

4 July 2024

The Chief Executive
Department of Housing, Local Government,
Planning and Public Works
PO Box 15009
CITY EAST QLD 4002

Attention: Morag Elliott – Manager – Development Assessment Division, Planning Group
By Email: RPIAct@dSDLGP.qld.gov.au

Dear Morag,

RESPONSE TO REQUIREMENT NOTICE – SECTION 44, REGIONAL PLANNING INTERESTS ACT 2014 – REGIONAL INTERESTS DEVELOPMENT APPROVAL – THOMSON RIVER WEIR PROJECT – LOT 2 SP123565 & LOT 4 SP232181 (DHLGPPW Ref: D24/16158; Our Ref: 2023-111)

I act on behalf of the applicant, Longreach Regional Council, in respect of the above matter.

I refer to the Requirement Notice, issued by Department of Housing, Local Government, Planning and Public Works (**DHLGPPW**), dated 15 February 2024, in respect of a Regional Interests Development Approval (**RIDA**) for the Thomson River Weir Project on land described as Lot 2 SP123565 and Lot 4 SP232181.

The following correspondence provides a response to Item 0 at Attachment A of the referenced Requirement Notice. For ease of comprehension, the item has been reproduced followed by the associated response.

Responses to Items 1-8 at Attachment A of the referenced Requirement Notice is provided in the Response Letter, prepared by NGH Consulting, dated 1 July 2024 and attached at **Appendix A**.

ISSUES AND RESPONSES

Information required for assessment against SEA criteria – Schedule 2, Part 5 of the Regional Planning Interests regulation 2014.

Issue:

As stated in the application material, the proposed raising of the five weirs by approximately one metre is an unacceptable use, being a new/augmented water storage (dam) in a strategic environmental area (SEA) (designated precinct).

It is noted that, as the weirs existed prior to the commencement of the Regional Planning Interests Act 2014 (RPI Act), ongoing maintenance/restoration works at current heights and inundation levels would be exempt regulated activities under s25 of the RPI Act.

However, any changes to the weirs of inundation levels from that designed/constructed prior to the commencement of the Regional Planning Interests Regulation 2014 requires a Regional Interests Development Approval.

s49 of the RPI Act identifies the criteria that must be considered when deciding an application and includes 'any criteria for the decision prescribed under a regulation'.

Prescribed solution 15(1)(b)(i) of the Regional Planning Interests Regulation 2014 requires an application to demonstrate that an activity is not an unacceptable use.

s49(2) of the RPI Act does however provide for the chief executive to 'consider any other matter the chief executive considers relevant' ie any other matter not already identified in s49(1).

The application material does not provide sufficient information regarding 'any other matter' that may be considered in deciding the application.

Actions:

Provide:

- (a) information relating to 'any other matter' than those identified in s49(1) of the RPI Act that may be considered relevant in deciding the application for an unacceptable use in the SEA (designated precinct)
- (b) details of why these matters would be considered relevant in deciding the assessment application.

Response:

Schedule 2 of the RPI Regulation provides criteria for the assessment or decision of a Regional Planning Interests Application. Part 5 relates to an activity within a SEA. In order to achieve compliance with the prescribed solution, a development must achieve compliance with either (1)(a) or (1)(b).

Prescribed Solution (1)(a)

Given that the proposed development involves an upgrade existing infrastructure, it is considered that any existing direct and indirect impacts on the waterway is taken to be granted, with this application only considering additional impacts associated with the upgrade. The applicant contends that the proposed upgrade achieves compliance with prescribed solution (1)(a) as it does not itself result in new or additional direct or indirect impacts on an environmental attribute of the Strategic Environmental Area. Reference is made to the Response Letter, prepared by NGH Consulting, attached at **Appendix A** and the application material, which provides further information detailing that the proposed upgrades do not adversely impact on the existing characteristics of the area.

Prescribed Solution (1)(b)

At the outset, it is noted that the Supporting Information Report, prepared by Precinct Urban Planning and lodged as part of the RIDA application material, confirms in Table 1 that the proposal complies with solutions (1)(b)(ii-iv), with solution (1)(b)(i) being the only item of non-compliance.

As identified in the Requirement Notice, non-compliance with this prescribed solution (1)(b)(i) can be justified by identifying "other matters" which are relevant to this development. In this instance, the following matters are considered to be relevant to this assessment:

- The development involves upgrades to existing, necessary water storage infrastructure.
- The development is required to ensure the continued safety and maintenance of the infrastructure.
- The development is required to ensure safe and adequate water supply for Longreach (which is critical).
- The development does not adversely impact the environmental features of the Strategic Environmental Area.

These "other matters" are discussed in further detail below.

As the Longreach township continues to grow and thrive, there is an ever increasing need to ensure adequate water supply for the town's needs. Reference is made to section 5.1 of the Supporting Information Report, lodged as part of the RIDA application material, which is reproduced below for completeness.

A Water Supply Security Assessment (attached at Appendix C) was undertaken by the Department of Resources in 2019 to understand the water demand scenarios of the Longreach township and identify requirements to ensure the future water security of the town. As part of this assessment, it was determined that the Longreach Waterhole is and will continue to be the main freshwater supply for the Longreach township, with other water supply sources such as the Hooray Sandstone unit of the Great Artesian Basin identified as unsuitable for town supply due to high fluoride content and the condition of extraction infrastructure. This report determined that providing new or increased water supply infrastructure was required to ensure water security for the township and provided various options to achieve this.

Coincidentally following this assessment, Anabranch Weirs 3 and 4 failed during flooding events in 2022 and 2020, respectively, requiring upgrades by Council to repair and reinforce these weirs. To ensure the safe operation of all the weirs and to further ensure the water security of the Longreach township is maintained, it has been determined that maintenance of all five (5) weirs is required. Given the outcomes of the Water Supply Security Assessment, and the requirement to reinforce and upgrade the existing weirs, Longreach Regional Council determined the most appropriate strategy would be to increase the height of the weirs while undertaking the required upgrade works. This ensures the future safety of the weirs while also increasing the town water supply further ensuring water security for the Longreach township.

Reference is also made to section 2 of the Ministerial Infrastructure Designation Report, prepared by NGH and attached at Appendix C. This report provides further details and justification in support of the proposed works.

As identified in response to prescribed solution (1)(a), reference is made to the appended Response Letter, prepared by NGH Consulting, and the application material, which provides further information detailing that the proposed upgrades do not adversely impact on the existing characteristics of the area.

On the above basis, it is considered that the proposed development benefits from "other matters" which are relevant to the development and sufficiently demonstrate the need for the development to occur within this area.

SUMMARY

Pursuant to section 44 of the *Regional Planning Interests Act 2014*, we hereby confirm that this response provides a response to all of the items included in the Requirement Notice. Having regard to the information provided, we request that DHLGPPW proceed with the assessment of the application.

As detailed in the Supporting Information Report, lodged as part of the RIDA application material, the applicant will be undertaking a single round of public consultation for both the RIDA and MID process which are being undertaken concurrently. Prior to the commencement of this consultation, the applicant will seek approval from DHLGPPW to ensure the consultation satisfactorily meets the requirements under both the *Planning Act 2016* (for the MID) and the *Regional Planning Interests Act 2014* (for the RIDA).

