Australian Government
Department of Defence

Defence Estate Water Strategy

2014–2019

ESD

Defending Australia and its National Interests
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Foreword

Australia is one of the driest countries on earth and Defence facilities are located in some of the lowest rainfall and most drought prone areas of the country. Forecasts indicate that our sites will be exposed to greater climatic variability and potential water scarcity in the future. It is therefore increasingly important for us to use water resources efficiently so that water supplies remain secure and to reinforce our status as a 'good neighbour'.

Defence has existing initiatives in place to improve efficiency and secure water supplies. Many sites have installed rainwater tanks, and water management and land management plans are in place across a number of regions. Some sites have implemented leak detection and sub-metering programs as well as using recycled water for irrigation instead of high quality potable drinking water.

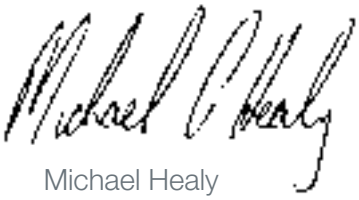
This Defence Estate Water Strategy includes initiatives under four themes:

- Improving the Efficiency of Existing Assets and Equipment
- Providing Efficient New Infrastructure and Equipment
- Using Water from Alternative Sources
- Driving Water Saving Behaviour

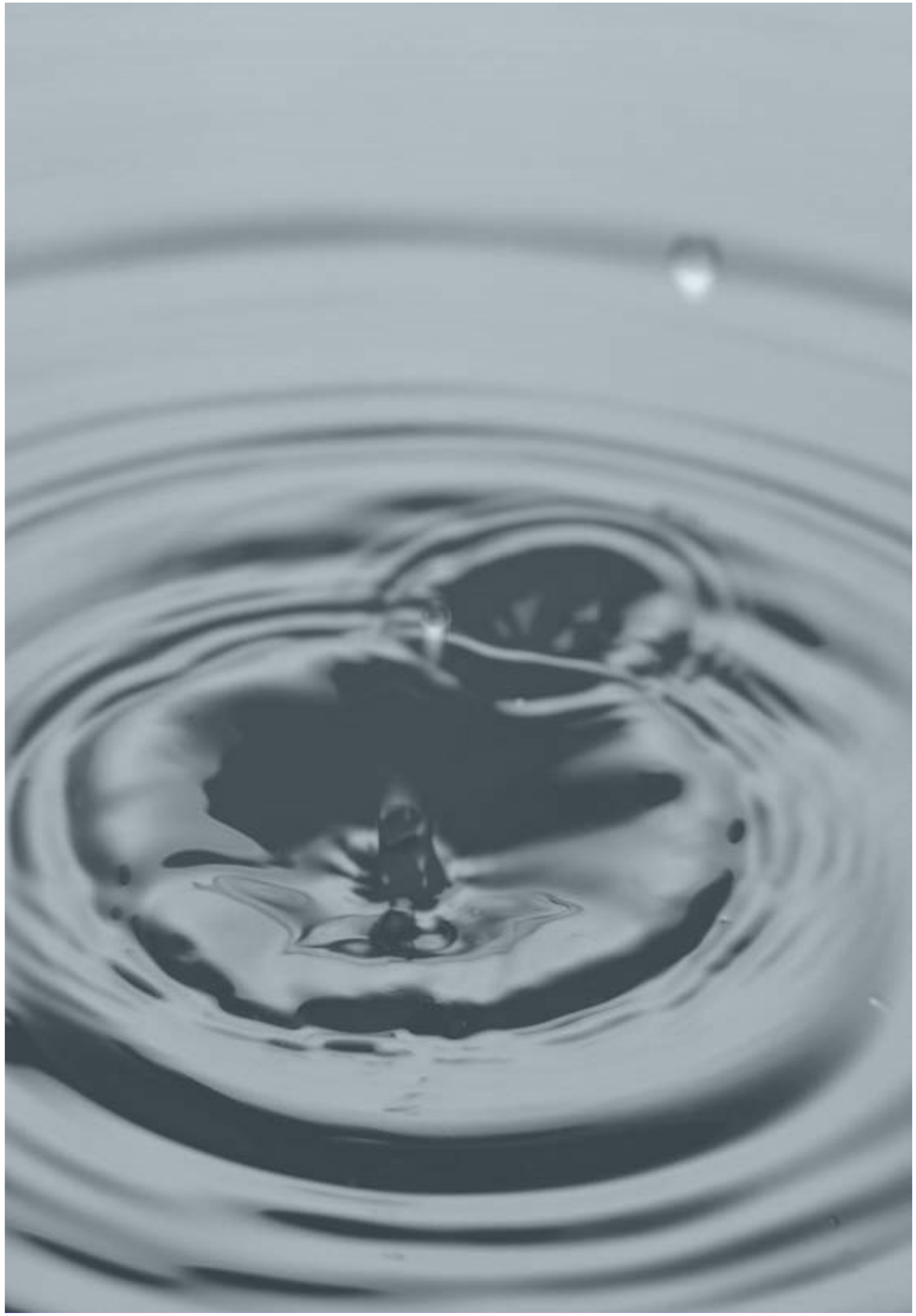
The goals identified in the Strategy under these themes complement existing water conservation and efficiency programs and will allow Defence to achieve significant improvements in water performance, while enhancing the security of water supplies, over the next five years.

