



6 STRATEGIC CONSIDERATIONS

CHAPTER SUMMARY AND CONCLUSIONS:

- The service need and Reference Projects are considered to align with the strategic objectives of various plans, programs and policies, including:

Queensland Government	Commonwealth Government	Local Government
<ul style="list-style-type: none"> Queensland Bulk Water Opportunity Statement Far North Queensland Regional Water Supply Strategy Cairns Regional Water Supply Strategy Queensland Agricultural Land Audit Advancing North Queensland Plan State Infrastructure Plan 	<ul style="list-style-type: none"> Australia Infrastructure Plan Northern Australia Audit Developing Northern Australia White Paper National Water Initiative Reef 2050 Plan. 	<ul style="list-style-type: none"> Cairns Water Security Strategy Cairns 2050 <i>Shared Vision</i>
		Proponent
		<ul style="list-style-type: none"> Corporate Plan 2019-2023 Business Development Strategic Plan 2019-2023+ Statement of Corporate Intent 2018-19

- A number of these policies and strategies have requirements and conditions that need to be met by the Reference Project that is selected for delivery. These issues are discussed throughout this chapter

6.1 Queensland Government

6.1.1 Water Policy

6.1.1.1 Queensland Bulk Water Opportunity Statement

The Queensland Bulk Water Opportunity Statement (QBWOS), originally released in July 2017 and updated in December 2018, provides a framework through which the Queensland Government can support and contribute to sustainable regional economic development through better use of existing bulk water infrastructure and investment in new infrastructure.

The QBWOS provides a clear statement of the Queensland Government’s objectives for bulk water supply when considering the investment and broader competition for public funds. These objectives are:

- safety and reliability of dams and urban water supplies
- use existing water resources more efficiently
- support infrastructure development that provides a commercial return to bulk water providers
- consider projects that will provide regional economic benefits.

The QBWOS identifies opportunities for regional communities and the state as a whole. The focus is on maximising the use of, and benefits from existing investments and carefully considering the benefits and costs of new infrastructure. The focus of the QBWOS is therefore on reducing the barriers to using available water within existing bulk water supply infrastructure and considering new projects that demonstrate economic benefits within the context of competing budget and environmental constraints.



Importantly, the QBWOS provides complementary assessment principles that need to be considered in the assessment of proposed bulk water supply infrastructure proposals, these principles have an implication for the NDMIP, as outlined in Table 6-1.

Table 6-1 Requirements under QBWOS

OBJECTIVE	IMPLICATIONS FOR NDMIP
Analysis of water demand is informed by direct engagement with potential customers, who have been provided with estimates of the availability and security of water to be supplied and the potential charges likely to be associated with water delivery	<ul style="list-style-type: none"> The water demand profiles used in the development of the DBC have been based on, and give regard to, feedback from respondent (potential water customers) under the RFI process (refer Section 5.3.2.1).
Estimates for water charges that are presented to potential customers as part of demand analysis are underpinned by preliminary strategic and technical assessment of infrastructure options	<ul style="list-style-type: none"> Preliminary estimates for water charges presented to potential customers under the RFI process (refer Section 5.3.2.1), where based on the known capital costs and technical assessments.
There should be secure customer commitment (through formal arrangements between the proponent and the customers) prior to any state government funding of bulk water supply infrastructure projects	<ul style="list-style-type: none"> This has implications for NDMIP, and this issue is recognised in the conclusions and recommendations of this DBC.
If a government contribution is necessary to enable a project to proceed, the government should be presented with a business case that addresses the above matters prior to the commencement of more detailed and costly assessments (including environmental impact assessments and any potential environmental impact statement)	<ul style="list-style-type: none"> This DBC needs to be finalised prior to commencement with any potential EIS.

6.1.1.2 Far North Queensland Regional Water Supply Strategy

The FNQRWSS was released in 2010, and provides a framework for managing future urban, rural and industrial water needs in northern Queensland while seeking to achieve optimal environmental, social and economic outcomes.

The FNQRWSS considered existing water supply arrangements in the region and sought to identify the most effective ways of meeting the region's future water supply needs. The FNQRWSS indicated the future water supply shortfall for Cairns was expected to be met by:

- demand management strategies that target a reduction in per capita consumption
- development of local solutions
- alternative water sources such as desalination and fit-for-purpose recycled water and storm water reuse
- access to strategic reserve in Barron River and/or purchase supplemented water from the MDWSS
- further investigation of additional storage sites such as Nullinga Dam to be considered after portfolio of demand and supply side options to meet future requirements have been exhausted

The FNQRWSS outlined the future potential water supply shortfall for agriculture in the region may be met by:



STRATEGIC CONSIDERATIONS

- on farm efficiency gains
- water trading of sleeper and dozer entitlements
- efficiency improvement in the MDWSS distribution network
- new storages such as Nullinga Dam – subject to a viable business case and necessary approvals.

