Submission- Coleambally Battery Energy Storage System

About CICL

The Coleambally Irrigation District (CID) is located between the Murrumbidgee and the Yanco Creek which is south of Griffith between the towns of Darlington Point and Jerilderie, New South Wales in the southern Murray-Darling Basin of Australia. The District comprises 495 irrigation farms containing 79,000 ha of irrigated land supplied through open earthen channels and approximately 325,000 ha of West Coleambally Channel District to which CICL supplies stock, tank and opportunistic irrigation water.

CICL's irrigation water is sourced from the Murrumbidgee River which is one of the major tributaries of the Murray River. The water is diverted into the Coleambally Main Canal upstream of Gogelderie Weir near Darlington Point. Water supplies are regulated from two major Snowy River Scheme dams, Burrinjuck and Blowering.

The CID was developed over the period 1958 to 1970 to utilise NSW's share of the Snowy Scheme. CICL's delivery system is gravity fed and incorporates state of the art and solar-powered metering and flow regulation technologies which providing for fully automated water ordering and accounting. It consists of 41km of Main Canal from the Murrumbidgee River, 477km of supply channels, and a further 734km of drainage channels.

CICL is a leading exponent of open channel irrigation management and has invested heavily in system automation. In addition, the Co-operative's members have spent significantly since 2000 improving their land and water management practices and enhancing local biodiversity.
We also deliver a significant amount of water through our system to reduce transmission losses for Water NSW and also environmental water to significant environmental sites on behalf of the Government.

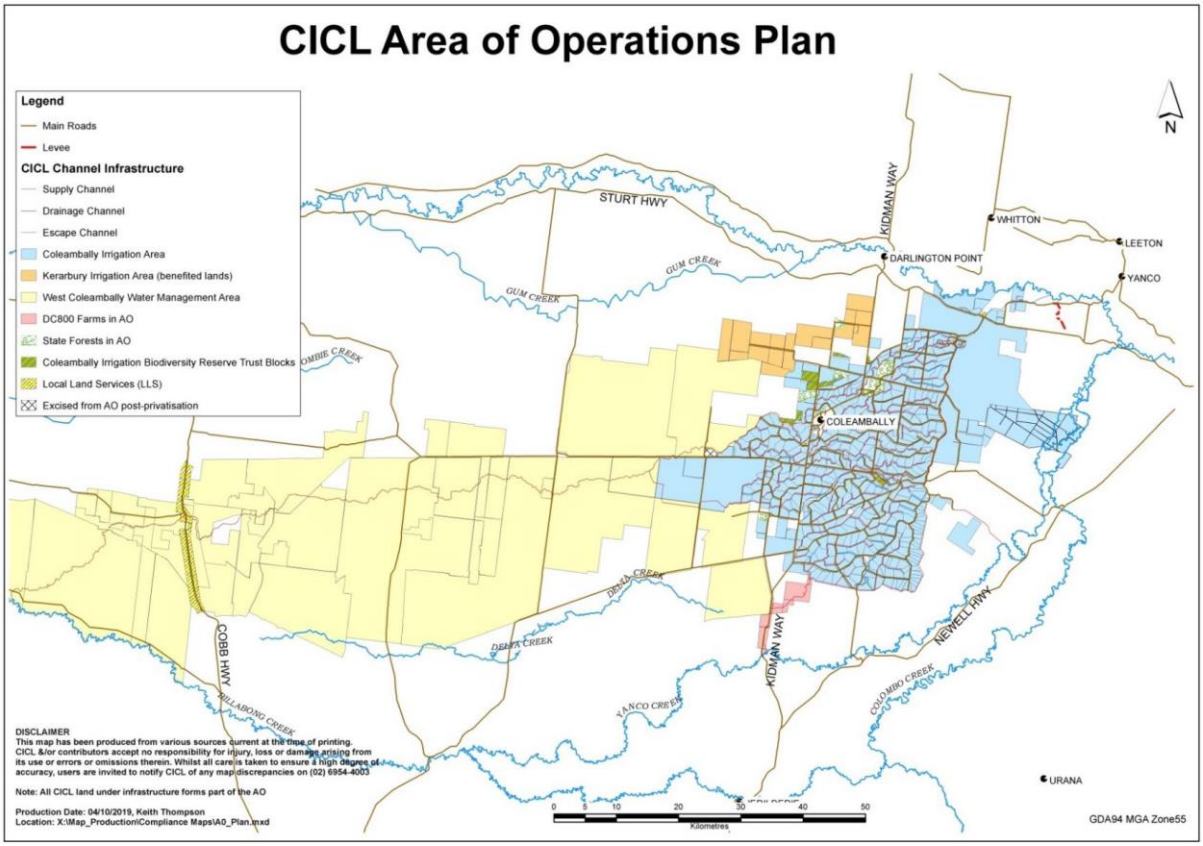
We have two main licences which we have to report and comply with-