Should you require any additional information or clarification please do not hesitate to contact the undersigned on phone (07) 4632 2535, or by email at james@precinctplan.com.au.

Yours sincerely



James Williams
Precinct Urban Planning

APPENDIX A – RESPONSE LETTER

NGH Consulting

1 July 2024



Morag Elliott
Manager, Development Assessment Division
Planning Group
Department of Housing, Local Government, Planning and Public Works
Level 13, 1 William Street
BRISBANE QLD 4000

To: morag.elliott@dSDLGP.qld.gov.au
cc: phil.joyce@dSDLGP.qld.gov.au

Dear Morag,

Re: Thomson River Weir Raising Project – RIDA Requirement Notice Response

On 1 February 2024, an application for a Regional Interests Development Approval (RIDA) was lodged to the Department Housing, Local Government, Planning and Public Works (DHLGPPW) by Precinct Urban Planning (PUP), on behalf of the Longreach Regional Council (LRC), for the Thomson River Weir Raising Project (the Project).

On 15 February 2024, Requirement Notice RPI24/030 was received from the DHLGPPW. The Requirement Notice outlines the DHLGPPW's additional information requirements to assess the RIDA application.

Attachment A below provides the LRC's responses to the Requirement Notice. The Requirement Notice letter from DHLGPPW has been provided as Attachment B. Additional information in support of the responses is provided in Attachments C to E.

If you have any questions, please contact me on the number below. I would be pleased to discuss any aspect of this letter with you further.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Joe Flanagan', with a stylized flourish at the end.

Joe Flanagan
Technical Lead – Environmental Assessment and Approvals
0456 914 854

Brisbane

T3, Level 7, 348 Edward Street Brisbane QLD 4000

T. (07) 3129 7633 E. ngH@ngHconsulting.com.au W. ngHconsulting.com.au ABN 31 124 444 622 ACN 124 444 622

Attachment A – LRC Response to Requirement Notice

Issue	Response
<p>1. <u>Actions:</u></p> <p>(a) Clarify whether the ‘Construction disturbance area’ surrounding all weirs includes all laydown areas, including those used for machinery/equipment storage, maintenance, materials/waste storage, etc, and temporary site offices and if not, amend the relevant plans to show the proposed locations of these activities.</p> <p>(b) Clarify whether the proposed disturbance area of 1.64 ha includes areas in which construction areas, laydown areas and temporary site offices are to be located and if not, amend the proposed disturbance area to include the overall project impact, including construction footprint, laydown/equipment footprint and likely riparian vegetation loss (through inundation).</p> <p>(c) Advise whether minimisation and mitigation has been undertaken on the impacts of laydown areas, including those used for machinery/equipment storage, maintenance, and materials/waste storage etc., and if so, how has it been undertaken.</p> <p>(d) Clarify whether all laydown areas, including those used for machinery/equipment storage, maintenance, and machinery materials /storage, been included on the calculation of overall clearing impacts.</p>	<p>The 1.64 ha disturbance footprint described in the RIDA application does not include construction laydown/storage areas. The described footprint is associated with the weir construction buffer only (i.e. where weir raising activities will be undertaken). These areas were excluded from the disturbance footprint described in the RIDA application as they would be located on disturbed land devoid of structural vegetation.</p> <p>In order to more accurately delineate the most suitable locations for temporary laydown areas, GBA Consulting Engineers (GBA) undertook a site inspection of the Project area on 22 March 2024. An updated Project layout has been developed, provided as Attachment C, showing the proposed temporary laydown and turnaround areas. The total of these temporary laydown and turnaround areas is approximately 1.83 ha. It is noted that equipment and storage will be transported off-site at the end of each construction day.</p> <p>See response to 1(a) above with regard to construction disturbance. See response to 4(a) below with regard to riparian vegetation loss.</p> <p>The temporary laydown and storage areas were selected in areas where minimal to no vegetation clearance would be required. The storage and laydown areas associated with Anabranch Weirs 3 and 4 are pre-existing from the emergency repair works undertaken during the 2020 and 2022 floods.</p> <p>See response to 1(a) above.</p>
<p>2. <u>Actions:</u></p> <p>Provide additional information comparing the current situation with the proposed situation in regard to the change in the number of ‘no-flow’ days and ‘low flow’ days past the Longreach Weir. As guidance, the Cooper Creek Resource Operations Plan Nov 2013 describes a low flow as a flow of less than 100ML/day.</p>	<p>Attachment D provides discharge plots for the Thomson River gauging station at Longreach (003202A), obtained from the Department of Regional Development, Manufacturing and Water (DRDMW) <i>Water Monitoring Information Portal</i> (WMIP).</p> <p>The plot shows that for the majority of the time, there is less than 100 ML/day of flow occurring, with periodic spikes during rainfall periods. This discharge pattern is characteristic of the distinct dry and wet seasons in northern and western Queensland, and the perennial nature of the Thomson River.</p> <p>An analysis of the daily flow data downloaded from the WMIP indicates that out of 20,013 days of record since May 1969, no-flow has been recorded at the gauge on</p>

Issue	Response
	<p>12,232 days (61%), with low flow (<100 ML/day) occurring on 2,579 days (13%). Importantly however:</p> <ul style="list-style-type: none"> • Mean daily discharge volume recorded for flow days (>0 ML/day) was 7,426.49 ML/day • Mean daily discharge exceeded 900 ML (i.e. the additional storage volume provided by the Project) on 38% of flow days • Discharge volumes for each 'flow event' (i.e. periods where flow was recorded for consecutive days, with no-flow days at the start and end) exceeded 900 ML (i.e. the additional storage amount due to the Project) in 74.6% of events, and flow during these periods averaged 5,192.7 ML/day. <p>Although the Project may increase the number of flow events where the weirs would not be overtopped, it should be emphasised that the Project includes provision of fish passage on the Town Weir, an improvement on the existing case.</p> <p>Based on the above, the Project would not have a discernible impact on the number of no-to-low flow days downstream on the Thomson River, which already experiences no-to-low flow 74% of the time.</p>
<p>3. <i>Actions:</i> <i>To enable assessment of the barrier effects of the existing and ungraded weir on the passage of aquatic fauna, provide information on the following:</i></p> <p>(a) <i>the likely delays in commencement to flow compared with the existing structure.</i></p>	<p>Similar to the indiscernible impact on the number of no-to-low flow days (see response to 2 above), the Project is not expected to result in significant increases to the 'commencement to flow time' compared to the existing weirs. This is due to the relatively small increase in the volume of the Town Storage (900 ML), relative to the significant volumes of water flowing down the Thomson River during flow events (averaging 7,426.49 ML/day).</p> <p>The actual delay in 'commencement to flow' would be dependent on a number of variables not related to the Project, such as the level of the Town Storage and upstream storages (Fairmont, Bimbah, Goodberry Hills) prior to flows occurring, volume of water coming downstream to the Town Storage as opposed to in-situ rainfall, and ground saturation levels.</p> <p>Based on the above, not only would accurately quantifying a 'delay in commencement to flow' time not be possible considering the Project-independent variables, it would be insignificant relative to the existing commencement to flow time, even if assumptions were made for these variables.</p>