The evaluation undertaken as part of the PBC and this DBC has considered the initiatives identified in the FNQRWSS as part of the identification of the service need and the options assessment.

6.1.1.3 Cairns Regional Water Supply Security Assessment

The (then) DEWS, now part of DNRME, in partnership with CRC, released the Cairns Regional Water Supply Security Assessment (Cairns RWSSA) in October 2014. The Cairns RWSSA represented a collaborative approach between the Queensland Government and CRC to establish a shared understanding of the existing security of water supply in Cairns and the capacity to support future growth.

The Cairns RWSSA considered a number of growth scenarios to identify the timing and magnitude of potential water supply risks. It undertook detailed hydrological assessments of the performance of Copperlode Falls Dam and Behana Creek and concluded that, under existing water demands, Cairns could expect to experience Level Four restrictions approximately once every 100 years.

The Cairns RWSSA provided valuable information to the community and water supply planners about the water supply security for Cairns and provided a foundation for future water supply planning. CRC has continued to review its water demand forecasts considering updated population projections and demand management initiatives.

Building Queensland has worked closely with DNRME and CRC to understand current and future urban water requirements in Cairns. Building Queensland has followed the Cairns RWSSA, and subsequent updated assessments undertaken by CRC, in developing the service need and scoping the Reference Project/s.

6.1.2 Agriculture

6.1.2.1 Queensland Agricultural Land Audit

The Queensland Agricultural Land Audit was released in May 2013. The Audit identifies land important to current and future agricultural production and the constraints on development; in addition to helping guide investment in the agricultural sector and informing decision making to ensure the best use of our agricultural land in the future.

Chapter Six of the Queensland Agricultural Land Audit covers Far North Queensland and identified areas of land suitable for irrigated agriculture. The MDWSS is recognised as a strength of the region, with 25,000 hectares of irrigated agriculture. The Queensland Agricultural Land Audit found many undeveloped areas within the existing scheme with the potential for horticultural production that are favourable for development.

The Reference Project/s align with the findings of the Queensland Agricultural Land Audit, having identified areas within and adjacent to the existing scheme suitable for future agricultural production, including high-value horticultural production.



6.1.3 Planning

6.1.3.1 Advancing North Queensland Policy

The Advancing North Queensland Policy was released in June 2016 and highlights a number of priorities that support the 'immense economic potential of the region and have a keen focus on delivering on the tremendous opportunities and competitive natural advantages the region presents'⁶⁷.

Water security is one of the priorities under this policy, with the Advancing North Queensland Policy acknowledged that water security and water infrastructure are critical to sustain agricultural industries and boost regional development throughout the region. The Queensland Government committed to producing RWSSAs (refer below); working with local government at risk of running out of water due to drought; progressing feasibility studies funded by the Commonwealth Government under the National Water Infrastructure Development Fund (NWIDF), including this DBC; and securing capital funding from the Commonwealth Government under the NWIDF.

The (then) DEWS, now part of DNRME, in partnership with CRC, released the Cairns Regional Water Supply Security Assessment (Cairns RWSSA) in October 2014.

The RWSSAs consider a number of growth scenarios to identify the timing and magnitude of potential water supply risks across the Study Area. This DBC takes into consideration the different growth scenarios and utilises these reports as supporting material for the service need (refer Section 5.2.1.2).

The Reference Project/s will support water security requirements for Cairns, providing agricultural and industrial water users with the necessary assurance of supply needed to make investment decisions and contribute further to the economic activity of Queensland.

6.1.4 Infrastructure

6.1.4.1 State Infrastructure Plan

The State Infrastructure Plan (SIP) outlines the strategic direction for the planning, investment and delivery of infrastructure in Queensland. The SIP identifies the government's infrastructure objectives and sets out how the objectives are to be achieved. Table 6.2 summarises the alignment for NDMIP with several key Governments' objectives for water investment as outlined in the SIP.

