Northern Midlands Irrigation Scheme Preferred Design Option
Questions & Answers: September 2020

Scheme overview

Q. How did the project evolve?
A. Preliminary investigations for the proposed scheme were undertaken by Tasmanian Irrigation in 2012 as part of the Midlands Water Scheme. Through the Future Irrigation Project (FIP) and Pipeline to Prosperity projects, the region was highlighted as having high potential for further irrigation development. The area has been the subject of several irrigation schemes including the Elizabeth – Macquarie, Macquarie Settlement and Midlands Water Schemes. The main area of interest in the lower Macquarie and Isis River area has typically proven difficult to reliably deliver water to via riparian supply (Macquarie / Isis / Elizabeth Rivers).

Tasmanian Irrigation has since run an Expression of Interest (EOI) process and received 44 EOI’s for 18,225 ML (including Woodbury and Tunbridge). Based on the EOI’s received, Tasmanian Irrigation has completed a preferred design option for the scheme.

Q. How has the community been involved?
A. In April 2019, a community meeting was held to seek support to further develop the Northern Midlands Irrigation Scheme. The meeting resolved that Tasmanian Irrigation should continue to investigate the development of a scheme in the district and elected an Irrigator Representative Committee, which would represent the region’s irrigators and assist Tasmanian Irrigation to develop the scheme. Throughout 2019 and 2020, Tasmanian Irrigation has met with the Committee members, including Richard Burbury (Chair), Rae Young, George Gatenby, George Rigney, Tom Green and Sam Archer. Members of the community now have an opportunity to provide comment on the Preferred Design Option. A feedback form is enclosed in this handout.

Q. Is the Preferred Design Option based on real local demand?
A. Yes. The design of the scheme is based on an Expression of Interest (EOI) survey for water demand conducted in 2018 and 2019. The survey resulted in 44 EOI’s for 18,225 ML (including Woodbury and Tunbridge). The scheme has been designed to meet the majority of this demand. Those EOI’s that are too remote from pipelines may not be serviced. However, if additional interest is forthcoming in these particular areas through water sales, Tasmanian Irrigation will be in a position to reconsider this.

Q. What is the minimum amount of water I can purchase in the scheme?
A. The minimum purchase is 20 megalitres (ML) with 5 ML increments for volumes above 20 ML. Tasmanian Irrigation encourages landowners to determine future use for the water and the area of land to be irrigated in their consideration of the volume to be purchased.
Q. If my property is not able to be serviced under the current concept design, can I still apply for water entitlements during water sales?
A. Yes. Tasmanian Irrigation would strongly encourage all landowners that wish to participate in the scheme to apply for water entitlements during the water sales process. Tasmanian Irrigation will assess all applications and accept as many as practical.

Q. What studies have been undertaken to develop the Preferred Design Option?
A. To ensure a proposed irrigation scheme is environmentally sustainable, economically viable and supported by the local community, the following pre-feasibility studies have been undertaken:

- Survey irrigation demand of all landholders with >10ha of land;
- Land capability and potential water demand surveys;
- Farm enterprise mix and financial margins analysis;
- Desktop and field flora and fauna studies of the proposed infrastructure footprint;
- Desktop Aboriginal and Historic heritage assessments; and
- Preliminary scheme design and costing assessments.

Q. Where will the scheme’s water come from?
A. The Great Lake catchment will provide the scheme water via the Poatina power station. A pump station is planned for construction on Poatina Tailrace near drop structure number one. The pump station will pump from the tailrace to a balance tank located near Barton pump station. Boost pump stations are required at Barton, the Isis junction and the Campbell Town junction. The Campbell Town pump station will also require a balance tank. The scheme will deliver the 11,425 ML via 90.5km of pipeline to the property outlets.

Q. Is there a requirement for a dam?
A. No. The scheme will operate through the irrigation season by takes from the Poatina Tailrace and delivery direct to the Irrigators. Apart from the balance tanks, which will each have approximately 400KL storage capacity, there is no storage on the scheme. The balance tanks will assist in operational efficiency and do not necessarily provide any significant water storage.
Q. How will water be distributed?