Issue	Response
<p>(b) <i>whether the fishway will be provisioned in priority to the rest of the weir wall or if it will be across the entire weir wall. If the fishway spans the weir wall, provide information on features are to be incorporated to enable adequate and safe passage for the two turtle species present.</i></p>	<p>As described in Section 3.3 of the MID Proposal, a rock ramp style fishway is proposed to be integrated below the Town Weir to facilitate movement of aquatic fauna. LRC will commission a detailed design of the proposed fishway structure in parallel with detailed design of the raised weirs following geological investigations, detailed engineering design, and selection of a construction contractor. These investigations and designs may find that an alternative fishway design (such as vertical slot) is more appropriate than a rock ramp.</p> <p>It is expected that the detailed design of the chosen fishway structure would be adequately designed to accommodate the movement of turtles. The recorded species of turtle are also able to traverse land (e.g. during nesting), and therefore are able to navigate the weirs in their existing state (i.e. with no fishway).</p>
<p>(c) <i>the reasons for not including the anabranches as locations of fauna passage (note that the Fisheries Act 1994 defines waterways) and how turtles and other aquatic fauna will be able to traverse these features.</i></p>	<p>The ‘waterways for waterway barrier works’ mapping identifies the main channel of the Thomson River, as well as the anabranches associated with Anabranche Weirs 3 and 4, as major (purple) waterways. It is noted that the anabranches associated with Anabranche Weirs 1 and 2 are not mapped on the ‘waterways for waterway barrier works’ mapping.</p> <p>Notwithstanding, a fishway has only been proposed on the Town Weir, for the following reasons:</p> <ul style="list-style-type: none"> • Fish passage is not currently provided by any of the existing weirs, therefore, the Project will provide a net improvement to fish passage along the Thomson River than if the Project were not to proceed. • The <i>Water Act 2000</i> identifies the Thomson River and its anabranches as one contiguous watercourse on the watercourse identification map. It is therefore considered that by providing a fishway at the Town Weir (the main channel of the Thomson River), passage is being provided for the larger system. • The main channel provides the most significant hydrological flows which will be detected by fish moving up the system. • The anabranches re-join the main channel only a relatively small distance (in the context of the broader Thomson River system) downstream of the weirs, and therefore fish movement from the anabranches to the main channel is possible.
<p>(d) <i>the impacts on connectivity and water quality including downstream.</i></p>	<p>The Projects potential impacts on water quality are described in Section 6.2.2 of the MID Proposal report (NGH, 2024), included as Appendix C of the RIDA application.</p> <p>In summary, potential surface water quality impacts associated with the Project would primarily be associated with:</p>

Issue	Response
	<ul style="list-style-type: none"> The uncontrolled release of contaminants from vehicles or mobile plant operating during construction activities The disturbance and discharge of sediments to land and downstream waterways from construction activities. <p>Appendix C concludes that if uncontrolled releases of contaminants from Project construction activities or off-site discharge of sediment laden water was to occur, it is unlikely these would result in any additional exceedances of the ANZG DGV's, or a significant impact on the environmental values of the Cooper Creek basin.</p> <p>It is expected that the Project would have a net positive benefit on hydraulic connectivity along the Thomson River system, given the proposed incorporation of a fish passage structure at the Town Weir.</p>
<p>4. <u>Actions:</u> To enable assessment an assessment of the impacts on biodiversity values by the proposed raising of the Longreach Weir System and increased height of the weir pool, provide information on the following:</p> <p>(a) <i>the expected extent of anticipated increased/greater periods of inundation of existing riparian vegetation at the anticipated at Full Supply Level, and the likely survivorship / destiny for this vegetation. The provided information states that trees were noted within the proposed future inundation zone (s5.3); however no indication of the number of trees or their location has been provided. This loss of vegetation is recognised as occurring until equilibrium is reached however no detail of the extent of this impact or the time frame to achieve equilibrium has been provided</i></p> <p>(b) <i>the likely impacts of the increased inundation areas on the breeding sites for the turtles species noted from the existing weir pool and the potential drowning of eggs</i></p>	<p>Given the number of biological and geomorphological variables, it is not possible to quantify how many individual trees would be affected by the Project, and how long the 'equilibrium' process would take. It should be reiterated that:</p> <ul style="list-style-type: none"> The dominant species along the banks of the Town Storage is <i>Eucalyptus coolabah</i>, a commonly resilient riparian tree that is tolerant of periods of seasonal inundation and flooding. Trees that fringe the Thomson River are naturally lost or damaged in any given year as a consequence of flooding and other high flow events. It is expected however the Project may accelerate the loss of some streambank trees on the banks of the Town Storage due to increased inundation and wet feet due to the higher FSL. The loss of streambank vegetation through fluvial geomorphological change is typically offset naturally as replacement vegetation, including riparian trees, establish and grow within the riparian corridor. This natural regeneration/equilibrating process is expected to occur, in the long-term, on the banks of the Town Storage as the riparian environment adjusts to the new FSL brought about by the Project. <p>Little information is available on the ecology of the Emmott's short-necked turtle (<i>Emydura macquarii emmotti</i>), a subspecies of the Eastern short-necked turtle (<i>E. macquarii</i>). The eastern short-necked turtle and the common snake-necked turtle</p>

Issue	Response
	<p><i>(Chelidonia longicollis)</i> nest on elevated landscapes such as sloping banks, vegetated areas or crests and ridges in varying substrate from light soils to hard clay. The distance of the nests ranges from 2-40 m for the short-necked turtle (DESI, 2013)¹ and is on average 26 m (but up to 500 m) for snake-necked turtles (DCCEEW, 2023)². The region experiences highly variable rainfall and flooding does periodically occur in the Thomson River, and so inundation of nests can occur currently, but would most likely have more severe impacts later in the wet season. Nesting occurs mostly between October and December, and hatchlings emerge 6 weeks to 4 months later. Given the large distance that nests can be dug away from the water and the flooding that already may occur as a result of wet season rainfalls, a increase in the water level in the Town Weir as a result of the Project is not considered to pose a significant risk to the recorded turtle species.</p>
<p>(c) <i>the likely changes to bank stability created by both the increased water level and the predicted riparian tree 'drowning' deaths/loss</i></p>	<p>It is recognised that the Project would increase the erosional risk up to 1 m higher on the banks surrounding the Town Storage, within the Project FSL. This increased risk would primarily be due to the submersion of plant material to a greater height and therefore increased susceptibility to 'drowning' of non-riparian plant species (where present), and the potential loss of streamside shelter/habitat trees from increased inundation and wet feet until equilibrium is reached. This would result in increased risk of erosion during flow events than the existing case.</p> <p>Notwithstanding the above, it is considered these potential changes in erosional risk and bank stability as a result of the Project are insignificant, given:</p> <ul style="list-style-type: none"> • The Thomson River system is a large, perennial, highly dynamic river system already subject fluctuating water levels and seasonal flooding; in that the riparian environment within the Project FSL is accustomed to impacts similar to those brought about by the Project. • The erosional impacts of flood events is the primary sediment transport mechanism in the Thomson River, and flood modelling undertaken for the Project found that the Project does not result in adverse water level or velocity increases upstream to the Landsborough Highway corridor, and only localised velocity increases downstream of the weirs which are likely to be inconsequential.
<p>(d) <i>the likely impacts of increased wake damage created by watercraft use especially on bank stability</i></p>	<p>The Project would not increase the use of watercraft in the Town Storage and therefore wake damage. It is noted that the existing weirs provide for the use of the Town</p>