Table 6-2 Alignment with key objectives of SIP

OBJECTIVE	ALIGNMENT / ISSUES
Water supply infrastructure is in place or in train where there is a sound business case and water resources are available	<ul style="list-style-type: none"> The development of this DBC responds to this stated government objective
Appropriate solutions, including demand management, are evaluated and implemented after the water needs of local government have been assessed in partnership with the state	<ul style="list-style-type: none"> This DBC includes consideration of MDWSS improvement initiatives and other demand management strategies identified locally are assumed to be undertaken in the defined base case

⁶⁷ Advancing North Queensland. Page 2



OBJECTIVE	ALIGNMENT / ISSUES
Water demand and the effects of stormwater and sewerage discharge on the environment has been minimised, the effects of flooding mitigated and reuse of water maximised through urban design	<ul style="list-style-type: none"> ▪ The reference design and environmental assessment includes consideration of the environmental effects (refer Chapters 9 and 17 respectively)

The DBC aligns with key aspects of the SIP by assessing the effectiveness of NDMIP in meeting the problem of water supply security and reliability for urban and industrial users and the opportunity to increase agricultural production in the study area.

6.2 Commonwealth Government

6.2.1 Infrastructure

6.2.1.1 White Paper on Developing Northern Australia

The White Paper on Developing Northern Australia (2015) outlines the Commonwealth Government's vision for the future of Northern Australia and identified actions over the next 20 years, aimed at unlocking the North's full potential. The paper sets out the Government's commitment to the funding and examination of the economic feasibility of Nullinga Dam⁶⁸.

A strategic goal in the White Paper is to provide greater access to water across northern Australia. The Reference Projects contribute to and are consistent with this objective by:

- providing increased water supply security and reliability in the CRC (and lesser extent MB and Tablelands) to underpin sustainable economic growth
- increasing availability of water in the CRC for regional economic development uses, primarily irrigated agriculture.

6.2.1.2 Northern Australia Audit – Infrastructure for a Developing North

The Northern Australia Audit: Infrastructure for a Developing North was published in 2015 and assessed critical economic infrastructure gaps and requirements to meet projected Northern Australia population and economic growth through to 2031.

The Northern Australia Audit found that water availability varies dramatically in Northern Australia and highlighted continuing challenges, including limited existing infrastructure, which are likely to affect the development of Northern Australia. It concluded that for prospective agricultural developments there may be a range of potential water supply options, by which case-by-case evaluation is important, including water trading, expansion of existing irrigation areas and planning new dams.

The DBC aligns with the findings of the Northern Australian Audit by considering a range of infrastructure and non-infrastructure solutions to access new water supplies to provide economic and social benefits to the region.

6.2.1.3 Australian Infrastructure Plan

The Australian Infrastructure Plan sets out the infrastructure challenges and opportunities over the next 15 years in addition to identifying the solutions required to drive productivity growth, maintain and enhance the

⁶⁸ Page 10



nation's standard of living and ensure that Australian cities remain world-class. The Plan highlights the need for infrastructure investment in Northern Australia to enhance regional productive capacity and take advantage of growing demand for produce in South-East Asia and China. At the same time, regulatory frameworks and operational arrangements should be aligned with any new infrastructure investments to maximise potential productive capacity.

The Reference Project/s support the Australian Infrastructure Plan as it increases water security for agricultural production and responds to the increasingly variable climate. Any of the identified Reference Projects have the potential to address an identified infrastructure gap and also capture potential downstream economic opportunities identified in the Plan. The potential for the Reference Project to contribute to the growth of the regional economies of is aligned with the strategic objective of the Australian Infrastructure Plan to capitalise on opportunities to develop Northern Australia through the development of water infrastructure for irrigated agriculture.

6.2.2 Water

6.2.2.1 National Water Initiative

The Commonwealth Government and each of the States and Territories are parties to the Intergovernmental Agreement on a National Water Initiative (NWI). The NWI, established in 2004, sets out a national blueprint for water reform and a shared commitment by governments to increase the efficiency of Australia's water use, provide greater certainty for investment and productivity, and to ensure improved environmental outcomes. The NWI has driven reforms resulting in improved water management and planning arrangements. Key developments have included changes to water access entitlements, water markets, water pricing, water use efficiency and the integrated management of water resources.

This DBC is committed to examining the potential for full cost-recovery pricing solutions, as reflective of the pricing principles set out in the NWI, though it is acknowledged that the Reference Projects are unlikely to be able to achieve this outcome and remain commercially viable.

6.2.2.2 Reef 2050 Plan

The Reef 2050 Plan was released by the Commonwealth and Queensland Governments in March 2015. The Plan is the overarching framework for the protection and management of the GBR until 2050. Among other priorities and initiatives, the Plan outlines management measures for the next 35 years to ensure the outstanding universal value of the GBR is preserved now and for generations to come.

