

Community Water Conservation Program Guide

Power and Water Corporation



Prepared for the Power and Water Corporation, Remote Operations. This work was completed as part of the Community Water Planning initiative to improve water management on Indigenous communities.

This document has been developed through community consultations with residents of Ali Curung, and is intended as a guide to setting up a water conservation program at Ali Curung using local Indigenous people employed as water conservation officers ('Community Water Rangers'). This program has not yet been piloted and trials are anticipated to begin in 2011.

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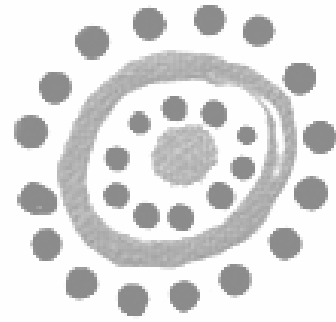
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Welcome to the Community Water Ranger Program Guide

Purpose of the guide

This guide has been developed for the agencies responsible for implementing and further developing a Community Water Ranger (CWR) program in the Northern Territory. The program is in its design phase, and hence this guide is a working document, and will be updated and improved by monitoring and evaluating pilot or pre-testing phases of the CWR program.

The guide contains guidance to CWR project managers on how to establish, support and operate a Community Water Ranger program, including (i) program objectives; (ii) approaches for achieving water savings; (iii) structure of the program, including governance, roles and responsibilities; (iv) methods to provide orientation, support and empower employees; (v) training; (vi) project management tools; (vii) monitoring and evaluation methods; and (viii) detailed instructions and tools for the activities (daily tasks) that CWRs would perform.



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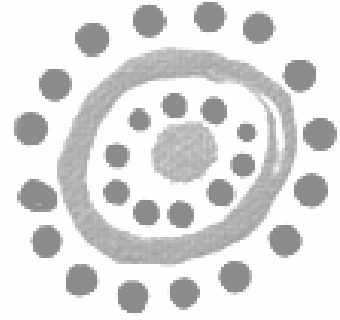
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Guiding vision

“Empowered local Aboriginal people employed and working actively within their community to raise awareness of water conservation, and create action to achieve measurable water and cost savings.”

Program objectives

- Increase local aboriginal residents’ sense of stewardship over potable water and motivation to act for water conservation
- Enhance relationships between residents of the Indigenous community and Power and Water staff
- Enable local aboriginal residents to gain culturally appropriate, highly valued, and supported employment in water conservation
- CWR employees develop a diligent work-ethic demonstrated through the quality and quantity of activities delivered
- Model an empowering approach to community service provision / resource management which could be scaled up or replicated
- Decrease annual gross water consumption in the community
- Reduce operational and maintenance costs of water supply by achieving savings equal to or greater than the investment in the CWR program
- Reduce water bills for the shire, school and other organisations operating within the community



Section One: Introduction

1.1 Detailed overview of CWR program

The Community Water Ranger (CWR) program targets water conservation by empowering and engaging local Aboriginal people to gain employment and take ownership of water use in the community. Activities undertaken by the Water Rangers will focus on domestic (residential) water use, non-residential (workplace) water use and water use in community spaces, such as ovals and parks.

Community Water Rangers will receive training and support to deliver a range of simple and effective activities to achieve water savings while raising the profile of water conservation within the community. Water auditing will form a main focus of CWR work. Audits have been designed and tailored for residential and non-residential buildings and community spaces. The audits will guide direct action taken by CWRs in repairing or upgrading water fixtures, and will also facilitate efficient reporting of more challenging problems (such as major leaks) to relevant authorities, so that they can be quickly addressed. CWRs will not be required to attempt to fix a problem that requires a licensed plumber.

CWRs will also undertake projects focusing on upgrades and maintenance of devices that use water in public spaces (e.g. irrigation systems and public drinking taps). This does not include bulk water supply infrastructure, which is the responsibility of the Essential Services Officer and Power and Water Corporation (PWC).

Finally, CWRs will carry out community awareness and education activities focused on engendering a culture of interest and care for water use, with the goal of creating positive behavioural changes with regard to how water is used and how maintenance problems with water (such as leaks) are managed.