¹ DESI (2023) Murray River turtle (*Emydura macquarii*). Webpage: <https://wetlandinfo.des.qld.gov.au/wetlands/ecology/components/biota/fauna/fauna-taxon/reptiles/murray-river-turtle.html#:~:text=Habitats-,E..2%20m%20deep%5B4%5D>

² DCCEEW (2023) Consultation on Species Listing Eligibility and Conservation Actions *Chelodina longicollis* (eastern long-necked turtle). Webpage: <https://www.dcceew.gov.au/sites/default/files/documents/consultation-document-chelodina-longicollis.pdf>

Issue	Response
	Storage for recreational and commercial watercraft, and the Project is unrelated to these uses.
(e) <i>the likelihood and management of weed infestation on the waterway banks due to the loss of native vegetation driven by inundation or increase bank instability/erosion. It is noted that discussion is provided around weeds invading the construction footprint, but not the waterway banks</i>	<p>The Project is not expected to increase the risk of weed infestation on the banks of the Town Storage compared to the existing case, given the insignificant changes in erosional risk and bank stability as described above at 6(c).</p> <p>Notwithstanding the above, the LRC will undertake annual visual inspections along the banks of the Town Storage to identify any weed infestations brought about by vegetation loss due to the Project. If weeds are identified as result of Project impacts, they would be managed in accordance with LRC protocols.</p>
(f) <i>the impacts of downstream scouring in areas identified as having higher flow velocities than are currently experienced in terms of extent of riparian tree impacts (pursuant to Appendix C).</i>	As described in Appendix G, Water Technology found localised velocity increases are noted downstream of the weirs up to approximately 0.5 m/s as a result of the Project. Where increases occur, the magnitude of the post raising velocity is generally less than 1 m/s, therefore the increase is unlikely to materially affect or worsen erosion potential and it does not exceed any notable threshold for causing additional scour. Given the Project is unlikely to materially effect erosion potential, these minor velocity increases are unlikely to impact riparian trees downstream of the weirs.
(g) <i>impacts of high flow rates for additional sediment mobilisation, which includes consideration as to where such sediments are likely to settle and whether any downstream deeper aquatic 'refuges' may be compromised (pursuant to Appendix C)</i>	As described in Appendix G, Water Technology found localised velocity increases are noted downstream of the weirs up to approximately 0.5 m/s as a result of the Project. Where increases occur, the magnitude of the post raising velocity is generally less than 1 m/s, therefore the increase is unlikely to materially affect or worsen erosion potential and it does not exceed any notable threshold for causing additional scour. Further, the weir raising does not result in adverse velocity increases upstream to the Landsborough Highway corridor. Sediment mobilisation is not expected to be significantly impacted by the Project, and therefore unlikely to compromise downstream aquatic values.
(h) <i>changes to riparian vegetation continuity combining changes due to clearing, flooding of trees and downstream scouring.</i>	<p>The extent or riparian vegetation removal required for Project construction is considered insignificant in the context of the broader Thomson River system (Table J-4, Appendix C). Further, a large portion of the construction disturbance footprint for each weir is existing disturbance associated with the access track that crosses each of the weirs, so the actual required disturbance would be limited to several trees on either side of the channel.</p> <p>Potential impacts to riparian vegetation due to inundation and downstream scouring are addressed at 6(a) and 6(f), respectively.</p>
5. <i>Actions:</i> <i>Provide:</i>	Electrical conductivity (EC) and temperature are monitored at the Thomson River at Longreach station (003202A) and are available on the Queensland Water Monitoring Information Portal (WMIP). Attachment E provides EC and temperature results obtained

Issue	Response
<p>(a) <i>a review and analysis of existing water quality data held by the Queensland government and Longreach Regional Council, where available</i></p>	<p>from the station 003202A from 2024 to 2024. When compared to the sampling results obtained by NGH for the Project in July/August 2023:</p> <ul style="list-style-type: none"> • Mean temperature recorded across the Town Weir sites was 17.6°C. Mean temperatures in the WMIP for July/August is 16.8°C. • Mean EC recorded across the Town Weir sites was 160.8 µs/cm. Mean temperatures in the WMIP for July/August is 161.6 µs/cm. <p>Analysis of the publicly available water from the WMIP shows good correlation with the samples taken by NGH.</p>
<p>(b) <i>additional sampling data obtained from field sampling and/or desktop review, to adequately characterise water quality across seasons (wet and dry)</i></p>	<p>The water quality samples collected during the aquatic ecology field survey (Appendix E) were obtained during the dry season. It is considered these samples are sufficient for determining background water quality, given:</p> <ul style="list-style-type: none"> • Dry season samples are considered conservative when compared to wet season samples; that is, accumulation of physio-chemical stressors and toxicants is more likely to occur during the dry season given the perennial nature of the Thomson River. Concentrations of these parameters are more likely to be diluted during the wet season due to flushing from seasonal heavy rainfall. • Project construction will occur primarily during the dry season to avoid potential inundation (and associated risk of water quality impacts). • Additional sampling and characterisation of the background water quality within the Thomson River throughout would not assist in assessing the potential impacts of the Project. <p>Notwithstanding the above, additional desktop data has been downloaded from the Queensland Government WMIP, see responses to 5(b) above.</p>
<p>(c) <i>information considering relevant Environmental Values and guidelines, including human and stock drinking water quality guidelines all constituents, with reference to water quality. It is noted that human and stock drinking water guidelines require analysis of total metal concentrations.</i></p>	<p>There are currently no EPP (Water) scheduled environmental values and water quality objectives available for the Cooper Creek basin, which includes the Thomson River sub-basin. No water types or guidelines for the Lake Eyre basin are established in the Queensland Water Quality Guidelines (QWQG, DEHP 2009), of which the Coopers Creek basin and the Thomson River are a part of. The QWQG state that “<i>There is very little water quality information available for the Lake Eyre basin. Default ANZECC 2000 Guidelines are very unlikely to be appropriate for the ephemeral streams of the region</i>” and that locally derived water quality guidelines should be used. In the absence of available local guidelines, we compared collected WQ to ANZG (2018) guidelines. As samples were only analysed for dissolved metals, a direct comparison of metal concentrations to human and livestock drinking water guidelines is not possible at this point. Nevertheless, only dissolved aluminium and copper were found to be elevated in samples collected during the aquatic assessment. Given the concentrations of</p>