Water quality is a key focus of the Reef 2050 Plan, particularly in relation to the potential impact of infrastructure projects on the quality of water that is discharged into the GBR. The potential for agricultural practices to impact on the nutrient, sediment and pesticide loads in the GBR is identified in the Plan, as is the need to have consideration for the quality of agricultural run-off.

The potential impact of the Reference Project/s on the objectives of the Reef 2050 Plan has been considered. The environmental impacts from a proposed Nullinga Dam on the Great Barrier Reef are expected to be minimal as the Walsh River, as a tributary of the Mitchell River, flows into the Gulf of Carpentaria (which is not part of the Great Barrier Reef or included in the Reef 2050 plan) and associated irrigated agriculture is likely to be located adjacent to the Walsh River. Improvements to the MDWSS rules and operation and modernisation of the MDWSS and conversion of losses may result in a marginal increase in agricultural production, with associated water quality impacts on the Barron River.



6.3 Local Government

6.3.1 Cairns Water Security Strategy

CRC established a Water Security Advisory Group in early 2014, to consider ‘technical reports detailing the current water supply chain, possible alternatives, supply enhancements and the implications of each option for the community’⁶⁹. The Water Security Advisory Group oversaw the development of the Cairns Water Security Strategy, with the report delivered in March 2015.

This strategy, which investigated the water supply needs of the region for the next 30 years, sets out a preferred water supply strategy to meet these needs over the short, medium and long term. Importantly, short and medium-term actions identified in the strategy have been adopted in the defined base case and were considered in the development of the demand scenarios under the service need chapter in this DBC.

This Project aligns with the long-term outcomes identified in this strategy, with the preferred strategy including the conversion of irrigation losses for the MDWSS and delivery of a Nullinga Dam solution.

6.3.2 Cairns 2050

In November 2018, CRC released the Cairns 2050, Shared Vision. Working with key stakeholders, CRC developed the shared vision to assist in building partnerships across business and government and focus and build on key regional priorities. The shared vision identifies key challenges, competitive advantages, and projects and enablers under strategic themes for the region.

A key project area includes water security and development. The vision outlines the importance and need for investment in research, analysis and infrastructure ‘to ensure the region’s long-term water security needs are met for both urban and agricultural development’⁷⁰.

Of relevance to the NDMIP, the shared vision identifies the need to implement the recommendations of the WSAG, and the future need for the proposed Nullinga Dam, ‘to simulate and expand irrigated agriculture in the region’ and ‘for the long-term urban water security of Cairns’.

In addition to alignment of NDMIP with the shared vision, the delivery of this DBC is seen as a ‘matter of urgency’ for the CRC.

⁶⁹ <https://www.cairns.qld.gov.au/water-waste-roads/water/security>

⁷⁰ Cairns 2050, Shared Vision, CRC (Nov 2018), page 9



6.4 Proponent policies and plans

The NDMIP DBC aligns with and responds to a number of objectives and stated priorities under the policies and plans of Sunwater. Table 6-3 provides a summary of these.

Table 6-3 Alignment with key objectives of Sunwater

PLAN / POLICY	DESCRIPTION AND ALIGNMENT OF NDMIP WITH KEY OBJECTIVE / PRIORITY
Sunwater	
Corporate Plan 2019-2023	<p>Description</p> <ul style="list-style-type: none"> the Corporate Plan has been prepared to fulfil the requirements of the Government Owned Corporations Act 1993 (GOC Act), and guides business direction for the next five years. It sets out Sunwater's purpose and, the values that guide the way in which Sunwater will undertake its business, Sunwater's specific business strategies, and the targets against which it will measure performance at a corporate level. the Plan outlines Sunwater's strategic goals, including commitment to a sustainable business, to be commercial focused, with supportive stakeholders. <p>Objective / Alignment</p> <ul style="list-style-type: none"> NDMIP DBC aligns to the objective to actively search for growth opportunities that generate a commercial return and reinforcing Sunwater's position as the principal bulk water provider in regional Queensland and the State's preferred proponent for the development for new bulk water infrastructure.
Business Development Strategic Plan 2019-2023+	<p>Description</p> <ul style="list-style-type: none"> the Sunwater Strategic Plan 2019 to 2023 identifies four goals that support Sunwater's purpose of delivering value through water solutions for today and tomorrow. One of the core strategic goals "A sustainable business" requires growth of the business through the identification and implementation of new business opportunities. This plan sets out the strategies that will be delivered in support of this growth objective. <p>Objective / Alignment</p> <ul style="list-style-type: none"> NDMIP aligns with the Business Development Strategic Plan as a potential asset identified for development <u>if demand and growth</u> suggest commercial viability.
Statement of Corporate Intent 2018-2019	<p>Description</p> <ul style="list-style-type: none"> Sunwater's Statement of Corporate Intent (SCI) outlines the key performance indicators, targets and other corporate measures that have been agreed for implementation in 2018-2019. The SCI also identifies the measures of success that will be applied in evaluating achievement against identified deliverables and goals. <p>Objective / Alignment</p> <ul style="list-style-type: none"> the SCI identifies NDMIP DBC, among other growth projects, for further development allowing Sunwater to take advantage of growth opportunities.



