

Flaxbourne Community Irrigation Scheme – Information Document

1. Scheme Description

The scheme proposed is to draw water from a bore field located beside the Ure River 25 m below surface. Four submersible pumps are used to push water to a control pond / tank located below the Lulworth Wind farm on Single Hill. This pond / tank sits at approximately 122m RL and holds capacity for 10,000 m³ (12 hours summer operational capacity).

The scheme will be designed to meet committed demand from commencement. Future demand will be catered for through the use of the pipeline to fill storage during winter months.

2. Scheme Assessed Area

The demand area has been identified as the area from the Ure river through to lake Grassmere. For the purpose of enabling design and finance costs to be established, the scheme has been designed to meet an initial demand of 1,119 ha's. It is intended that future demand may be accommodated via the construction of winter storage.

The extent of commitment on day one will impact not only on whether the scheme will progress but will impact on the extent the scheme is able to cater for future demand. The ability to fill storage will be constrained by the initial scheme design.

At this stage, neither investigation, design or commitment has been made beyond that required to meet initial demand.

3. Capital Cost of Scheme

The estimated capital cost of the initial scheme is as follows:

Description	Low	High
Costs incurred to date	\$863,912	\$863,912
Provision for consents, legal and management	\$365,000	\$365,000
Les Crown funding to be received	\$487,500	\$487,500
Construction finance	\$150,000	\$150,000
Design and construction	\$9,586,113	\$12,122,440
Total	\$10,477,525	\$13,013,852
Hectares	1,119	1,119
Cost per Hectare	\$9,363	\$11,630

This capital cost will be paid via a targeted Council rate over either 30 or 33 years depending on the option selected by landowners. This equates to a rate of approximately \$700 to \$950/ha committed to the scheme.

Once landowner commitment known then the full design will be able to be completed which may result in improvements to the design and cost estimate.

4. Annual Operating Costs

The annual operating cost of the scheme based on a pressure at gate of 5 – 6 bars (in general noting a limited number locations may be as low as 2 bar) is as follows:

Description

Pumping (summer)	\$187,500
Provision for Repairs and maintenance	\$55,000
Insurance	\$60,000
General and Management	\$75,000
Total	\$377,500

This pressure delivered is considered sufficient to meet requirements of on farm irrigation (depending on farm topography).

On a uniform charge basis this equates to \$337 per ha.

Or

On a cubic metre basis (assuming average consumption of 75% of 2,250 m³ per ha) equates to 20 cents per m³.

5. Water Entitlement

The scheme has been designed to provide 2,250 m³ per hectare for the season at a rate of 0.208 litres per second (i.e. 1.8 mm / day).

Maximum take per day 18 m³ per day per hectare.

Maximum annual take 2,250 m³ per hectare irrigation season (assumes 125 days pumping).

Delivered at a pressure of 5 – 6 bars at the farm gate.

6. Water Source, Availability and Reliability

The initial water source studies conducted by Opus International and extensive pump tests conducted by GHD provide a high degree of comfort that the Ure is a very good water source. All test results strongly identify that there is more than sufficient water to service the catchment and the scheme has been assessed to have a very high level of reliability.

There is limited further work to be completed to provide sufficient ecological analysis to secure resource consent for the river take. This will provide information to Council to provide it with confidence in the water availability, sustainability and the proof that there is little or no interference effects on other bores in the area.

The additional reporting is to be undertaken over the next few months with the consent applications to be completed by August 2018.

7. Council Owned and Operated Scheme

As per previous decisions of Council the scheme is to be owned and operated by Council.

8. Financing

As the scheme will be owned and operated by Council the scheme will be financed by Council and the cost of the capital expenditure will be recovered by rates over landowners committed to the scheme.

Finance will be recovered over a 30 year term at a finance rate of 5.5%. The cost per hectare per annum for the capital cost of the scheme is between \$700 and \$950 per hectare plus GST.

The operating cost will be recovered by Council on a mix of uniform charge and cubic metre rate for consumption. Refer Annual Operating costs (para. 4) above.

9. Timeframe – Consent and Construction

The water consents are expected to be granted in November 2018 but is very dependent on the hearing process.

The Design and Construction contract is expected to be awarded post issuing of the resource consent with the design , construction and commissioning expected to take 12 months .

10. Expenditure to Date

Expenditure to date (after allowing for funds received from Crown) is \$863,912. This is secured by rate over landowners who have committed to the scheme to date. This expenditure will be recovered from these landowners whether the scheme proceeds or not.

11. Seek to Defer Decision and Come on at a Later Date

It will be possible to seek to join the scheme after this initial stage, however the cost will be significantly more and availability will be restricted.

It is intended to build the initial stage to meet the initial commitment. There is no commitment to meet the future demand. If future demand was to be accommodated then it is intended to utilise the initial pipe and pump infrastructure to supply water during winter months to storage for summer irrigation.

This will mean that the extent of future demand able to be serviced will be constrained by the size of the pump and pipe network constructed in stage one.

Landowners who wish to come on at a later date will be required to:

- Buy into the existing network.
- Establish and pay for creation of storage (expected to be at a cost of \$6 to \$8 per cubic metre depending on size and location of storage).
- Meet the winter operating costs to fill storage.
- Meet the cost of any other capital requirement to get water to and from storage.

It is also likely that future landowners will need to provide their own finance for the core storage component. An estimate of the capital cost for landowners who come on at a later date has been assessed at approximately \$15,450 per hectare plus operating costs.

It is certainly advantages for landowners to participate in the scheme from the commencement to benefit from the economies of scale and efficiencies of being able to size the initial network to meet your demands.

11. Expert Reports Available

Monadelphous have been engaged to design and build the scheme. Their report in regard to concept design is available from Council's website.

Opus International and GHD have provided information in regard to the Ure water source and their reports are also available on Council's website.

12. Risks and Uncertainties

The cost estimates are based on prefeasibility work to date. This will be refined once the level of scheme commitment is known and full design can be completed. Until this stage is completed the final capital and operating costs are unable to be fully assessed.

There remains the need to secure water consents to take water from the Ure. It is expected that this will be completed by November 2018.