A. Water will be delivered directly to irrigators via 90.5km of distribution pipeline. Irrigators will be connected into the pipeline at a property outlet (the connection point). The proposed pipeline alignment is indicative only and subject to water sales and a final design review. Mapping has been undertaken to provide preliminary engineering and an indicative pipeline alignment. Prior to the final alignment being determined, landholder consultation will be incorporated into the design as appropriate. Additional lines may be required to satisfy landholder requirements, or alternatively some lines may not be constructed due to insufficient interest. Tasmanian Irrigation has designed the scheme to reach as many of the EOI’s as viable. Properties that were unable to be serviced as part of the current design will be reviewed after water sales.

Q. How will the pipelines be constructed?

A. Pipes will be laid underground wherever possible and generally be constructed from durable, high density polyethylene (HDPE). A nominal 30m wide corridor will be required for installation, however this width may not always be required and can depend on pipe diameter and ground conditions. The actual corridor width required will also vary with different land topography and land use, in particular the ground conditions and the type and stage of cropping and vegetation encountered. The actual trenches will be approximately 1 – 1.5 m wide and deep enough to bury the pipe with a top cover of at least 700mm. The methods used in pipeline excavations ensure that topsoil is replaced on the surface of the disturbed soil and installation is followed by a vegetation rehabilitation program. Erosion and sediment controls are used to minimise any environmental harm from pipeline installation works. Where trenching is unviable (rarely used) and above ground pipe is required, DICL pipe may be used.

Q. When will water be delivered and what is the delivery capacity of the scheme?

A. Water will be delivered to irrigators over a 180-day summer delivery period nominally from 1 October to 31 March. The commencement date for the irrigation season may vary depending on the season. To ensure increased flexibility for irrigators, the scheme will be able to deliver all entitlements over 150 days. The scheme’s flow rate is 76.2ML/day. The total delivery capacity of the Preferred Design Option is 11,425 ML per irrigation season.

Q. Will there be an opportunity to purchase winter water?

A. Not at this stage. The scheme is able to deliver water throughout the year subject to water availability within the tailrace, but the upcoming water sales program will be for just a summer season. Tasmanian Irrigation has not been able to consider selling water entitlements for a winter season due to Hydro being unable to ensure water supply via Poatina within the winter period. The scheme will be available to supply general availability winter water in the event Hydro are releasing water into the Poatina Tailrace. This will be considered further throughout the scheme design phase and after the scheme is commissioned.
Q. What if the proposed pipeline alignment does not pass near my property?
A. All landholders are encouraged to make an application to purchase water when the water sales period is opened. The final design, and in particular the pipeline alignment, will be highly dependent on the level and distribution of water sales across the district. Tasmanian Irrigation will endeavour to supply as many applicants who apply to purchase water entitlements as possible, subject to the capital budget, operating costs and approval constraints. If you are interested in purchasing water, please ensure your intention to participate in the scheme is known by Tasmanian Irrigation as early as possible.

Q. What easements will be taken to construct the scheme?
A. No easements are required or generally taken for the installation of the pipelines. Tasmanian Irrigation will, on a needs basis, acquire land or easements for major infrastructure such as pump stations, balance tanks and larger sized infrastructure. The preferred method for acquisitions will be through negotiation with affected landholders.

Q. What if I do not want infrastructure on my land?
A. Wherever possible, the infrastructure will be located to service participating landholders. Notwithstanding, it may be necessary to cross land belonging to people not participating in the scheme. Tasmanian Irrigation will be undertaking works under the *Irrigation Clauses Act 1973* (ICA) once an Irrigation District is declared. The ICA provides for right of entry to construct and maintain the water supply and related infrastructure without the need to create an easement over the certificate of title and provides a mechanism for compensation where appropriate.