Personnel across Defence Groups and Services, including those with water asset operation, maintenance and planning responsibilities, have specific roles in implementing the goals described in this strategy. However, achieving sizeable improvements in water efficiency will require all personnel to manage their own water consumption behaviours, while balancing their needs for amenity and functionality.

The efficiencies and enhanced security achieved by implementing this Strategy will contribute to cost savings and water supply continuity for our facilities and will be a key enabler in delivering our mission of defending Australia and its interests into the future.



Michael Healy
A/HEAD INFRASTRUCTURE



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Rainwater Tanks at Keswick Barracks, Adelaide.

Chapter 1

Introduction

Each year, the Department of Defence consumes over 7.5 GL of potable water at a cost of over $15M[1].

Defence facilities are located in some of the lowest rainfall and most drought prone areas of the country. At these locations, access to a secure and reliable water supply is a priority to ensure that Defence facilities and capability are not adversely affected by water shortages.

The potential impacts of climate change on temperature and rainfall will place further pressure on water resources across the Defence Estate. Water scarcity arising from climate change is likely to lead to increased competition among water users and rising costs. In this environment, it will become increasingly important for Defence to demonstrate efficient use of water resources and to reinforce its status as a 'good neighbour'.

This Defence Estate Water Strategy replaces the previous Defence Water Strategy (2006). The Strategy describes how Defence plans to reduce water consumption, particularly consumption of potable water, and improve security of water supply to its facilities over the next five years.

The scope of the Strategy is defined by three parameters:

- *Geography*: The Strategy focuses on water initiatives at Australian facilities.
- *Included water sources and activities*: The Strategy considers all water sources including potable water, water extracted from water courses, groundwater and stormwater. The primary focus of the Strategy is consumption and conservation of water. The Strategy does not examine water treatment processes or the impact of Defence activities on water quality as these aspects of water management are covered under Defence's Pollution Prevention Program. However, it is noted that water quality is a key consideration in determining acceptability of water sources for proposed end-use (e.g. contamination may preclude reuse.)
- *Timeframe*: The timeframe for the Strategy is 5 years, from 2014 – 2019.

Ownership and responsibility for coordinating the implementation of the Strategy lies with the Environment and Engineering (EE) Branch, Infrastructure Division in the Defence Reform and Support Group. The Branch is responsible for Defence's environment and engineering policy, and in doing so helping achieve Defence's environmental vision: *to be a leader in sustainable environmental management to support the Australian Defence Force's capability to defend Australia and its national interests*.