Issue	Response
	<p><i>dissolved</i> aluminium and copper range between 40-100 and 1-3 <i>microgram</i> per litre, respectively, and the guidelines for stock (cattle) drinking water are an order of magnitude higher at 5 <i>milligram</i> per litre for total aluminium and 1 <i>milligram</i> per litre for total copper (Livestock drinking water guidelines. Australian and New Zealand Guidelines for Fresh and Marine Water Quality, ANZG 2023) it is considered unlikely that total metal concentrations would exceed the guidelines due to the Project.</p> <p>Concentrations of ions and nutrients were below the stock drinking water guidelines (ANZG 2023).</p> <p>In terms of human drinking water guidelines, no ions or nutrients exceeded the Australian Drinking Water Guidelines (NHMRC 2011), and guidelines for <i>total</i> metals were many times higher than the detected <i>dissolved</i> metals. The water in the Town Storage exceeds the aesthetic guideline value for turbidity of 5 NTU significantly, and would generally lead to people avoiding untreated or unfiltered water from the weir. Taking into account the general turbidity of the water in the weir, the lack of environmental values for human consumption of water for the Cooper Basin, and the fact that water sourced from the weir is treated before it is supplied, the water quality in the Thomson River does not pose any risks to human health.</p>
<p>6. <u>Actions:</u> <i>Provide estimates of nutrient loads and potential impacts to water quality following inundation and breakdown of organic matter.</i></p>	<p>Taking into consideration the response provided at 4(a), it is considered not possible to estimate nutrient loads in the Town Weir due to inundation and breakdown of organic matter. Further, organic matter on the banks of the Town Storage is primarily limited to <i>Eucalyptus coolabah</i>, a commonly resilient riparian tree that is tolerant of periods of seasonal inundation and flooding. This species is a large woody tree, the bulk of its structure unlikely to breakdown readily due to submersion.</p> <p>Further, the contributions of organic matter and diffuse source nutrient runoff from agriculture in larger Thomson River system due to seasonal flooding is considered to be greater than any long term breakdown of riparian trees on the banks of the Town Storage. That is, any potential downstream nutrient loads due to the Project would likely be immeasurable and highly insignificant in the context of the broader system.</p>
<p>7. <u>Actions:</u> (a) <i>Provide physical and chemical analysis of sediment samples collected during the study.</i></p>	<p>The sediment samples collected in July/August 2023 expired between 14 days and 6 months from the date of collection, depending on the analyte. The decision to ultimately not analyse these sediment samples was made in consideration of:</p> <ul style="list-style-type: none"> • Construction of the Project will be undertaken as 'dry work', in that an earth fill and/or sheet pile coffer dam will be installed upstream of the Town Weir (and potentially the Anabranch Weirs) and subsequent dewatering would occur. • An Erosion and Sediment Control (ESC) Plan will be prepared for the Project, following detailed design, as part of the detailed CEMP in accordance with the

Issue	Response
	<p>Best Practice Erosion and Sediment Control guideline (the White Book) (International Erosion Control Association Australasia [IECA], 2008).</p> <ul style="list-style-type: none"> The existing elevated turbidity levels in the Town Storage and broader Thomson River system that already exceed the DGV - if the off-site discharge of sediment laden water was to occur, it would therefore not contribute to additional exceedance of the ANZG DGV. When comparing the low likelihood of sediment mobilisation from the Project against the natural large volumes of sediment mobilisation that occurs through the Thomson River system on a seasonal basis due to flooding and flow event, any Project related release would be highly insignificant.
<p>(b) <i>Identify contaminants of potential concern and discuss likely impacts to water quality as a result of land disturbance and following inundation.</i></p>	<p>See response at 7(a) above.</p>
<p>8. <u>Actions:</u></p> <p>(a) <i>Identify all relevant Environmental Values and the likely effect of the proposal on Water Quality Objectives, including site-specific Water Quality Objectives where available.</i></p> <p>(b) <i>Describe how the proposal would influence water quality for indicators that currently exceed water quality triggers.</i></p>	<p>See response at 5(c) above.</p> <p>Exceedances of the relevant DGV were identified for dissolved oxygen (DO), turbidity, dissolved aluminium, dissolved copper, ammonia, nitrogen oxides, total nitrogen and total phosphorous for samples taken in the Town Storage.</p> <p>Construction activities associated with the Project are not expected to influence these indicators given the reasons provided at 7(a) above.</p> <p>With regard to the operational phase of the Project:</p> <ul style="list-style-type: none"> DO – In waterbodies such as turbid drought refuge waterholes in western Queensland rivers, there is little water mixing and warm upper layers can become effectively isolated from deeper cooler layers during warmer months, in a process termed thermal stratification, which can lead to lower DO levels (DESI, 2023). This is the likely cause of the existing low DO at TRPE1, 3 and 6. The Project would result in a 27% increase in the volume of the town storage. It is considered there is potential for the Project to result in a <u>minor</u> decrease in existing DO levels, noting that the Project would only be a raising of an existing storage. Turbidity/metals/ammonia – The Project would not impact turbidity, dissolved metals or ammonia levels in the Town Storage, given the existing elevated concentrations would be due to external inflows from the upstream Thomson River system, which would not change as a result of the Project.

Issue	Response
	<ul style="list-style-type: none"> <li data-bbox="1158 220 2074 435">• Total nitrogen and total phosphorous – The existing elevated nutrient levels in the Town Storage are likely due to external inflow from the upstream Thomson River system, due to runoff from agricultural operations up-catchment. The Project would not change these inflows. Any increases in nutrient levels due to the inundation and subsequent breakdown of organic material would likely be immeasurable and highly insignificant in the context of the broader system (refer to response 6(a) above).

Attachment B – DHLGPPW Requirement Notice

Our reference: D24/19158



15 February 2024

Longreach Regional Council ABN 16834804112
c/o Mr James Williams
Senior Planner
Precinct Urban Planning
email: james@precinctplan.com.au

Department of
**Housing, Local Government,
Planning and Public Works**

Dear Mr Williams

REQUIREMENT NOTICE

RPI24/030: Longreach Regional Council -Thomson River Weir Project

(given under section 44 of the *Regional Planning Interests Act 2014*)

I refer to the assessment application which was properly made on 1 February 2024 under section 29 of the *Regional Planning Interests Act 2014* (RPI Act). The application is seeking a regional interests development approval (RIDA) for a regulated activity: water storage (dam) for the Thomson River Weir Project in the Channel Country strategic environmental area (SEA) (Designated precinct).

Application details

Applicant	Longreach Regional Council
Project	Thomson River Weir Project
Description	Raising of five weirs
Area of regional interest	Channel Country SEA (Designated precinct)
Proposed disturbance area	1.64 ha

Site details

Real property description	Lot 2 SP123565 and Lot 4 SP232181
Local government area	Longreach Regional Council

Information Requirement

Pursuant to section 44 of the RPI Act, you are advised that further information is required to assist in the assessment of the application against the assessment criteria contained in the RPI Act and the Regional Planning Interests Regulation 2014 (RPI Regulation).

The further information required is detailed in **Attachment A**.

The period in which the information must be provided is a maximum of three months from the date of this notice. An extension to this period may be requested if necessary.

Another requirement notice may be given if, for example, the response to this requirement notice does not provide sufficient information to assess and decide the application or in response to matters raised in a submission.

I will contact you to arrange a meeting to discuss the required information identified in **Attachment A**.