Q. What will my flow rate be like?
A. The scheme will be designed to deliver water at a constant 24-hour rate. If you purchase 150 ML of water, you will receive a flow rate entitlement of 1ML/day (ie. 11.57 L/sec over a 24-hour period). To allow some flexibility for water trading into the future, each outlet installed as part of the purchase of water entitlements will be capable of delivering at least three times your flow rate entitlement. However, this is reliant on the pipe capacity in the particular area. To be able to receive water at a rate greater than your flow rate entitlement, you will need to be on a pipeline which, at your outlet, can deliver water at a greater rate and you will have to trade flow rate or enter into rostering arrangements with other irrigators. Table One below provides the required formulas to calculate flowrate. Table Two provides example flowrates.
Flow rate calculator

<table>
<thead>
<tr>
<th>Flow rate entitlement</th>
<th>Property Outlet flow rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>In <strong>ML/day</strong>, equals the volume of your water entitlement purchase divided by 150 (e.g. 150 ML / 120 = 1 ML/day)</td>
<td>Subject to any pipeline limitations, at least three times your flow rate entitlement</td>
</tr>
<tr>
<td>In <strong>L/sec</strong>, equals the volume of your water entitlement purchase divided 150 and then divided by 0.0864 (e.g. 150 ML / 150 / 0.0864 = 11.57 L/sec)</td>
<td>In <strong>ML/day</strong>, 1 ML/day × 3 = 3 ML/day</td>
</tr>
<tr>
<td></td>
<td>In <strong>L/sec</strong>, 11.57 L/sec × 3 = 34.71 L/sec</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Purchased Volume (ML)</th>
<th>20</th>
<th>50</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>500</th>
<th>750</th>
<th>1000</th>
<th>1500</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flowrate (ML/day)</strong></td>
<td>0.1</td>
<td>0.3</td>
<td>0.7</td>
<td>1.0</td>
<td>1.3</td>
<td>1.7</td>
<td>3.3</td>
<td>5.0</td>
<td>6.7</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Flowrate (L/sec)</strong></td>
<td>1.5</td>
<td>3.9</td>
<td>7.7</td>
<td>11.6</td>
<td>15.4</td>
<td>19.3</td>
<td>38.6</td>
<td>57.9</td>
<td>77.2</td>
<td>115.7</td>
</tr>
</tbody>
</table>

Q. Can I receive my water at an increased flow rate?

A. Yes, but you will need to do it through trading or by rostering arrangements with other irrigators. At commissioning, the property outlets will be commissioned to deliver the purchased flow rate. A change in flow rate is likely to require an adjustment to the property outlet by the scheme operator. Once operating, the Tasmanian Irrigation Scheme Operator will be able to assist in regard to trading and rostering arrangements within the scheme.

Q. What will my water pressure be like?

A. The minimum pressure warranted under water entitlement contracts is 5 m head (50KPa or 7 psi). However, the actual pressure experienced throughout the scheme may be higher depending on the proximity of outlets and the relative height of the outlets in the landscape, and can also vary depending on where and how much water is being taken elsewhere in the scheme.

Q. What does 95 per cent reliability mean?

A. Reliability is defined as the sum of the annual allocation of water that is available for supply in each irrigation season during a 100-year period, divided by the sum of the annual volume of water that is contracted for supply under irrigation rights over that same period.

It means that over the 100-year life of the scheme, an average allocation of not less than 95 per cent will be made without an annual allocation greater than 100 per cent being made in any one year. Two examples of this are:

- Over 100 years, a 100 per cent annual allocation being made in 95 years and a zero annual allocation being made in the remaining five years; or

- An annual allocation of 95 per cent being made every year of 100 years.

Any individual case will lie somewhere between these two examples.
Q. What are water trading zones?

A. Water entitlements in the scheme will be tradeable subject to the water delivery capacity limits of the infrastructure. Zones identify parts of the scheme where water can be traded and include all infrastructure located directly upstream of the zone which is required to deliver water to the zone. In general terms, what this means is that an irrigator close to the supply source for the scheme (i.e. a pump station or balance tank) will typically be in a better position to purchase water through trading as the size of the pipeline is larger closer to the supply source. An irrigator located near the end of the scheme or at the end of a pipeline is typically in a better position to sell water through trading as water has had to pass through a number of zones to reach the end of the scheme or the end of a pipeline. However, their purchasing options will be more limited as the diameter of the pipeline reduces as it gets closer to the end of the pipe.