1. Combined Water Supply Work Approval and Water Use Approval 40CA401473 (Murrumbidgee regulated river water source) and Combined Water Supply Work Approval and Water Use Approvals for Groundwater extraction 40CA403808 and 40WA404593; and
2. Environment Protection Licence No 4652.

Under these licences we are responsible for –

- Accurate water metering and delivery
- Water Quality both drainage and supply
- Soil and Water salinity
- Pollutants entering drainage and the environment
- Groundwater quality and leaching and monitoring of which includes a total of 737 piezometers are located across the Area of Operation (AO) to monitor groundwater levels in the shallow Shepparton Formation aquifer.

Figure 1.1 Current Area of Operations of CICL including benefited lands.[1] (See attached Appendix 1 for higher level of detail)



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CICL is responsible for the maintenance and eventual replacement of the Road Bridges and Road Culverts that convey Irrigation and Drainage water under the public roads within the CICL Area of Operations.

CICL is responsible for the supply channel system, the delivery of the supply water to its members and customers. CICL's supply channel begins at the main offtake whereby water is supplied from the Murrumbidgee River. Every drop is accounted for within the CICL supply system with every outlet measured.

CICL is also responsible for the drainage within the CICL Area of Operations. All of the roadside drainage and most of the rainfall runoff and overland water flows and local flood flows, within the CICL Area of Operations, make their way into the CICL drainage network and are conveyed to the Yanko Creek or the Billabong Creek and other tributaries.

CICL owns the land in Coleambally Irrigation Area that its supply and drainage channels are located upon.

Coleambally Irrigation has a range of information about the land within the Irrigation Area. This information is the confidential property of the land owner. Coleambally Irrigation will require written consent from the land owner to make this information available to a third party.

Some area's we can assist some questions that we may be able to assist with is to provide information about include;

- Do you need information about peak flood levels on your proposed site?
- Soil types and original survey maps of the proposed site.

- EM31 Soil Data.
- Our channels are empty from end of April to end of August. Will you need water for dust control?
- Will you need water for fire fighting in summer?
- Have arrangements been made with the farm owner for water supply?
- How will the site drain to the Coleambally Irrigation Area drainage system in a wet year?
- Will any Coleambally Irrigation land or assets be impacted by the project?
- What noxious weeds may be present and control options.
- Are there natural drainage lines and flow paths that need to be considered as part of the development designs?

When assessing a potential project development we run a suite of due diligence checks to ensure projects have no adverse affects on CICL's property assets and membership these include but are not limited to-

- Bridge Limits
- Drainage
- Water supply
- Ownership/Boundary issues
- Water Use /Impacts
- Potential Pollutants Risk
- WHS Risks
    - Emergency Management
    - Traffic
    - Overhead constructions /Heights
    - Working with live electrical apparatus.
- Radio interference Risk

Bridge Limits

To determine if our bridges can handle the road traffic;