A significant investment in capacity building and support is included to empower and enable Community Water Rangers to take on their challenging new roles. CWRs will be provided with practical training to build confidence and basic skills in plumbing, irrigation technologies, communication, and education. They will also receive training in the use of computers and other general job related needs (e.g. OH&S).

The program will also seek to engage with the community more broadly, to ensure that the program supports and is supported by other organisations, institutions, and cultural frameworks in the community. A *Water Conservation Business* group will be established to support the CWRs in their role. Included in the group will be traditional owners, who will work with the CWRs to ensure strong connections between the CWRs role and the cultural significance of water to Aboriginal people.

1.2 Methods for achieving water conservation outcomes

1.2.1 Water audits

Water audits will be conducted by CWRs for domestic (residential), workplace (non-residential) and community space water use. The audit is conducted to build a better understanding of how water is used, discover where wasteful practices or faults are present and identify where action needs to be taken to achieve water savings. An audit allows actions to be implemented based on the presence of a fault or maintenance issue or opportunity rather than on pre-determined assumptions of faults or bad practices. Evidence is gathered during the audit by talking to the resident/ workplace representative, making observations and taking measurements, results are recorded on an audit form (See appendix 1 & 2).

An information flyer will be delivered to the target household or workplace in person several days prior to the commencement of the audits. The CWR will take about 5-10 minutes to discuss a few items in the flyer preparing the resident for the upcoming audit. A follow up visit will also be made by the CWRs to go through the commitments made and discuss progress in following through with their commitments. This follow-up visit will provide further impetus to convert commitments into actions, and will also provide a way to qualitatively monitor change.

The involvement of a resident of the household or representative of the workplace being audited is also an important strategy to foster behavioural change. This is discussed in further detail below.

1.2.2 Retrofits and repairs

The CWRs will undertake training and develop skills in basic repair, maintenance and installations/changeovers to enable them to take immediate action on issues identified through water audits. The standard water audits will include changing and repairing taps, showerheads and other fixtures found to be leaking or in need of maintenance. Retrofitting old appliances and fixtures and replacing with modern water saving fixtures, such as showerheads, tap flow restrictors and outdoor irrigation systems will take place where appropriate. There will be an avenue to report faults that could not be repaired immediately and to make recommendations for larger upgrades. The water audit forms provide guidance to the CWRs in determining actions to be taken and recommendations to make. The findings on the form directly link to any further actions required. (See appendix 1 & 2)

1.2.3 Reporting

The water auditing process will provide streamlined reporting to ensure major leaks and repair requirements are rapidly identified and acted upon. Reports will be generated using

the water audit form and will be provided to the Shire Office (as the Shire holds the Housing Maintenance contract), where they will be prioritised and scheduled for works, or delegated to the responsible authority.

1.2.4 Behavioural change

The Community Water Ranger program aims to increase local Aboriginal residents' sense of stewardship over potable water and motivation to act for water conservation. Several tools will be strategically employed to achieve this outcome:

- Relevant behavioural prompts containing water conservation messages will be placed in close proximity to where the behaviour change needs to take place. For example, 'turn me off' prompts will be mounted next to taps that are observed or reported to be left on.
- 'Change agents,' – defined as persons identified by community members as being highly respected and influential, will be used in the design of behavioral prompts. For example, the captain of the local football team, a respected elder or an indigenous celebrity could be featured on the behavioural prompts (See Appendix 3)
- Selected residents or staff from participating organisations will be asked to make public commitments to act and promote action for water conservation in their home and/or workplace. The commitment will be made in writing (signing a commitment form) and a photograph of the nominated person will be displayed publicly (e.g. at the Shire office).
- As well as a public commitment the resident will be asked (as part of the public commitment) to sign a laminated commitment card that they can keep on their fridge to remind them of the public commitment they have made. The commitment card should list various action based water conservation ideas.
- The integrated approach of employing local indigenous Community Water Rangers, selecting local 'change agents,' employing 'commitment strategies,' and undertaking community education and awareness activities (see below), is designed to establish new behavioural norms in the community. For example, to establish a norm whereby it is seen as socially unacceptable to leave a tap running, or to ignore a major water leak.