Government Policy and Regulatory Environment

Currently there is no legislative requirement for Defence to report annually on water consumption. However, Defence's management of water consumption is guided by federal legislation and policies including:

- *Water Act 2007 and Water Amendment Act 2008*: Prescribes key reforms for water management in Australia including management of the Murray Darling Basin.
- *Water for the Future*: Australian Government's long-term initiative containing a number of policies, programs and funding mechanisms for water management in urban and rural areas. The initiative focuses on water smart technologies, water efficiency in the commercial and industrial sectors, sustainable rural water use and infrastructure, and environmental water management.
- *National Water Initiative*: National blueprint for water reform that commits Federal, State and Territory Governments to prepare water plans, expand water trading, improve water supply pricing, manage urban water demands and address stressed water systems.

Related Defence Policies and Strategies

Figure 1-1 shows how the Strategy aligns with other relevant strategies, policies and plans.

Defence has produced an Environmental Policy, which is

1 AECOM (2011) for the 2008-09 financial year

implemented through the *Defence Environmental Strategic Plan (DESP)*.

The *Defence Estate Water Policy (DEWP)* sits below the DESP. The policy describes Defence's commitments, objectives and targets related to water.

The Defence Estate Water Strategy describes how the objectives of the DEHP will be met over the period 2014-2019.

The actions for delivery of the Strategy are outlined in the Defence Estate Water Strategy Implementation Plan.

Figure 1-1: Defence Water Policy and Strategy Relationships

Profile of Defence Water Use

Water is consumed by Defence for a variety of uses including: residential accommodation, equipment wash-down facilities, pool maintenance, and irrigation. The quantity of water consumed at Defence sites is heavily influenced by the size and nature of the facility, the age of the infrastructure, climatic conditions and occupancy rates. The varied climatic conditions also mean that water resource availability and water conservation drivers vary markedly across the Estate.

Defence's water consumption was profiled nationally in studies undertaken in 2006 and 2011[2]. Using 2008/09 consumption data the *Defence National Water Use and Consumption Study 2006-2010* showed that the top 20 potable water consuming sites were responsible for 80% of total potable consumption[3]

Additionally, the *Defence National Water Use and Consumption Study 2006-2010*[4] showed that sites with the highest water consumption across the Defence Estate typically have either one or a combination of:

- large irrigation demand from golf courses or sporting fields
- old and leaking pipes or
- high proportion of living-in accommodation (LIA) facilities.

Water Use and Management

The drivers for water efficiency vary across the Defence Estate and, as water is still relatively inexpensive, sites without water security constraints have historically had less incentive to implement water efficiency initiatives. Therefore, uptake of water efficiency measures varies across the Estate.

Current Defence water efficiency initiatives and programs include:

- implementing leak detection and sub-metering programs at select sites
- establishing an Ecologically Sustainable Development (ESD) program to fund efficiency measures including upgrades to irrigation systems and replacing existing fixtures with water efficient devices
- substituting potable water with recycled water and harvested rainwater for fit for purpose uses on select sites and
- developing water management and landscape management plans across select regions and at specific sites.

Water bills, including those for bulk water supplies, are paid at a regional level. While this means that each region normally has available information on water consumption and costs, this billing arrangement has resulted in limited data available centrally on water consumption trends. There is sub-metering installed at some sites but, in general, there is limited data available on individual facility water use.

Opportunities and Challenges

Defence faces a number of challenges that could impact on the successful delivery of water conservation initiatives. However, there are also many opportunities to improve water efficiency and access water from alternative sources.