Public notification requirement

Pursuant to section 34(4) of the RPI Act, it has been determined that the application requires notification. The reason for the decision is that the delegate for the chief executive has determined that it is in the public interest for the application to be publicly notified.

In accordance with section 35 of the RPI Act, you are required to:

- publish a notice about the application '*at least once in a newspaper circulating generally in the area of the land*' as prescribed in section 13 of the RPI Regulation
- where not the owner of the land, give the owners of the land notice about the application.

Please provide proof of delivery of notice about the application to landowners to RPIAct@dasilgp.qld.gov.au

Public notification must be undertaken within 10 business days of providing the response to the requirement notice to the Department of Housing, Local Government, Planning and Public Works (DHLGPPW). The notification period is 15 business days after the notice about the application is first published, with the closing date being a day that is after the end of the notification period.

The approved form for public notification is available on DHLGPPW's website at [rpi-regional-interests-dev-approval-template.doc \(live.com\)](#)

Please provide a copy of the notice as it appears in the newspaper circulating generally in the area to RPIAct@dasilgp.qld.gov.au

You are also referred to the RPI Act Statutory Guideline 06/14 Public notification of assessment applications at [RPI Act - Statutory Guideline 06/14 \(windows.net\)](#) for further information.

If you require any further information, or have any queries, please contact Morag Elliott, Manager, Planning Group, DHLGPPW on 3452 7653 or by email at RPIAct@dasilgp.qld.gov.au who will be pleased to assist.

Yours sincerely



Phil Joyce
Director
Development Assessment Division
Planning Group

Encl. Attachment 1

ATTACHMENT A

Information required for assessment against SEA criteria – Schedule 2, Part 5 of the Regional Planning Interests Regulation 2014

<p><u>Issue:</u></p> <p>As stated in the application material, the proposed raising of the five weirs by approximately one metre is an unacceptable use, being a new/augmented water storage (dam) in a strategic environmental area (SEA) (designated precinct).</p> <p>It is noted that, as the weirs existed prior to the commencement of the <i>Regional Planning Interests Act 2014</i> (RPI Act), ongoing maintenance/restoration works at current heights and inundation levels would be exempt regulated activities under s25 of the RPI Act.</p> <p>However, any changes to the weirs or inundation levels from that designed/constructed prior to the commencement of the Regional Planning Interests Regulation 2014 requires a Regional Interests Development Approval.</p> <p>s49 of the RPI Act identifies the criteria that must be considered when deciding an application and includes <i>‘any criteria for the decision prescribed under a regulation’</i>.</p> <p>Prescribed solution 15(1)(b)(i) of the Regional Planning Interests Regulation 2014 requires an application to demonstrate that an activity is not an unacceptable use.</p> <p>s49(2) of the RPI Act does however provide for the chief executive to <i>‘consider any other matter the chief executive considers relevant’</i> ie any other matter not already identified in s49(1).</p> <p>The application material does not provide sufficient information regarding <i>‘any other matter’</i> that may be considered in deciding the application.</p> <p><u>Actions:</u></p> <p>Provide:</p> <ul style="list-style-type: none"> (a) information relating to <i>‘any other matter’</i> than those identified in s49 (1) of the RPI Act that may be considered relevant in deciding the application for an unacceptable use in the SEA (designated precinct) (b) details of why these matters would be considered relevant in deciding the assessment application.

Further information that may be sought, pending the response to the above Issue and further discussions, are identified in the following table:

<p>1. <u>Issue:</u></p> <p>s4.2.1.3 Riparian Function of the Supporting Information Report prepared by Precinct Urban Planning, dated January 2024 (Supporting Report) states that the <i>‘Construction activities associated with the proposed development will be confined to the area immediately surrounding the weirs, with laydown and temporary site offices located in areas of cleared or sparse vegetation ...’</i></p> <p>Figure 4 – Extract of project layout plan at s3.2 and Figure ES-2 Project layout at Appendix A of the Supporting Report include references to <i>‘Construction disturbance footprint’</i> surrounding all of the weirs, however Table 3-2 Summary of Project construction aspects includes that <i>‘it is expected that two temporary</i></p>

	<p><i>site offices will be required – one in proximity to the Town Weir and Anabranch Weirs 1 and 2 and on in proximity to Anabranch Weirs 3 and 4’.</i></p> <p>s5.2 Vegetation clearance states that the laydown and temporary site offices ‘<i>will be located on already cleared/sparingly vegetated areas ... without the need for any clearance...</i>’ but it is unclear whether these areas have been included in the proposed area of 1.64 ha.</p> <p>Only direct clearing appears to have been stated in terms of area and it is not clear if areas to be used for machinery/equipment storage, maintenance and materials/waste areas have been determined and considered within the impact assessment.</p> <p><u>Actions:</u></p> <p>(a) Clarify whether the ‘Construction disturbance area’ surrounding all weirs includes all laydown areas, including those used for machinery/equipment storage, maintenance, materials/waste storage, etc, and temporary site offices and if not, amend the relevant plans to show the proposed locations of these activities.</p> <p>(b) Clarify whether the proposed disturbance area of 1.64 ha includes areas in which construction areas, laydown areas and temporary site offices are to be located and if not, amend the proposed disturbance area to include the overall project impact, including construction footprint, laydown/equipment footprint and likely riparian vegetation loss (through inundation).</p> <p>(c) Advise whether minimisation and mitigation has been undertaken on the impacts of laydown areas, including those used for machinery/equipment storage, maintenance, and materials/waste storage etc., and if so, how has it been undertaken.</p> <p>(d) Clarify whether all laydown areas, including those used for machinery/equipment storage, maintenance, and machinery materials /storage, been included on the calculation of overall clearing impacts.</p>
2.	<p><u>Issue:</u></p> <p>The application material includes a number of supporting studies. Of particular relevance is the Thomson River Weir Raising – Flood Impact Assessment, Water Technology 25 October 2023. This report provides adequate information to assess impacts on flooding extent, flooding height and flow velocities across the channels and floodplains.</p> <p>The application supporting material does not provide information on potential impacts of the increase in storage on the frequency of ‘no-flow’ and ‘low flow’ days past the Longreach weir.</p> <p><u>Actions:</u></p> <p>Provide additional information comparing the current situation with the proposed situation in regard to the change in the number of ‘no-flow’ days and ‘low flow’ days past the Longreach Weir. As guidance, the Cooper Creek Resource Operations Plan Nov 2013 describes a low flow as a flow of less than 100ML/day.</p>
3..	<p><u>Issue:</u></p> <p>The ecological changes created by the existing weir structure on Thomson River are likely to have stabilised at a contemporary equilibrium. This means that the existing weir pool is likely to act as a quasi-permanent waterhole with</p>

