwater of the infrastructure listed at the end of this schedule:
 - (a) dissolved oxygen, conductivity, pH, turbidity, temperature, nutrients, suspended solids, and chlorophyll *a*, on a quarterly basis;
 - (b) blue-green algae as per monitoring manual; and
 - (c) submersible data logging on a quarterly basis.

Measurements during periods of no overflow are to be taken when normal releases are being made.

- (ii) for tailwater of the infrastructure listed at the end of this schedule:

dissolved oxygen, conductivity, pH, turbidity, temperature, nutrients, suspended solids, and chlorophyll *a*, on a quarterly basis. During periods of no overflow, measurements are to be taken when normal releases are being made.

With

- (B) Implement and maintain the following environmental water quality monitoring program in accordance with the department's water quality monitoring standards and protocols, to measure and record details of physicochemical and biological conditions of natural ecosystems and report on a quarterly basis as follows:
- (iii) for headwater of the infrastructure listed at the end of this schedule:
 - (a) the following by profile, dissolved oxygen, electrical conductivity, pH and temperature;
 - (b) Total Nitrogen and Total Phosphorus; and
 - (c) Cyanobacteria populations using methods, frequencies and sites in accordance with the Licensee's Blue-Green Algae Monitoring Manual.
 - (iv) for tailwater of the infrastructure listed at the end of this schedule:

dissolved oxygen, conductivity, pH, temperature, Total Nitrogen, Total Phosphorus and Total Sulphides. During periods of no overflow, measurements are to be taken when normal releases are being made.

Revision 2 (29 May 2006) under Section 185 of the *Water Act 2000*

a) In Schedule 1, S1.1

Replace

6a) Description

During periods of low water levels releases are to be made to support a community of platypus from AMTD 110.1km to AMTD 105km.

With

6a) Description

During periods of low water levels in Three Moon Creek from AMTD 110.1km to AMTD 105km, releases may be made to support a community of platypus from AMTD 110.1km to AMTD 105km taking into account advice from the Environmental Protection Agency regarding releases for this purpose.

b) In Schedule 1, S1.1

Replace

8a) Description

Single level offtake, no provisions for changing levels for water quality. Evasive actions as outlined in Blue Green Algae Monitoring Manual.

With

8a) Description

Single level offtake, no provisions for changing levels for water quality. Contingency plan as outlined in the Licensee's Blue-Green Algae Monitoring Manual.

c) In Schedule 1, S1.2

Replace

4b) Description

EL 235.58m AHD

EL 231.92m AHD

EL 236.65m AHD

EL 234.97m AHD

With

4b) Description

EL 235.58m AHD crest level of Youlambie Weir.

EL 231.92m AHD level of outlet works of Youlambie Weir.

EL 236.65m AHD crest level of Youlambie Anabranh Weir.

EL 234.97m AHD level of outlet works of Youlambie Anabranh Weir.

d) In Schedule 1, S1.5

Replace

2a) and 2b) Description
270 ML

With

2a) and 2b) Description
250 ML

e) In Schedule 2, S2.2, Volumes of major storages in the Scheme

Replace

Avis Weir Capacity and Total Capacity
270
89,330

With

Avis Weir Capacity and Total Capacity
250
89,310

f) Inclusion of Mulgildie Weir in Schedule 1, S1.7, 6a) Description

Include

Mulgildie Weir

g) Inclusion of note following table of Interim Water Allocations in S2.1 *Include*

2. Interim Water Allocations (IWA) noted against Section, Customer and Sunwater in the above table is representative of IWA allocated when the IROL was first issued in November 2000 unless otherwise shown in Schedule 4. There may have been some changes to ownership since that time. For example, as a result of reviews of IWA ownership or sale of IWA by Sunwater. The department's database of individual entitlements provides the current record of IWA ownership.

h) Global Amendment

All references to the Department of Natural Resources (or NRM&E) have been changed to the Department of Natural Resources, Mines and Water.

- i) Inclusion of new Section 5.0

Include

5.0 AMENDMENT HISTORY

The original licence was issued on 10 November 2000. The amendments since that date are shown in Schedule 4.

- j) Amendment of original Section 5.0

Replace

5.0 DICTIONARY

With

6.0 DICTIONARY

Replace

DNR means the Department of Natural Resources.

With

NRMW or department means Department of Natural Resources, Mines and Water.