Some key opportunities and challenges, which are addressed in the Strategy and the Implementation Plan, include:

- *Size and diversity of the Defence Estate*: The extent and diversity of the Estate can make it difficult to implement standardised approaches to water management. The driver for water conservation varies between sites due to differences in climatic conditions, security of water supplies and the cost of water. This means that initiatives identified in this Strategy will have greater applicability to some sites than others and the Implementation Plan will need to provide flexibility for varied implementation approaches across regions. The diversity of Defence sites also provides opportunities for the use of alternative water sources such as recycled water, rainwater and stormwater at some facilities.
- *Age of the Defence Estate*: The Defence Estate is made up of ageing infrastructure and assets, which can be prone to leakage and are typically less efficient than newer equipment and facilities.
- *Operational tempo*: Future water use trends will be dictated to an extent by changes in operational tempo. For example, increased base usage and more training activities, resulting from lower levels of troop deployment, may lead to increases in Defence water consumption even with the Strategy in place and successfully implemented.
- *Funding and other Resource Constraints*: Budget and resource constraints may limit the number of initiatives that can be implemented. The Defence Estate Energy Implementation Plan will include estimates of the cost and benefit of implementing the Strategy and identify resources required. This will allow funding for initiatives that can be prioritised or additional resourcing allocated if warranted.

2 HLA-Envirosciences (2006) and AECOM (2011)
3 AECOM, 2011
4 AECOM, 2011

Strategy Objectives and Principles

This Strategy aims to deliver the objectives of the DEWP namely:

- *Improved Measurement and Monitoring of Water Use*: Ensure infrastructure and processes are in place to be able to measure and manage Defences water consumption effectively.
- *Less Water*: Reduce the water requirement for Defence, particularly reliance on potable water supplies, by maximising water efficiency in all aspects of Defence business.
- *Integrated Water Management*: Consider water holistically at a base/precinct level and transition to fit-for-purpose water supply to provide more sustainable and secure water sources.

There are a number of principles that underpin the Strategy and these factors have influenced both the approach taken to strategy development and the strategic goals identified. These underlying principles specify that the Strategy should:

- *Align with the core role of Defence*: Defence's mission is to defend Australia and its interests. Water initiatives must not compromise Defence's capability, activities, or its ability to achieve its mission. Water initiatives will be designed to deliver efficiencies without adversely impacting on the amenity or function of Defence facilities.
- *Provide cost effective solutions*: Strategy initiatives must provide value for money and/or deliver tangible water security benefits.
- *Link with existing initiatives and experience*: The Strategy has been developed in close consultation with regional environmental teams to ensure that existing water efficiency activities and initiatives, which have proved effective, can be incorporated under the relevant Strategy goal and applied to other regions or sites.
- *Be readily implemented*: To deliver tangible outcomes, the Strategy must be achievable and able to be implemented within Defence budget and resource constraints and must utilise proven technologies.
- *Have wide endorsement*: Successful implementation of the Strategy will require collaboration across Defence Groups and Services, a common understanding of the drivers and benefits for water efficiency and endorsement of the Strategy by senior Defence Force officials. Accordingly, the Strategy has been developed in close consultation with internal and external stakeholders.
- *Build on the experience of others*: The Strategy will be consistent with best practice water management strategies and guidelines.
- *Provide the foundation for continuous improvement and innovation*: Understanding and prioritising water efficiency opportunities requires good data, comprehensive data management procedures, robust analysis and regular reporting of findings. Defence has water sub-metering at a number of sites but many sites remain un-metered making it difficult to identify the extent and pattern of water use. Further, standardised data collection, analysis and reporting procedures are not yet in place. Accordingly, a key focus of the Strategy is installing the necessary metering and establishing the data collection and management processes that will enable Defence to identify improvement initiatives and incorporate these into future revisions of the Strategy.

Chapter 3

Defence Estate Water Management Strategy

The Strategy comprises a comprehensive set of strategic goals and actions under four broad themes:

- *Improving the Efficiency of Existing Assets and Equipment*: Defence manages a diverse and unique asset portfolio. This theme explores opportunities for Defence to improve the water efficiency of these diverse assets and enhance water security in an environment of ageing infrastructure and constrained budgets.
- *Providing Efficient New Infrastructure and Equipment*: Infrastructure and equipment built/purchased today will be in service for many years to come. This theme identifies how Defence can ensure that capital planning and procurement decisions made today consider water use and deliver sustainable outcomes.
- *Using Water from Alternative Sources*: This theme identifies how Defence can expand its use of non-potable water, especially for irrigation and wash down purposes, where it provides value for money to do so.
- *Driving Water Saving Behaviour*: This theme includes actions to build an enabling culture that supports delivery of the Strategy. The theme identifies initiatives to educate staff so they understand the importance of water conservation; to provide people with the information and skills they need to identify water efficiency initiatives; and to acknowledge and reward efforts toward improving water performance.