1.2.5 Community education and awareness

Awareness raising will include communicating gross community water consumption levels to community members. The information will include a comparison between actual water consumption and an established target level for water conservation. Residential water meters are lacking in most communities and therefore residents currently do not have

access to consumption levels or the impact of any actions taken on said consumption levels. Weekly gross community water consumption will be communicated through a large adjustable sign erected at the Shire Office or some other prominent public space. See Activity 3, pp 44 for an example of what the design may look like. The sign will be updated by the CWRs using data provided by the Power and Water Essential Service Operator (ESO).

A further objective of education and awareness will be to raise the profile of water conservation and the role of Community Water Rangers. Activities will be highly flexible and allow CWR staff to be creative and make use of local resources. For example, awareness raising events could include writing and performing water conservation songs, film nights, or a poster competition involving the school children.

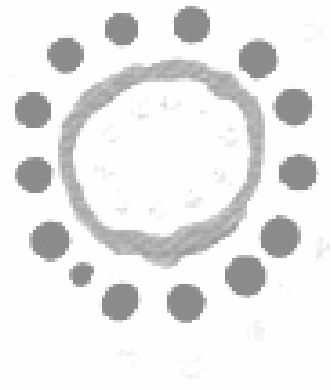
1.2.6 Small projects

The Community Water Rangers will participate in occasional small projects that result in increased water use efficiency for the community. It would be appropriate for small projects to be lead by the local organisation hosting the CWR program, which would provide mentoring, funding and guidance for the project. The CWR team would provide the labour. Example small projects could include:

- Installing or upgrading an efficient reticulation system in community spaces, e.g. parks or ovals
- Retrofitting taps with vandal-proof handles in public spaces
- Retrofitting water efficient bubblers at the school
- Assisting the ESO to carry out water supply related works

Small projects may require additional training, support or supervision to the CWR team from Power & Water or other supporting organisations.





Section two: Program Management

2.1 Governance, roles and responsibilities

2.1.1 Lead organisation (Power and Water Corporation)

Power and Water is the lead organisation that will provide the funding and overall coordination of the Community Water Ranger program. Power and Water will contract an organisation with a local presence and the capacity to manage and administer the day-to-day delivery of the program within the community. Power and Water will also coordinate training and capacity-building for Community Water Rangers, and monitor and evaluate the impact of the program against the overall objectives.

2.1.2 Management and administration; Host Organisation

An organisation or institution already established in the community will be contracted to provide management and administration for the CWR positions, this organisation will be referred to as the Host Organisation for the remainder of the report. . The host organisation's responsibilities would include; management of all HR and mentoring needs, including day-to-day supervision of the CWRs, payment of salaries and entitlements, and reporting requirements set out by Power and Water. The host organisation will be the contract managers of the CWR officers, and must be both locally based and cross culturally aware and sensitive.

2.1.3 Training and capacity building

Training and capacity building requirements will be tailored to the specific needs of the Community Water Rangers who are employed. Funding and support for training may be provided through the NT Department of Employment Education and Training. The flexible approach to training provides the option of accredited or non-accredited training, delivered at the workplace or remotely. For more details see Section 2.4 'training.'

2.1.4 Community Water Rangers

The CWRs should be Aboriginal people recruited from the local community. Both men and women should be encouraged to take up the roles of CWRs, and it may be appropriate to include people of different language groups depending on the cultural composition of the individual community. The CWRs will be responsible for implementing the day-to-day activities of the program (e.g. auditing, minor repairs and maintenance). CWRs will report to the management and administration agency contracted to host the program in the community (e.g. the Shire).

2.1.5 General maintenance of water infrastructure

The CWRs will undertake auditing and basic repairs and maintenance work. However tasks that are outside the capacity of the CWR to implement will be reported to the responsible organisation, currently the Shire.