- k) Update Table of Contents and Table of Schedules to reflect Revision 2 i) and j)

- l) In Schedule 2, S2.1, Interim Water Allocation to be managed under licence

Replace

580 ML of high priority interim water allocation (underground water) 12,752 ML of
medium priority interim water allocation (underground water)
1,679 ML of medium priority interim water allocation (surface water) **15,011 ML**
Total

With

580 ML of high priority interim water allocation (underground water)
12,621 ML of medium priority interim water allocation (underground water)
1,940 ML of medium priority interim water allocation (surface water)
15,141 ML Total

- m) In Schedule 2, S2.1 Table, Cania Dam to Youlambie Weir Section

Replace

Amenities-Cania Dam

With

Monto Shire Council- Cania Dam Amenities

Delete

The figure '30' from the Sunwater column

Replace

The figure '30' for the Total at the bottom of the Sunwater column

With

The figure '0'

n) In Schedule 2, S2.1 Table, Megalitres of Interim Water Allocation

Replace

Customer
5,525
Blank
90
580
2,312
35
2,525
425
2,140
775
34
250
290
14,981

With

Customer
6,286
30
224
580
1,975
35
2,600
200
1,510
1,145
34
250
272
15,141

o) In Schedule 2, S2.1 Table, Cania Dam to Youlambie Weir Section

Replace

Three Moon Ck AMTD 70.3 – 120 km

With

Three Moon Ck AMTD 70.3 – 130.8 km

p) In Schedule 2, S2.3, Table

Replace

< Elevation 319.18 m (AHD)

100% for medium priority holders located at weirs and water holes.

50% for medium priority holders located elsewhere.

With

< Elevation 319.18 m (AHD)

100% for medium priority holders located at Cania Dam, weirs and water holes.

50% for medium priority holders located elsewhere.

q) In Schedule 3, S3.1

Replace

(A) (i) continuous levels in dam and weir pools;

With

(A) (i) continuous levels in dam and weir pools for infrastructure listed at the end of this schedule;

Replace

(A) (iii) diversions of water by each customer of the Licensee; diversions to channel distribution systems; diversions to watercourses used for water distribution and drainage; aggregate use by water users from each channel distribution system; water use for each grouping of interim water allocation in Schedule 2.1; and releases from distribution systems to supplement watercourses or for other purposes; on a quarterly basis; and

With

(A) (iii) diversions of surface water or the taking of underground water by each customer of the Licensee; the start and finish, date and time, of diversions into Youlambie

channel; the start and finish, date and time, of releases from Youlambie channel to Monal Creek; water use for each grouping of interim water allocation in Schedule 2.1; on a quarterly basis; and

Replace

(A) (iv) underground water levels in monitored bores within regulated underground water areas on a quarterly basis and coordinated with measurements for metered use in those bores.

With

(A) (iv) underground water levels in monitored bores within regulated underground water areas on a quarterly basis and coordinated with measurements for metered use.

Revision 3 (29 May 2006) under Section 120(1)(b) of the *Water Regulation 2002*

a) In Schedule 2, S2.4

Delete

2. Water users in the Monto Mulgildie Underground Water Area are able to convert their underground water interim water allocation to a surface water interim water allocation at a rate of 2 ML of underground water for 1 ML of surface water if the conductivity of their underground water supply is greater than 3,000 microsiemens per centimetre. Once a water user has converted, the entire underground water interim water allocation is surrendered.

Revision 4 (26 June 2008) under Section 185 of the *Water Act 2000*

a) In Schedule 2, S2.3

Replace

Storage level at Cania Dam	Announced Allocation
≥ Elevation 319.18 m (AHD)	100% for all medium priority holders
< Elevation 319.18 m (AHD)	100% for medium priority holders located at Cania Dam, weirs and water holes. 50% for medium priority holders located elsewhere.

Note: A storage level of 319.18 m (AHD) corresponds to approximately 30% of storage capacity using current storage survey information).

When inflow occurs, the announced allocation is revised.

With

Storage level at Cania Dam	Announced Allocation
≥ Elevation 319.18 m (AHD)	100% for all medium priority holders
< Elevation 319.18 m (AHD)	100% for medium priority holders located at Cania Dam, weirs and water holes. 50% for medium priority holders located elsewhere.
Insufficient storage to supply 6000 ML winter release	0% for medium priority holders

Note: A storage level of 319.18 m (AHD) corresponds to approximately 30% of storage capacity using current storage survey information).