It is important to note that the initiatives identified in this Strategy will take a number of years to implement.

The following sections of this Chapter detail the intent and goals identified under each of the strategic themes.

01 Improving the Efficiency of Existing Assets and Equipment

Improving the efficiency of existing assets is typically the easiest and most cost-effective way to reduce water consumption and allow organisations to improve reliability of supply, safeguard against future increases in water prices and reduce the environmental impacts of their activities. In an environment of water scarcity, the efficient use of water resources demonstrates an organisation's commitment to the wellbeing of nearby communities.

Defence has a number of existing initiatives designed to improve water efficiency, including:

- implementing Landscape Management Plan's (LMP) in select regions
- undertaking leak detection programs at select sites
- upgrading irrigation systems and replacing existing fixtures with water efficient devices such as showerheads, dual flush toilets and low flow water saving devices
- sub-metering of water at select facilities
- developing water management strategies across some regions
- installing rainwater tanks and other potable water substitution initiatives, such as the use of recycled water at some locations
- development of the Sustainable Measurable Adaptable Renewable Transferable Infrastructure Manual (SMART) Infrastructure Manual[5] and
- the ESD Initiatives Program that provides funds for water saving initiatives across the Estate.

The *Improving the Efficiency of Exiting Assets and Equipment* theme aims to build on these existing initiatives. The theme focuses on improving the availability, analysis and reporting of water consumption data, analysing and reporting water consumption data to decision makers, effectively managing

5 The Defence SMART Infrastructure Manual will replace the now rescinded Defence Green Building Requirements Part 1 and Part 2.

ageing infrastructure through leak detection, and fixing identified leaks.

The nine goals for *Improving the Efficiency of Existing Assets and Equipment* are detailed in Table 3-1.

Table 3-1: Improving the Efficiency of Existing Assets and Equipment

GOAL		DESCRIPTION
1-1	**Expand current leak detection programs to other high priority sites**	Rollout a leak detection program to target high priority sites. Sites will be prioritised using a combination of criteria including: infrastructure age/condition, water scarcity, expected water savings and known incidents/ issues. Feed outcomes of leak detection programs into maintenance processes.
1-2	**Establish a targeted water sub-metering program**	Establish a sub-metering program for sites with highest priority, particularly focusing on those sites with high irrigation demand, high proportion of LIA facilities and pipelines identified in the leak detection program.
1-3	**Establish standardised water data collection guidelines**	Develop data collection guidelines that define data collection objectives and roles and responsibilities. The guidelines will also stipulate data quality requirements and specify required analysis and reporting outputs.
1-4	**Determine water intensity consumption targets and track performance against targets for identified high water use facilities**	Develop benchmarks for high priority sites including those with water security issues, high water cost and/or high water use facilities (e.g. irrigation and wash down facilities) and track performance against benchmarks at metered facilities[6].
1-5	**Establish standardised protocols for tracking and communicating water efficiency measures and cost to base and facility managers**	Establish and implement a standardised reporting template to communicate to base and facility managers total water consumption and cost, benefits arising from water initiatives and performance against benchmarks.
1-6	**Provide guidance on water standards for operation and maintenance of facilities**	Incorporate guidance on operation and maintenance of facilities for water efficiency in the SMART Infrastructure Manual. Work with facility managers including Base Services Contractors to support them to implement the SMART Infrastructure Manual.
1-7	**Develop concise Water Management Plans (WMP) for highest consuming sites**	Prepare a standard template for preparation of WMPs. Develop WMPs at highest consuming sites.
1-8	**Implement Landscape Management Plans (LMP) for all regions**	Prepare and implement a LMP for each region using a standard template based on the existing Western Australian LMP. The management plans will set best practice standards, specific to regional conditions, for irrigation, alternative water sources, plant species selection, including consideration of non-endemic species, and maintenance regimes.
1-9	**Continue to fund cost-effective retrofits while examining feasibility of a self-funded program**	Continue to fund water initiatives through the ESD program utilising the existing competitive process to prioritise projects and ensuring that project priorities are aligned with the Strategy themes. Investigate the feasibility of a self-funded reinvestment program streaming water savings to top-up the existing ESD program and fund new water efficiency retrofit projects.