Q. What is a Farm Water Access Plan (Farm WAP)?

A. The environmental obligations on the scheme will extend beyond the initial development and construction to include any enduring effects once it is operating. Therefore, it is a requirement that water from schemes developed by Tasmanian Irrigation may only be applied in accordance with a Farm Water Access Plan (Farm WAP).

The purpose of a Farm WAP is to identify the area that water from the scheme will be applied (now and into the future), identify any direct and indirect risks to natural assets associated with the application of the water and outline actions to manage and monitor the identified risks in accordance with the endorsed Farm WAP modules. The area that scheme water will be applied includes the land, dams and irrigation infrastructure that will be directly affected by the use of the water.

Farm WAPs must be completed by a prequalified service provider in accordance with the endorsed Farm WAP soil, water and biodiversity modules and incorporate any species specific management prescriptions required under planning approvals. Farm WAPs are approved by Tasmanian Irrigation through a quality assurance and verification process.

Q. What areas of a property does a Farm WAP need to cover?

A. A Farm WAP needs to cover only those areas of land and storage dams to which water supplied from the scheme will be applied. It should be noted that a Farm WAP for areas of proposed vegetation clearing would not be included in a Farm WAP, unless a certified Forest Practices Plan, if applicable, is in place. The Forest Practices Authority may be able to provide additional advice.

Q. When should I get a Farm WAP?

A. A Farm WAP will be needed in time for water to be delivered through your property outlet.

Q. Can Tasmanian Irrigation assist with the preparation of a Farm WAP?

A. Tasmanian Irrigation is able to help facilitate the completion of Farm WAPs or alternatively a complying Farm WAP may be procured individually.
Scheme costs

Q. How much will the scheme cost to build?
A. The estimated capital cost of the project is $65.81 million, with a proposed funding contribution from the Commonwealth and State Governments of $49.36 million. The private contribution of $16.45 million will be raised through the sale of water entitlements.

Q. What is the one-off upfront capital cost to buy water?
A. Water entitlements will be $1,440/ML with a minimum purchase of 20 ML per property. Upon application during the water sales period, you will be required to pay a non-refundable deposit of 10 per cent (2 per cent on application and 8 per cent on Government funding approval), with the balance payable once the scheme has been commissioned.

Q. Will there be ongoing costs?
A. Yes. Water entitlement holders will be required to pay an annual water charge, which comprises a variety of fixed and variable charges that are levied on their water entitlement holdings and water use.

The fixed cost will be set to recover the fixed costs associated with employee entitlements, vehicles, plant and equipment, routine maintenance, administration, finance, insurance and compliance with regulatory requirements, such as environmental compliance. This cost is estimated to be $39/ML (2019/20 dollars).

An Asset Renewal Levy (ARL) is charged to cover the refurbishment of the infrastructure which will enable the scheme to be operational for at least 100 years. The ARL for the Scheme is $21/ML (2019/20 dollars)

Both the fixed cost and ARL are charged based on water entitlements purchased and not on the actual water used in the season.

Fixed Cost and Asset Renewal Levy

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost per ML</th>
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<tbody>
<tr>
<td>Fixed Cost per ML</td>
<td>$39*</td>
</tr>
<tr>
<td>Asset Renewal Levy (ARL) per ML</td>
<td>$21*</td>
</tr>
<tr>
<td>Total Fixed Cost and ARL per ML</td>
<td>$60*</td>
</tr>
</tbody>
</table>

* Based on all entitlements in the 11,425 ML scheme being sold. If water sales only achieve the minimum threshold of 75 per cent or 8,560 ML, the fixed cost and ARL component is estimated to be $79/ML.
**The variable cost** is the power cost for pumping and the cost of water paid to Hydro Tasmania and is charged on the volume of water used in each season.

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<tr>
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</thead>
<tbody>
<tr>
<td>Poatina to Barton</td>
<td>$22.75</td>
<td>$22.25</td>
<td>$45</td>
</tr>
<tr>
<td>Isis Boost</td>
<td>$40.75</td>
<td>$22.25</td>
<td>$63</td>
</tr>
<tr>
<td>Barton Boost (main line)</td>
<td>$56.75</td>
<td>$22.25</td>
<td>$79</td>
</tr>
<tr>
<td>Campbell Town boost</td>
<td>$77.75</td>
<td>$22.25</td>
<td>$100</td>
</tr>
</tbody>
</table>

Q. Do I have to pay annual charges if I do not use water?
A. You will be required to pay the **fixed** costs and **ARL** on your entire water entitlement holdings each season regardless of whether you use water.