When the IROL holder is no longer releasing water in accordance with the Operating Rules for Cania Dam, the holders of interim water allocations may take water from waterholes or storages or during flow events. The total volume of water taken in the relevant water year must not exceed the interim water allocation holder's nominal volume.

When inflow occurs, the announced allocation is revised.

b) Global Amendment

All references to the Department of Natural Resources Mines and Water (or NRMW) have been changed to the Department of Natural Resources and Water.

Revision 5 (17 June 2021) under Section 183 of the *Unamended Water Act 2000*

a) Global Amendments

- i. All occurrences of "SunWater" changed to "Sunwater".
- ii. All occurrences of "Natural Resources, Mines & Energy" changed to "Regional Development, Manufacturing & Water".
- iii. All occurrences of "DNRME" changed to "DRDMW".

b) Section 4.0 - Monitoring and Reporting

- i. Link to the Department's water monitoring data collection and reporting standards referenced in footnote.
- ii. Requirements for operating Cania Dam in instances where it is unsafe to do so clarified.

c) Schedule 1 - Operating Arrangements

- i. Tables 1.1 to 1.6 updated to align with formatting of Burnett Basin ROLs, inclusion of drawing numbers and maximum release rates.
- ii. Tables updated to reflect changes to the release decisions under the operating rules for Cania Dam.
- iii. Old information removed regarding maximum, average and minimum releases.
- iv. Updated AMTD in S1.7 table row two, column two, "110.0" to "130.6".

d) Schedule 2 – Interim Water Allocation, Management and Sharing

- i. Section 2.1 - Table 1 replaced with reference to Department's water management system.

- ii. Section 2.3, Table 3 – AMTD and location definition of newly established management zones.
- iii. Maps inserted of each newly established management zone.
- iv. Section 2.4 (New operating rules for release decisions from Cania Dam) replaces:

Storage release rules from Cania Dam are as follows:

1. Storage Level Above 319.18 m (AHD)

Two releases will be made in the water year. A summer release of approximately 7,500 ML over a duration of about 60 days and a winter release of approximately 6,000 ML over a duration of 50 days are made.

If significant stream flows occur in the early summer while the storage level is above 319.18 m(AHD) the Licensee (following consultation with the Water Advisory Committee) may not make a summer release, but increase the winter release volume to approximately 13,500 ML.

2. Storage Level Below 319.18m (AHD)

No summer release is made. A release of approximately 6,000 ML (if available) is made over a duration of 50 days in winter.

The Licensee in consultation with the Water Advisory Committee is to decide the commencement date of all releases.

Note: A storage level of 319.18 m (AHD) corresponds to approximately 30% of storage capacity using current storage survey information).

- v. Section 2.5 (New water sharing rules to align with the new operating rules, Surface water extraction during a release decision clarified, and specific monitoring bores identified for determining underground water announced allocations when storage levels in Cania Dam are below EL 312.69m AHD) replaces:

Terms for Announced Allocation:

1. The announced allocation percentage is limited to a maximum of 100% of the interim water allocation in any water year.
2. The announced allocation percentage may be reviewed during the water year as a result of inflows into the storages or rises in the underground water levels due to vertical infiltration.
3. The announced allocation percentage will not be reduced during the water year.
4. Announced allocations for high priority interim water allocations will be 100% unless the announced allocation for medium priority interim water allocations is zero, in which case an announced allocation for high priority interim water allocations will be determined.

- vi. Section 2.6 (Seasonal water assignment rules, including the requirement for price capture) replaces:

Seasonal Water Assignments:

A seasonal water assignment, commonly referred to as a temporary transfer, is a transfer of part or all of an announced allocation within a water year. The Licensee may approve a seasonal water assignment of water within the scheme, for water managed under the Licence, subject to the following:

1. The approval may only be given for up to the end of the water year in which the approval is given.

2. No approval or undertaking of approval is to be given in advance of the current water year.
 3. The approval must not be inconsistent with any aspect of the Licence.
 4. Approval is not to be given for anyone to use water under a seasonal water assignment if an authorisation for works is required and they do not have such authorisation.
- vii. Section 2.6 (June 2008 IROL version) – Benefitted Area for Underground Water map removed – new management zones capture lateral extent of alluvium.
- e) Schedule 3 – Monitoring and Reporting
- i. Requirements modernised to reflect ROLs in Burnett Basin
 - ii. New requirement to capture seasonal water assignments, including price data.