6.5 Conclusion

The review of relevant government programs and policies has concluded that the identified service need and Reference Project align with, and contribute to, the strategic objectives of various plans and programs of the Queensland Government, Commonwealth Government and Sunwater. A summary of the alignment is outlined in Table 6-4.

Table 6-4 Service need and shortlisted options alignment with government policies and programs

DOCUMENT	ALIGNMENT
QUEENSLAND GOVERNMENT	
Queensland Bulk Water Opportunity Statement	The Reference Project is aligned with the expectations in the QBWOS.
Far North Queensland Regional Water Supply Strategy	The evaluation undertaken as part of the PBC and this DBC has considered the initiatives identified in the FNQRWSS as part of the identification of the service need and the options assessment
Cairns Regional Water Supply Assessment	Building Queensland has followed the Cairns RWSSA, and subsequent updated assessments undertaken by CRC, in developing the service need and scoping the Reference Project/s
Queensland Agricultural Audit	The Reference Project/s align with the findings of the Queensland Agricultural Land Audit, having identified large areas within and adjacent to the existing scheme suitable for future agricultural production, including high-value horticultural production
Advancing North Queensland	The Reference Project/s will support water security requirements for the region, providing agricultural and industrial water users with the necessary assurance of supply needed to make investment decisions and contribute further to the economic activity of Queensland. This aligns with a key objective of this policy paper
State Infrastructure Plan	The DBC aligns with key aspects of the SIP by assessing the effectiveness of NDMIP in meeting the problem of water supply security and reliability for urban and industrial users and the opportunity to increase agricultural production in the study area
COMMONWEALTH GOVERNMENT	
White Paper on Developing Northern Australia	Consistent with the White Paper, the Reference Project/s will provide greater access to water in the region, which will both address supply security and reliability risks and make additional water available for irrigated agricultural production
Northern Australia Audit – Infrastructure for a Developing North	The DBC aligns with the findings of the Northern Australian Audit by considering a range of infrastructure and non-infrastructure solutions to access new water supplies to provide economic and social benefits to the region
Australian Infrastructure Plan	The Reference Project is aligned with the strategic objective of the Australian Infrastructure Plan to capitalise on opportunities to develop northern Australia through the development of water infrastructure for irrigated agriculture
National Water Initiative	This DBC is committed to examining the potential for full cost recovery pricing solutions, as reflective of the pricing principles set out in the NWI, though it is acknowledged that the Reference Projects are unlikely to be able to achieve this outcome and remain commercially viable.



DOCUMENT	ALIGNMENT
Reef 2050 Plan	The potential impact of the Reference Project/s on the objectives of the Reef 2050 Plan has been considered. The environmental impacts from a proposed Nullinga Dam on the Great Barrier Reef are expected to be minimal. Improvements to the MDWSS rules and operation and modernisation of the MDWSS and conversion of losses may result in a marginal increase in agricultural production, with associated water quality impacts on the Barron River. This is to be monitored in
LOCAL GOVERNMENT	
Cairns Water Security Strategy	This Project aligns with the long-term outcomes identified in this strategy, with the preferred strategy including the conversion of irrigation losses for the MDWSS and delivery of a Nullinga Dam solution
Cairns 2050, Shared Vision	In addition to alignment of NDMIP with the shared vision, the delivery of this DBC is seen as a 'matter of urgency' for the CRC
PROPONENT	
Corporate Plan 2019-2023	NDMIP DBC aligns to the objective to actively search for growth opportunities that generate a commercial return and reinforcing Sunwater's position as the principle bulk water provider in regional Queensland and the State's preferred proponent for the development for new bulk water infrastructure.
Business Development Strategic Plan 2019-2023+	NDMIP aligns with the Business Development Strategic Plan as a potential asset identified for development if demand and growth suggest commercial viability.
Statement of Corporate Intent 2018-2019	The statement identifies NDMIP DBC, among other growth projects, for further development allowing Sunwater to take advantage of growth opportunities.