- How many transport movements are required for your development and what is the size and weight of these movements?
- How many truck movements per day and for how many days?
- What will the axle group loadings be for the transport delivering the equipment?
- Will you need any big cranes and what will be their axle configuration and individual axle loading and axle spacing's?
- There are currently bridges with erect "NO OVERTAKING OR PASSING" signs present in the CID. This means that there should only be one vehicle on the bridge at any one time

CICL may approve transport movements on road bridges located in the CID where transport movements, sizes and weights meet bridge specifications with the following conditions;

- That there is only one vehicle on the bridge at a time.
- Suggest that trucks allow dust to clear from the previous truck so they can see there is no oncoming vehicle at the bridge.
- That the trucks travel in the centre of the bridge deck. This is to reduce risk of damage to the edge beams.
- That a 60km/hr speed limit for the trucks to reduce risk of dynamic load on the bridge beams. If the drivers notice a jump up or a pot hole develop at the transition from the gravel

road onto the deck that they take care to slow down to a safe speed to reduce any bounce on the deck.
- That the developer lets CICL know if any damage such a pot holes develops so that CICL can organise any necessary maintenance.
- Any cranes will be restricted to 10km/hr to cross the bridges and also keep to the middle of the deck. If the crane has removable counterweights, they be removed and transported on a separate trailer.

The CICL concern is not so much that a truck or crane will cause a structure to collapse but rather the budgeted remaining life of the bridge assets will be significantly reduced such that they may need to be replaced much sooner than our long term modelling and budgeting predicts. CICL makes an annual contribution to the CICL Sinking Fund to provide for the replacement of the assets when they reach the end of their economic life. CICL engage GHD to conduct a review of the adequacy of our Asset Replacement Sinking Fund every 5 years.

Based on the answers to the above questions CICL may need to engage GHD to review if a contribution towards the Sinking Fund would be required from the development construction to provide for the reduced life of the CICL Bridge assets.

Drainage

All of the roadside drainage and most of the rainfall runoff and overland water flows and local flood flows make their way into the CICL drainage network and are conveyed to the Yanko Creek or the Billabong Creek. Experience in recent high rainfall events have demonstrated that rainfall runoff with some developments such as solar panels in significantly higher than farmland.

Water Supply

The Irrigation Channels deliver water from the Murrumbidgee River to each of our irrigators. The water diverted is measured at our licenced extraction point at the start of our Main Canal. We order water seven days in advance from WaterNSW who release from Blowering and Burrinjuck dams into the Murrumbidgee River.

The irrigation channels are normally full of water from mid August to mid May annually and drained for winter maintenance.

When considering the developments water requirements you need to be specific about its use/purpose, depending on this purpose will depend on the water quality required the four main purposes CICL envisages are-

- Potable water or drinking quality water
- Concrete production water or construction purpose
- Dust suppression water
- Livestock water

CICL water delivery do not include potable or drinking quality water, and depending on salinity and turbidity requirements has the option for deep groundwater and/or surface agricultural use water.

To access water during construction the proponent would need to become a non-Member Customer and sign a non-Member Agreement.

CICL may provide approval for a metered pump to be located at an agreed location, to supply water from the supply channel under the following conditions

- Approval of this type of extraction is provided to proponent

- Approval date is the same date as approval letter
- Expiry of this approval is a requirement.
- That any approved pumps are to be removed from the CICL Channel at the same time as expiry of any approval.
- That any water used be only as approval states;
- The pump is required to be fitted with a meter, as per CICL requirements;
- The cost of the total water extracted will be invoiced to proponent;
- All invoices require payment within 30 days; and
- The cost will be agreed as commercial agreement dollars per ML plus the current temporary trade price to purchase the water.

If additional water is required after the expiry of the approval, or additionally if required for the life of the project, a suitable arrangement is to be sought between the CICL and the proponent.

Ownership / Boundary Issues

If the land that the project is being built on is within our area of operation is to be owned by the proponent, they will become a member or customer of CICL and be required to operate within the Rules and Regulations of CICL, like any other member or customer.

If the land the project is being built on is to be leased by the proponent, the existing owner will continue to be responsible and required to operate within the Rules and Regulations of CICL, like any other member or customer.