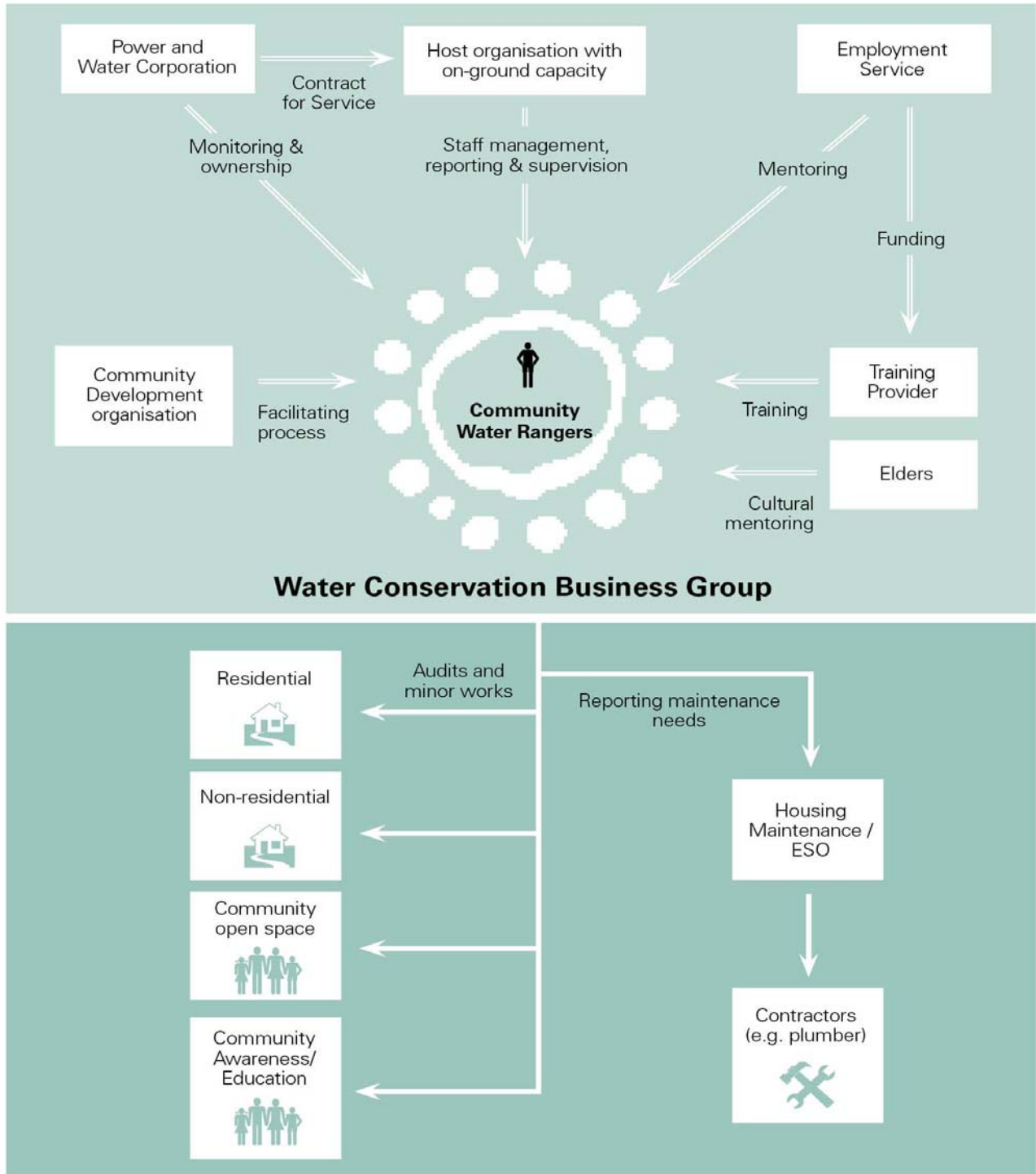
2.1.6 Cultural mentors

Cultural mentors will provide CWRs with support and assist to increase community recognition of the CWRs importance in connection with culture. The cultural mentors will be traditional owners and/or elders from the community who are the appropriate people to share information with the Community Water Rangers about water and its importance from a cultural perspective. The role of cultural mentors could be voluntary or paid (e.g. trips onto country could be supported).

2.1.7 'Water Conservation Business' Group

A reference group would be established to provide a mechanism for all stakeholders (see overleaf) involved in the CWR program to regularly communicate, learn from implementation, adapt and strengthen the program, and provide ongoing support and guidance to indigenous CWR staff.

The Diagram below illustrates the relationships between stakeholders and the Community Water Rangers, including the suggested makeup of the Water Conservation Business Group.