Q. In purchasing water entitlements would I be buying a share of the infrastructure?
A. No. The infrastructure constructed as part of the scheme will remain the property of Tasmanian Irrigation. Water entitlements are rights to a supply of water. In particular, they are rights to have an allocation of water made available during each irrigation season and rights to have that water delivered during the irrigation season within a nominated zone of the scheme at a constant daily flow rate.

Q. Do I have to pay for an outlet to be installed so I can take water from the scheme?
A. No. As part of the sale of water entitlements, Tasmanian Irrigation will install one property outlet for each parcel of contiguous (adjoining) land that is operated as the same business. Each property outlet supplied as part of the sale of water entitlements will be capable of delivering at least three times the purchased flow rate, subject to any capacity constraint of the pipeline to which an outlet joins.

Q. Can I upsize the outlet or purchase additional outlets?
A. Yes. Additional property outlets or property outlet upgrades may be purchased from Tasmanian Irrigation if required. Applications are to be submitted as part of the water sales process and certainly prior to tendering for construction. Additional costs for the irrigator are likely to apply if finalised through tendering or construction.

Q. Who will manage the scheme once it has been constructed?
A. Initially the scheme will be managed and operated by Tasmanian Irrigation. During this period the necessary operational resources will be acquired and policies and procedures to operate the scheme will be developed and established. If in the future there is a demonstrated desire and ability for a local group to manage the operation of the scheme, this will be considered.
Next step

Q. Can I provide comment on the Preferred Design Option?
A. Yes. Your comments on the Preferred Design Option will be considered in the development of the Business Case for the project. A feedback form is included in your information pack. If you wish to provide comment on the Preferred Design Option, please complete the form and return it to Jacob Gerke, NMIS Project Manager, by 12 October 2020:

Or Mail: Tasmanian Irrigation
PO Box 84
Evandale TAS 7212

Email: jacob.gerke@tasirrigation.com.au

In person: Tasmanian Irrigation
Level 2, Terminal Building, Launceston Airport
Western Junction TAS

Q. What happens next?
A. The next stage in the process is to undertake water sales to ensure private sector commitment and then complete the development of a Business Case for the project. Approval of the Business Case by the State Government is required to secure a conditional funding commitment for the project. Tasmanian Irrigation needs to complete on-ground surveys, which are required to support a Business Case. However, we still need to understand the community’s opinion on the proposed scheme in order to complete our recommendations.

The State Government has committed $85 million in funding to continue the development of irrigation in Tasmania and the Australian Government has committed $100 million. The combined $170 million, along with private contributions through the sale of water entitlements, will be used by Tasmanian Irrigation to develop the first five Tranche Three projects, of which the Northern Midlands Irrigation Scheme is one.

Subject to Government approval being received for the Business Case and funding being secured, the project will proceed through the detailed design and approvals phase, ready for tendering out construction. The construction tendering process will ensure the project can be constructed on time and on budget. Following construction completion and commissioning, the scheme will then be able to deliver water to water entitlement holders.

Key milestones for the NMIS are shown in Table Three.
Table Three - Key Milestones

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Expected</th>
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<tbody>
<tr>
<td>Preferred Design Option</td>
<td>Completed – now commenced community feedback period</td>
</tr>
<tr>
<td>Water Sales</td>
<td>October - November 2020</td>
</tr>
<tr>
<td>Business Case</td>
<td>May/June 2021</td>
</tr>
<tr>
<td>Commence Construction</td>
<td>Early 2022 (subject to funding and permit approvals)</td>
</tr>
<tr>
<td>Operations Commence</td>
<td>October 2024</td>
</tr>
</tbody>
</table>

Tasmanian Irrigation sincerely thanks Northern Midlands landowners for their support of this exciting irrigation project and we look forward to working closely with you to ensure the Northern Midlands Irrigation Scheme is one that all Tasmanians can be proud of.

Contact

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