sunwater

Paradise Dam

Community update

September 2021

Sunwater understands the Bundaberg community's concern about water security for the region. Safety and water security are the key drivers for the next phase of work at Paradise Dam.

Required safety improvements

The Queensland Government has advised it will decide on the preferred option for the full remediation of Paradise Dam by the end of 2021. Regardless of the final height of the primary spillway, extensive technical investigations have confirmed that significant works will be required to further strengthen and stabilise the dam including, but not limited to:

- a new crest on the primary spillway, corresponding to the approved height option
- buttressing the primary spillway with mass concrete to widen the base of the dam and increase the wall thickness (strengthening works)
- extension of the downstream apron with reinforced concrete slab and training (side) walls
- improvements to the secondary spillway wall, requiring a temporary cofferdam to be built upstream of the secondary spillway
- improvements to the left abutment wall
- other protection works below the secondary spillway and left abutment (scour protection)
- improvements to the intake tower and dam outlet conduits.

The scale of these improvements varies depending on the selected primary spillway height. The key features of the existing dam are labelled in the image below.

Understanding potential climate change impacts

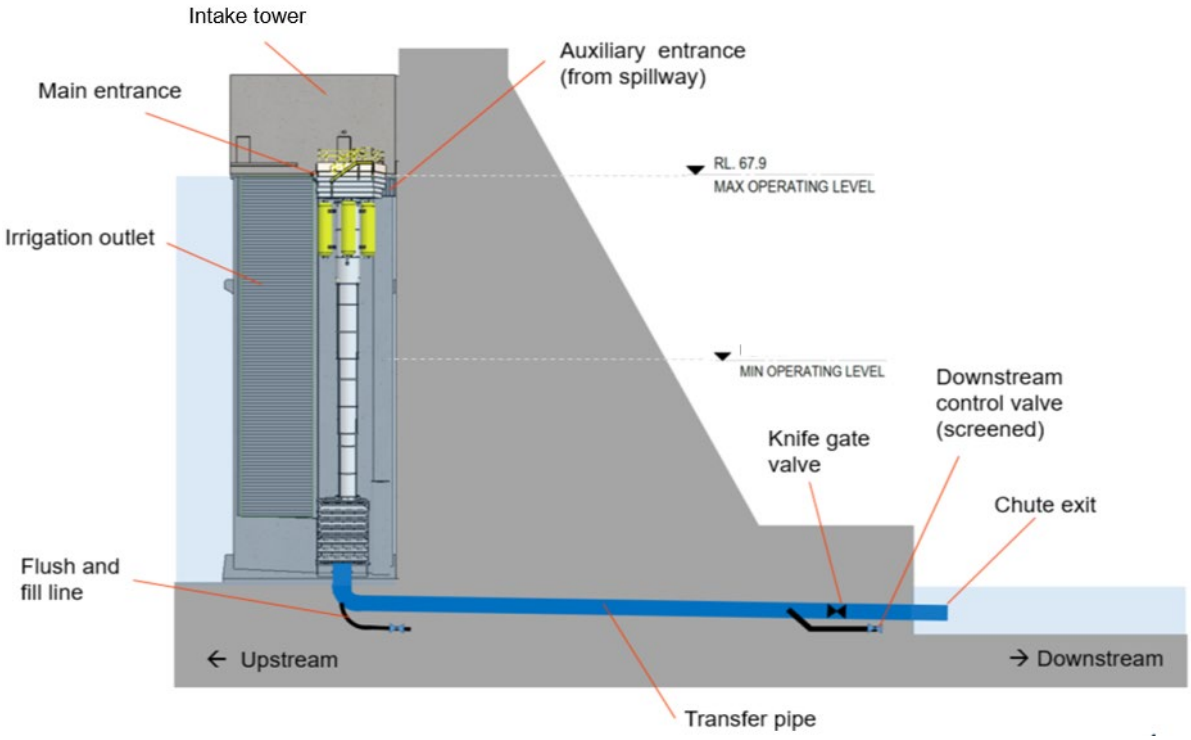
An important aspect of planning for the remediation of Paradise Dam is to understand the potential impact of climate change. The future water demand study (read the April 2021 Fact Sheet here) took potential impacts of climate change into account. Additional hydrological studies have also been undertaken to assess the potential impact on yield, or the volume of water available each year from the dam.

This work used eleven different global climate change models (known as General Circulation Models), to understand the potential impact on supply reliability in future years, and alternatively the potential impact on total system yield (i.e., supply) available if the historical reliability is to be maintained.

There is significant variability in results across the eleven global General Circulation Models. In general, however, the outlook is more negative, with eight of the eleven models predicting a reduction in supply reliability, or in turn a reduction in average annual inflows to Paradise Dam compared to current inflows. Consideration of climate change impacts, therefore, requires a conservative approach to ensure water security can be provided into the future.

Downstream fishway progress

In our January update, we shared news about plans for an upgrade to the downstream fishway at Paradise Dam that will be able to operate over a wider range of dam water levels. The following image shows a cross section of the design developed with input from fish biologists and fishway experts. A new floating fishway entrance will sit at the water level of the dam (which varies over time with inflows and releases). This will connect to the existing transfer system through a telescopic pipe. Fabrication of the fishway is currently underway and it is planned to be installed by the end of the year.



Network constraints update

Sunwater has been working to better understand network constraints in the Burnett River Sub-scheme (Isis and Woongarra systems) and to assess the capacity to deliver water allocations to meet current and future demands.

This work has recommended that a staged approach is required, starting with:

- upgrading the Don Beattie Pump Station
- increasing the capacity of Quart Pot Creek Pump Station to the Farnsfield area and siphon upgrades
- upgrading the Woongarra Pump Station and siphons at Childers Road and Price Street
- installation of telemetry monitoring technology (i.e., live electronic data on water levels) to enable channels to be safely operated at greater through-flow than originally designed.

Further work will be undertaken to develop and confirm priorities for staged upgrades across the Bundaberg Water Supply Scheme.

Old Mingo Crossing Bridge removal

Prevailing dry conditions in the Burnett region have resulted in a lower Burnett River level, whereby the old Mingo Crossing Bridge is either just beneath or above the river's waterline, posing a safety risk to recreational river users.

In the interest of safety, Sunwater is currently investigating the removal of the old Mingo Crossing Bridge in late 2021 – early 2022.

Sunwater has commenced work to establish a project site on the north and south side of the Burnett River at Mingo Crossing.

Sunwater and the North Burnett Regional Council are committed to ongoing community safety. Buoys mark the bridge's location and information has been provided to recreational river users.

The Mingo Crossing Caravan and Recreation Park will remain open during the works.

For more information on the old Mingo Crossing Bridge project visit this webpage.

For more information about Paradise Dam technical investigations see these recent fact sheets:

- Anchor Trial Results Fact Sheet
- Apron Foundation Geological Mapping Fact Sheet.

Direct links to more information are included in the electronic version of this newsletter. If you are reading a printed copy and need help finding the linked information, please call or email and we can assist.

Keep informed about Paradise Dam:

If you live immediately downstream of Paradise Dam, you can register for SMS updates at sunwater.com.au.
Download the Sunwater app to receive push notifications when the dam is spilling water and to monitor dam levels.
Follow the Sunwater Paradise Dam Facebook and Sunwater Twitter page.
Visit sunwater.com.au/projects/paradise-dam-essential-works for updates.

For further information on Paradise Dam:
Community enquiries: 3120 0270 or via paradise.dam@sunwater.com.au
Customer enquiries: 13 15 89 or via customersupport@sunwater.com.au
Media enquiries: 3120 0047 or via media@sunwater.com.au.