6 Due to the diversity of the Defence Estate standard benchmarks may not be available for unique facilities. It is also recognised that older infrastructure may perform poorly relative to benchmarks.

02 Providing Efficient New Infrastructure and Equipment

The efficiency of Defence infrastructure and equipment built or purchased today will determine baseline water consumption over the life of the asset. For Defence assets, this life span may be many decades. Procurement decisions made now, therefore 'lock in' efficient or inefficient performance for many years to come.

Defence has a number of existing activities and initiatives to encourage selection of water efficient infrastructure and equipment, including:

- *Defence Estate Principles of Development* that guide the Estate planning process by incorporating the smarter use of resources, reducing the duplication of services on bases, minimising base footprints, and ensuring that the Net Personnel Operating Cost (NPOC) is consistent with water efficiency objectives
- requirement to incorporate ESD principles in design for new capital projects
- inclusion of Water Sensitive Urban Design (WSUD) elements on larger residential sites and
- development of SMART Infrastructure Manual to incorporate water efficiency measures into the design of new infrastructure.

The *Providing Efficient New Infrastructure and Equipment* theme identifies initiatives to ensure that infrastructure and equipment allows for sustainable water consumption into the future.

The five goals for *Providing Efficient New Infrastructure and Equipment* are detailed in Table 3-2.

Table 3-2: Providing Efficient New Infrastructure and Equipment

GOAL		DESCRIPTION
2-1	**Establish water efficiency standards for new buildings and major refurbishments**	Incorporate minimum standards of performance for new buildings through the SMART Infrastructure Manual, ensuring that these standards align with whole of Government policy where relevant. The Manual will specify water efficiency and water savings measures on new buildings and refurbishments where these deliver value for money over the life of the facility[7]. Include guidance on landscape and vegetation selection considerations in the SMART Infrastructure Manual.
2-2	**Provide guidance to facilitate adoption of water saving initiatives in new projects**	Standardise project design reporting to ensure a consistent approach to the assessment of water efficiency initiatives in new capital projects. The SMART guidelines will include standard cost benefit assessment templates for common efficient energy equipment/technologies and examples of building/facility designs that have worked in previous projects.
2-3	**Incorporate water conservation and efficiency considerations into Base Redevelopment Planning and Capital Facilities Infrastructure (CFI) capital planning programs**	Ensure early that EE Branch and regions have early input into the Base Redevelopment Planning process so that water efficiency opportunities can be considered as part of the planning process. Co-ordinate the ESD, LMP and WMP programs with the Base Redevelopment and CFI infrastructure deliver programs to optimise water consumption outcomes and capital expenditure (e.g. Programs can be co-ordinated so that meter installation occurs at the same time as other capital works are undertaken on the water supply pipework.)
2-4	**Establish formalised asset handover and tracking of performance post-handover**	Introduce CFI induction with the regional staff on regional specific issues at the start of each project. Include the Senior Environmental Managers and Regional Energy and Sustainability Officers during the project handover phase of new assets. Strengthen the monitoring undertaken during the defects liability period and include the requirement for performance assessment in contracts. Incorporate induction and handover requirements into the SMART Infrastructure Manual, including 'technology ready' elements of new infrastructure (see Theme 3). Strengthen and refine project delivery guidance, processes and templates to ensure water performance assessments are undertaken during handover and post occupancy evaluations (POE) are completed. Work to integrate water efficiency requirements into Building Information Modelling design approaches when available.
2-5	**Review and, if required, strengthen guidance on water use and conservation in procurement of appliances, equipment, military platforms and vehicles**	Review procurement policies and guidelines including the Defence Procurement Policy Manual and Green Procurement Guidelines and refine if necessary.