CICL has ***CICL Policy and Procedures for authorised access, use and/or encroachment of CICL Land*** That deals with this issue and may consider a for licence agreement for any variations.

Water Use /Impacts

CICL takes its licences monitoring and compliance seriously. One environmental issue has been the accession of water used to the shallow water table . To assist with combatting this we have an extensive network of monitoring piezo's which may be on the development site this will need to be accessed by CICL staff, also if water use does contribute to the shallow aquifer the proponent may be subject to ***CICL's Water Use Intensity Policy.***

Potential Pollutants Risk

As part of our EPA licence CICL is responsible for monitoring any pollutants that reach our network. If using any substances in construction or any that have the possibility of reaching our network even during an emergency CICL will consider mitigation measures as part of its conditions. Of concern are transformer cooling fluids and fire fighting and suppression chemicals.

WHS Risks

Overhead constructions /Heights

CICL frequently engages specialised contractors for its maintenance works one of the main specialist contractors uses the Cat326F Long Reach excavators which we use extensively for de-weeding and desilting our supply network and drains which includes DC500, DC600 and DC800 where the development may need to access or construct overhead lines to their site.

In normal working mode for desilting a drain, this would be the maximum height above the maintenance berm beside the drain. Normally the maintenance berm is equal to natural ground level. It may be possible to lower the maintenance berm by one metre in the area where required movement is to occur to give a maximum working height of 11metres above the existing maintenance berm height for any construction work or assets.

The excavator does not work on the top of the spoil bank. The highest equipment on the spoil bank would be a boom spray or road grader that would be 4.5m high. In some locations the spoil bank acts as a diversion or levee to redirect overland flood flows. Depending on where the transmission line crosses over the drain it may be possible to lower a section of spoil bank to ensure that maintenance grading or spraying is lower.

It is not so much the extending that requires the 11metres but rather when the bucket comes in close then the boom and stick come close to each other. This results in their hinge point being up at the 11 metre height.

It is the folding, so that the bucket can come close to the track and then can pass over the edge of the drain that causes the hinge point to be up in the air.

Emergency Management

CICL will request an Emergency Management Plan that includes but is not limited to -

- How the wiring of any electrical components is to be de-energised so it is safe to use water to extinguish a grass fire?
- There is also a need for some detail any constructions that may prevent access to the site by fire services
- There is reference to thermal runaway in any battery containers that might be constructed. This would indicate lithium type storage chemistry. I think it is a design flaw to have so many lithium batteries in such a small space. There should be more of smaller units. That way if one section of storage cells fails, it is less of a fire to wait to burn itself out.
- There needs to be sufficient clearance for fire truck access along both sides of any perimeter security fences.

Radio Interference Risk

CICL relies on a complex multi frequency radio data network to ensure water delivery through its system automation and holds numerous ACMA licences to ensure no interference. If your project is using Radio frequencies or has potential to generate radio frequency interference please contact CICL about mitigation activities.

Endangered Species

Coleambally Irrigation District is fortunate to be home to a wide range of important vegetation and native species. And is home to some of the unique Australian plants and animals that can't be found anywhere else in the world, CICL is committed to helping to protect its local environment.

CICL also manages approx. 1200Ha of crown land to preserve native vegetation and fauna.

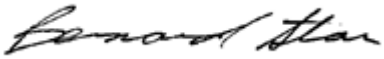
Flora and fauna that have become endangered elsewhere have developed well in Coleambally Irrigation District including well-known species such as the Superb Parrot, the Southern Bell Frog and more recently the Australasian Bittern. A record of threatened species found in the Murrumbidgee

bioregion can be found at https://www.environment.nsw.gov.au/threatenedSpeciesApp/cmaSearchResults.aspx?SubCmaId=348

Conclusion

We hope this assists with your project planning for your development, If you wish to discuss any concerns or wish to access our services or information please feel free to contact our customer service team on 0269544003.

Regards



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