



Cairns Regional Council – Water Security Strategy

Community need / risk

All the projects described below are for the provision of drinking water supply augmentations to meet the needs of the Cairns Regional Council community and mitigate the potential risks involved in failure to supply. In addition to the primary purpose of supplying drinking water to the residents of Cairns, there is a commercial and economic value of water to the whole community. Cairns Regional Council commissioned a report from Marsden Jacobs Associates to quantify the economic costs of imposing water restrictions to demonstrate the risk these projects are addressing.

“The main conclusions to be drawn from the assessment are as follows:

- *On average, total present value costs of \$626.3m (over 40 years) are likely to be borne by households, the Tourism and Hospitality sector and CRC from water restrictions, when imposed to achieve LOS yield objectives under the do minimum water supply network configuration*
- *This falls to \$286.9m when it is assumed that costs to the Tourism and Hospitality sector are only incurred for each instance of Stage 3 or worse restrictions*
- *The distribution of total costs indicates that there is a 10% chance that those costs could be as high as \$865.2m (1.4 times the expected value) or \$476.7m (1.7 times) under the Stage 3 and above scenario.*
- *At the 5% level total costs could be as high as \$959.7m (1.5 times the expected value) or 574.1m (2.0 times) under the Stage 3 and above scenario.*
- *When expressed in average per year terms, the expected value of total costs is \$41.6m p.a. or \$19.1m under the Stage 3 and above scenario.*

Urban water restrictions are likely to have material welfare costs for Cairns residents, which is likely to contribute to a loss of liveability benefits, and could be a barrier to the labour force expansion required to support continued growth in the nationally significant Tourism and Hospitality sector.”

Mulgrave – Stage 1 (Including Behana Creek)

Description

New water supply intake on the Mulgrave River with pumps and pipeline to deliver up to 20 ML/d to a new water treatment plant.

New water treatment plant to treat up to 20 ML/d from Mulgrave River and up to 40 ML/d from the existing Behana Creek intake (total 60 ML/d capacity).

Cost

\$198.2m (P50); \$225m (P90).

Volume of Water

Incremental increase in yield attributable to greater utilisation of Behana Creek = 500 ML/a

Incremental increase in yield attributable to the taking of water from Mulgrave R = 3,000 ML/a

Combined incremental increase in total yield = 3,500 ML/a

Employment

522 Jobs created during the project in the local heavy and civil construction sector, an additional 385 jobs in related industry. The additional jobs in the local economy would lead to a corresponding increase in wages and salaries, a proportion would be spent in the local community generating up to an additional 589 jobs. There will be 5FTE ongoing positions to operate and maintain the treatment plant.

GRP in Cairns is estimated to increase by \$166.67M.

Mulgrave – Stage 2

Description

Augmentation of the Mulgrave River and Draper Road WTP (33 ML/d additional capacity, total 93 ML/d capacity)

Cost

\$75.7m (P50); \$88.2m (P90).

Volume of Water

Incremental increase in yield 2,000 ML/a

Employment

204 Jobs created during the project in the local heavy and civil construction sector, an additional 151 jobs in related industry. The additional jobs in the local economy would lead to a corresponding increase in wages and salaries, a proportion would be spent in the local community generating up to an additional 160 jobs.

GRP in Cairns is estimated to increase by \$65.34M.

Barron River – Stage 1

Description

New water supply intake, pump station, and pipeline delivering to a new water treatment plant at Kamerunga (25 ML/d)

Cost

\$92.2m (P50); \$104.0m (P90).

Volume of Water

Incremental increase in yield 7,500 ML/a

Employment

241 Jobs created during the project in the local heavy and civil construction sector, an additional 178 jobs in related industry. The additional jobs in the local economy would lead to a corresponding increase in wages and salaries, a proportion would be spent in the local community generating up to

an additional 189 jobs. There will be 4FTE ongoing positions to operate and maintain the treatment plant.

GRP in Cairns is estimated to increase by \$77.04M.

Barron River – Stage 2

Description

Augmentation to water supply pump station and Kamerunga water treatment plant (additional capacity of 25 ML/d, total capacity 50 ML/d)

Cost

\$24.0m (P50); \$27.8m (P90).

Volume of Water

Incremental increase in yield 6,500 ML/a

Employment

64 Jobs created during the project in the local heavy and civil construction sector, an additional 48 jobs in related industry. The additional jobs in the local economy would lead to a corresponding increase in wages and salaries, a proportion would be spent in the local community generating up to an additional 51 jobs.

GRP in Cairns is estimated to increase by \$20.59M.