7 The Defence SMART Infrastructure Manual will define value for money considering payback period and the capital cost impact of higher efficiency equipment.

03 Using Water from Alternative Sources

Across the Defence Estate, there are opportunities to harness alternative sources of water for non-potable use. Accessing alternative fit-for-purpose water frees up potable water for higher priority uses and improves water security at sites.

A number of Defence sites already use alternative water sources to supplement potable supplies. Rainwater harvesting systems are in place at some locations and the Australian Defence Force Academy, Royal Military College and Blamey Barracks Kapooka all use recycled water for irrigation.

The *Using Water from Alternative Sources* theme seeks to identify how Defence can expand its use of non-potable water, especially for irrigation and wash down purposes, where it provides value for money to do so.

The three goals for *Using Water from Alternative Sources* are detailed in Table 3-3.

Table 3-3: Using Water from Alternative Sources

GOAL		DESCRIPTION
3-1	**Identify sites with greatest opportunity for alternative water schemes**	Analyse regional Landscape Management Plans and/or Site Specific Water Management Plans (developed as part of the Improving the Efficiency of Existing Assets and Equipment theme) to identify sites with alternative water sources (wastewater, stormwater, groundwater and rain water of suitable quality) and high consumption end uses such as irrigation or vehicle wash down facilities.
3-2	**Maintain 'watching brief' on latest water efficient and source substitution technologies**	Maintain a 'watching brief' on new water efficient and source substitution technology and provide information to other Groups and Services on the latest technologies.
3-3	**Increase use of non-potable water resources across the Defence Estate**	Identify and progress projects to replace a high potable water irrigation use with an alternative water supply.

04 Driving Water Saving Behaviour

Successful delivery of any organisational strategy requires congruent systems, procedures, project delivery mechanisms, communication protocols, leadership, training programs and a culture that supports and recognises individual and team initiative, effort and innovation.

There are already examples of highly motivated and innovative personnel across defence who champion water efficiency initiatives. There is an established network of highly committed regional environmental teams (RESOs and Senior Environmental Managers(SEM)) with the knowledge and expertise to support regional initiatives, supported by a centralised agency in Directorate of Energy Efficiency, Environmental Resource Management and Sustainability (DEEERMS).

Existing Defence procedures, orders and directives provide a means by which the importance of water conservation behaviour can be reinforced with Defence personnel. Defence can also drive water efficiency and innovation through its partnerships with Base Services Contractors.

The *Driving Water Saving Behaviour* theme describes how Defence will build an enabling culture that supports delivery of the Strategy.

The goals under this theme will develop Defence personnel's ability to recognise and correct situations that waste water and will ensure that efforts to improve water efficiency are acknowledged and rewarded. The goals will harness the collective knowledge and initiative of the Defence organisation by improving access to networks and knowledge sharing tools.

The six goals for *Driving Water Saving Behaviour* are detailed in Table 3-4.