	<p>the drying downstream sections of the waterway acting as inter waterhole intermittent flow areas.</p> <p>The impacts of the interruption of past fish migration/connectivity created by the existing weir are ongoing. While fish can traverse up and downstream when the weir is at down-out (headwater and tailwaters at similar elevations/heights) the crossing of the barrier at lower flow times is and will be restricted unless suitable passage mechanisms are provided.</p> <p><u>Actions:</u></p> <p>To enable assessment of the barrier effects of the existing and ungraded weir on the passage of aquatic fauna, provide information on the following:</p> <ul style="list-style-type: none"> (a) the likely delays in commencement to flow compared with the existing structure (b) whether the fishway will be provisioned in priority to the rest of the weir wall or if it will be across the entire weir wall. If the fishway spans the weir wall, provide information on features are to be incorporated to enable adequate and safe passage for the two turtle species present (c) the reasons for not including the anabranches as locations of fauna passage (note that the <i>Fisheries Act 1994</i> defines waterways) and how turtles and other aquatic fauna will be able to traverse these features. (d) the impacts on connectivity and water quality including downstream.
4.	<p><u>Issue:</u></p> <p>The density and composition of the vegetation downstream of the weir does not appear to vary from that upstream of the barrier. This is strongly suggestive of available sub-surface water availability in this area.</p> <p>Information provided does not adequately describe the likely impacts to vegetation and habitat that will result from the proposal, including in relation to inundation, bank stability, and sediment mobilisation.</p> <p><u>Actions:</u></p> <p>To enable assessment an assessment of the impacts on biodiversity values by the proposed raising of the Longreach Weir System and increased height of the weir pool, provide information on the following:</p> <ul style="list-style-type: none"> (a) the expected extent of anticipated increased/greater periods of inundation of existing riparian vegetation at the anticipated at Full Supply Level, and the likely survivorship / destiny for this vegetation. The provided information states that trees were noted within the proposed future inundation zone (s5.3); however no indication of the number of trees or their location has been provided. This loss of vegetation is recognised as occurring until equilibrium is reached however no detail of the extent of this impact or the time frame to achieve equilibrium has been provided (b) the likely impacts of the increased inundation areas on the breeding sites for the turtles species noted from the existing weir pool and the potential drowning of eggs (c) the likely changes to bank stability created by both the increased water level and the predicted riparian tree 'drowning' deaths/loss (d) the likely impacts of increased wake damage created by watercraft use especially on bank stability (e) the likelihood and management of weed infestation on the waterway banks due to the loss of native vegetation driven by inundation or increase bank instability/erosion. It is noted that discussion is provided around weeds invading the construction footprint, but not the waterway banks

	<p>(f) the impacts of downstream scouring in areas identified as having higher flow velocities than are currently experienced in terms of extent of riparian tree impacts (pursuant to Appendix C).</p> <p>(g) impacts of high flow rates for additional sediment mobilisation, which includes consideration as to where such sediments are likely to settle and whether any downstream deeper aquatic 'refuges' may be compromised (pursuant to Appendix C)</p> <p>(h) changes to riparian vegetation continuity combining changes due to clearing, flooding of trees and downstream scouring.</p>
5.	<p><u>Issue:</u></p> <p>Background water quality in the study area was characterised by taking grab samples of water from a range of sites, within and up and downstream of the proposed weir plus an additional location outside the weir area. While the site locations appear suitable, the study provides a snapshot only and relies on a single sample at each site to describe water quality. Additional sampling data is needed to describe potential variation in water quality such as across seasons (wet and dry).</p> <p>All available water quality data should be described and summarised. Water quality data from Water Monitoring Information Portal was not included in the desktop search. An example is the site 003202A Thomson River water level at Longreach. Only flow data appears to have been considered and not water quality for this site. Additionally, if the Longreach Regional Council hold water quality data on the existing weir, this data should be included in the baseline study.</p> <p><u>Actions:</u></p> <p>Provide:</p> <p>(a) a review and analysis of existing water quality data held by the Queensland government and Longreach Regional Council, where available</p> <p>(b) additional sampling data obtained from field sampling and/or desktop review, to adequately characterise water quality across seasons (wet and dry)</p> <p>(c) information considering relevant Environmental Values and guidelines, including human and stock drinking water quality guidelines all constituents, with reference to water quality. It is noted that human and stock drinking water guidelines require analysis of total metal concentrations.</p>
6.	<p><u>Issue:</u></p> <p>The application supporting material, including the Aquatic Ecology Assessment, does not describe potential changes in water quality that may occur during inundation of riparian areas as a result of the project. Vegetation that is flooded and breaks down can cause changes in water quality such as the release of nutrients and anoxic conditions. The release of nutrients following inundation may result in localised and downstream impacts to water quality during initial inundation.</p> <p><u>Actions:</u></p> <p>Provide estimates of nutrient loads and potential impacts to water quality following inundation and breakdown of organic matter.</p>
7.	<p><u>Issue:</u></p>

	<p>Sediment samples were collected but not analysed. Accordingly, there is no information presented to describe the chemistry of sediments in the weir.</p> <p><u>Actions:</u></p> <p>(a) Provide physical and chemical analysis of sediment samples collected during the study.</p> <p>(b) Identify contaminants of potential concern and discuss likely impacts to water quality as a result of land disturbance and following inundation.</p>
8.	<p><u>Issue:</u></p> <p>A number of water quality indicators exceeded water quality guidelines (e.g. phosphorus, copper and aluminium). There was no indication given as to how the proposal would influence these either positively or negatively.</p> <p>Impact assessment needs to identify and consider impacts to all relevant Environmental Values and Water Quality Objectives.</p> <p><u>Actions:</u></p> <p>(a) Identify all relevant Environmental Values and the likely effect of the proposal on Water Quality Objectives, including site-specific Water Quality Objectives where available.</p> <p>(b) Describe how the proposal would influence water quality for indicators that currently exceed water quality triggers.</p>

Attachment C – Updated Project layout



Attachment D – Thomson River discharge plots

Queensland Government

01/03/2014 to 01/03/2025

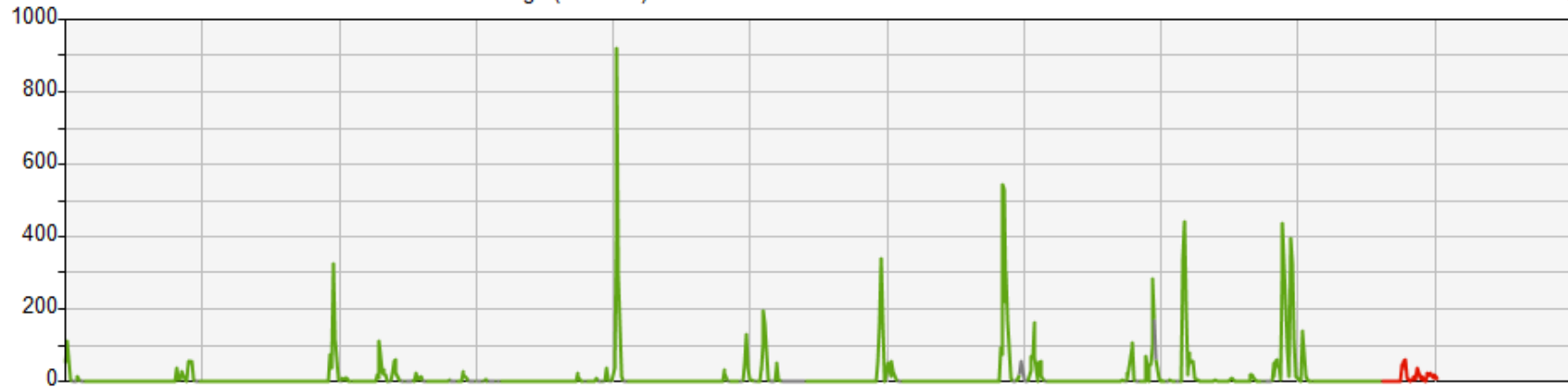
2014-25

Site 003202A Thomson River at Longreach

140.00

Discharge (Cumeecs)