Table 3-4: Driving Water Saving Behaviour

GOAL		DESCRIPTION
4-1	**Utilise Chain of Command to provide clear direction on imperative for water conservation**	Utilise relevant documentation (e.g. Commander's intent documents, base standing orders and/or environmental policy) to communicate drivers and requirement for efficient use of water.
4-2	**Establish a program to increase awareness of water consumption drivers and to communicate case studies across Defence**	Develop a comprehensive communications program, utilising existing publications and forums, to promote water conservation, provide information on best practice and communicate the benefits of saving water. In addition to these traditional channels of communication, new innovative approaches will be considered such as running water efficiency promotions at base theatres. Train Defence staff, contractors and consultants in water conservation. Consider new, innovative approaches along with existing training forums to build skills and general energy awareness. Introduce a pilot site to work with users and optimise water efficiency while meeting comfort and capability requirements. The findings from this program will be used to optimise the ESD, communications and training programs.
4-3	**Enhance knowledge sharing across Defence**	Enhance knowledge sharing across regions, Groups and Services by establishing regular conference calls for regional environmental officers (RESO/SEMs) and contractors, maintaining an intranet site and running an annual conference attended by the regional sustainability staff. Continue to look for innovative and efficient approaches to knowledge sharing. Work collaboratively with Industry partners, through forums such as the bi-annual Defence Industry Environment and Safety Forum (DIESF), to share knowledge and case studies of successful water initiatives.
4-4	**Develop and implement a compliance framework**	Monitor and enforce requirements of Base Services contracts to contribute to improved water use efficiency. Document the effectiveness of these requirements over time. Establish and implement a framework to ensure that the SMART Infrastructure Manual is being complied with.
4-5	**Recognise and reward water conservation**	Recognise individuals, facilities and teams in awards, communications or promotional materials.
4-6	**Capture ideas for water efficiency initiatives and improvements**	Establish a system that will allow Defence personnel, contractors and industry partners to submit ideas for water conservation.

The vehicle wash point at RAAF Base Amberley uses a recycled water system to conserve potable water.

Chapter 4

Delivering the Strategy

A Defence Estate Water Strategy Implementation Plan will be developed to guide the implementation of the Strategy. The Implementation Plan will define the tasks to be completed under each strategic goal, anticipated funding and resource requirements, responsibilities and timeframes.

At a high level, the responsibilities for implementation and governance of the Strategy are as follows:

- *Assistant Secretary Environment & Engineering (ASEE)*: has ultimate responsibility for oversight and implementation of the Strategy.
- *Head Defence Support Operations (HDSO)*: is responsible for regional implementation activities.
- *Head Infrastructure (HI) and Director General Capital Facilities and Infrastructure (DG CFI)*: have responsibility for implementation of new infrastructure initiatives.
- *Environment and Engineering Branch (EE)*: is responsible for monitoring, reporting and facilitating the implementation of the Strategy as a whole.

The Implementation Plan will define metrics to measure both progress in implementing the Strategy and to track water use performance across Defence. Estimates of cost, benefits and resource requirements will be provided to enable implementation activities to be prioritised.

Access to sufficient funding and resources will be essential to enable successful implementation of the Strategy. Funding or resource constraints may limit the number of goals that can be progressed. For this reason, funding sources and specific resourcing needs will be estimated in the Implementation Plan for each goal identified allowing total funding and resourcing requirements to be fully understood.

Monitoring and reporting of the Implementation Plan will occur annually, including the status of initiatives and costs and resource savings achieved.

It is anticipated that the implementation of this Strategy will be governed and monitored in conjunction with the Defence Energy Strategy as there are some goals and implementation activities that are common to both strategies.

Glossary

ASEE – Assistant Secretary Environment & Engineering

ADF – Australian Defence Force

CFI – Capital Facilities and Infrastructure

DEEERMS – Directorate of Energy Efficiency, Environmental Resource Management and Sustainability

DESP – Defence Environmental Strategic Plan 2010-2014

DEWP - Defence Estate Water Policy

DIESF – Defence Industry Environment and Safety Forum

EE – Environment and Engineering Branch

ESD – Ecologically Sustainable Development

HDSO – Head Defence Support Operations Branch

HI – Head of Infrastructure Division

DG CFI - Director General Capital Facilities Infrastructure

LIA – Live in Accommodation

LMP – Landscape Management Plan

NPOC – Net Personnel Operating Cost

POE – Post Occupancy Evaluation

RESO – Regional Environmental and Sustainable Officer

SEM – Senior Environmental Manager

SMARTI - Sustainable Measurable Adaptable Renewable Transferable Infrastructure Manual

WMP – Water Management Plan

WSUD – Water Sensitive Urban Design

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