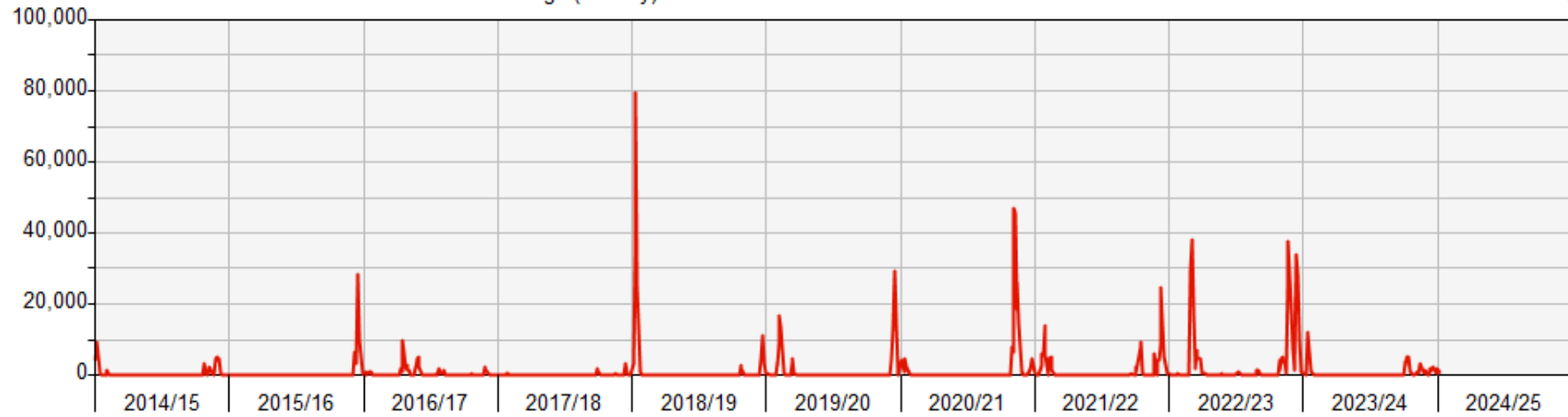
ATQ



141.00

Discharge (ML/day)

ATQ



Attachment E – Thomson River temperature and EC plots

Queensland Government

01/06/2014 to 01/06/2025

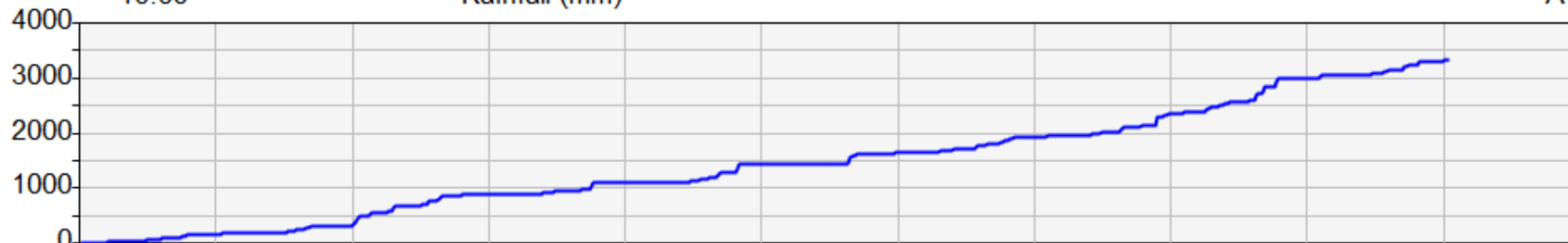
2014-25

Site 003202A Thomson River at Longreach

10.00

Rainfall (mm)

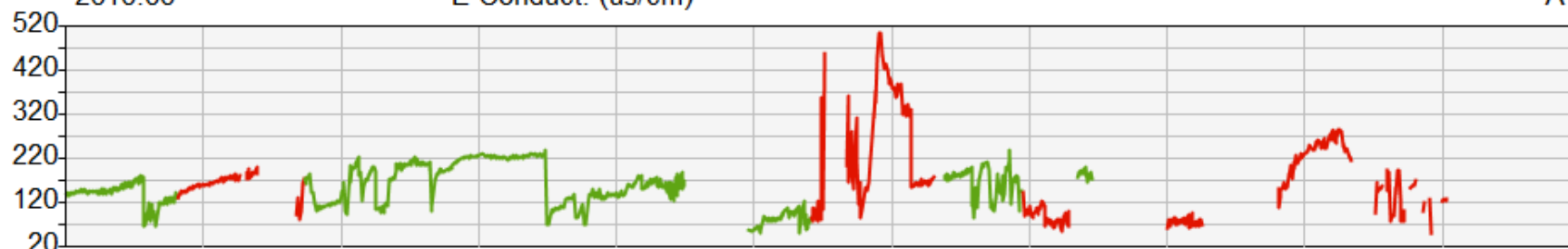
AT



2010.00

E Conduct. (us/cm)

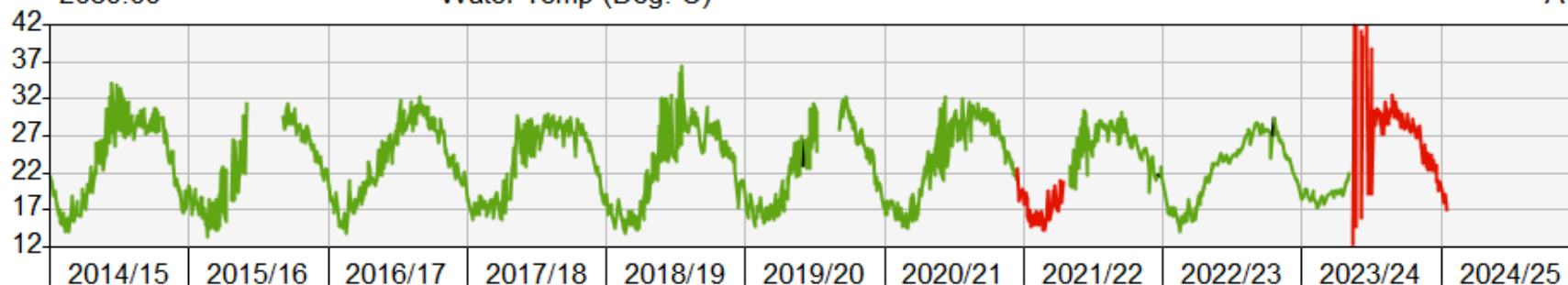
AT



2080.00

Water Temp (Deg. C)

AT



2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21 2021/22 2022/23 2023/24 2024/25