2.2 Employee orientation and support

Comprehensive job orientation and ongoing social and training support will be required to give employees the best opportunity to succeed in the position. Orientation and support will include:

- Education/ awareness raising to foster understanding of:
 - water supply system design and its function within the community
 - project design and purpose
- Employment induction and training
- Cultural orientation and mentoring and family orientation
- ‘Water Conservation Business’ Group meetings

Education/ awareness raising

The formal orientation to the program will cover program objectives and provide an introduction to community water supply issues and approaches to water conservation. The orientation aims to inform the CWRs regarding the entire water system in their community allowing CWRs to gain a better understanding of water supply issues in order to best convey the water conservation message to the community. CWRs will also be introduced to the basic theory underpinning the activities designed to achieve water savings.

Employment induction and training

The start-up phase of the program (after CWRs are recruited) is critical to the program’s success. Induction should include on-the-job training, where an employee or representative of Power and Water takes the CWRs through each aspect of the job. Induction should also include working with the community-based agency that will manage and administer the program on the community, to ensure supervision and reporting pathways are functioning. Further guidance on CWR training is detailed in Section 2.4

Family orientation

The opportunity for an employee to succeed and maintain a job as a Community Water Ranger will be increased if they have the support of family members who understand the role. The family members will be invited to an orientation meeting where they will receive information about the roles, responsibilities and importance of the role in the context of the community.

If appropriate, a senior family member should be nominated as a contact person to be contacted in the case of family or cultural business that may cause absence from work or interfere with the employee’s ability to carry out aspects of the job.

Water Conservation Business Group meetings

The Water Conservation Business Group (WCBG) will be facilitated by Power and Water and function as a reference group to support the Community Water Rangers, raise the profile of the program and water conservation more generally. Membership could consist of the Community Water Rangers and representatives from Power and Water, local organisation contracted for project implementation and traditional owners / elders involved in cultural mentoring.

The Group should develop its own terms of reference and work towards taking a high level of 'ownership' of the program. The involvement of the group will help to maintain 'corporate knowledge' of the role in the community, which is particularly important because of high employee mobility in organisations that would likely manage implementation of the program.

2.3 Employee identity and empowerment

Working provides people with far more than an opportunity to earn an income. It also provides people with a role in the community and may add to their feelings of purpose, self-identity and self-worth. Endorsement of the role by certain key individuals within the community will also influence how the role is perceived within the community and the subsequent success it has. In turn this also effects how the other community members view the individuals who take on these roles. It is important that employees, and the broader community, see the role of Community Water Ranger as being relevant and worthy of respect. Employees who receive respect and support from the community will be more likely to commit to the position and perform well. A key ingredient to foster respect for the position of Community Water Ranger is its relevance to traditional culture.

Cultural orientation and mentoring

Recognition of links between water conservation and traditional culture will increase the likelihood of the program succeeding, give increased status to the role, and help retain employees. Traditional owners, custodians and elders should be approached and asked if they would be able to provide cultural mentoring to the Community Water Rangers regarding the importance and role of water in traditional culture. This involvement in the project will also reflect their endorsement of the project and its goals within general community life and structures.

Cultural orientation activities could include trips 'on-country' to discuss water and visit places of significance. Participation in cultural mentoring will only proceed where culturally appropriate and may differ for male and female participants. Ideally, the CWR team should meet regularly with cultural mentors (e.g. bi-monthly) to maintain a relationship and

connection between cultural aspects of water and water in the community. Meetings would be an opportunity to discuss program progress, challenges, opportunities and cultural issues.

Payment for cultural mentoring should be consistent with Power and Water's approved approach. This approach aims to be considerate and respectful of the passing-on of traditional knowledge that is owned by the land-owner and custodians from that community. Power and Water values and respects all input given by land-owners, custodians and community members and as such this will be reflected in payment.

Uniforms & logo

A uniform should be provided to the Community Water Rangers to increase their profile in the community, and cultivate their personal sense of identity with the role. The uniform should also be practical, increasing safety (e.g. boots), and ensuring that employees have a uniform to wear to work each day.

The logo is all about building the profile of Community Water Rangers. It is recommended that the logo be designed locally with participation of the CWRs, and involvement with other groups in the community (e.g. the school or community arts centre). This will further promote ownership of the logo and the CWR program.

2.4 Training

Training must be provided to the Community Water Rangers to provide them with the capacity to undertake their job. Training will include specific skills training, general job readiness training (including HR and OH&S), in addition the program must allow for flexibility in order to respond to ad-hoc additional training needs.

Specific skills training will be tailored to tasks that are required, such as performing audits, minor plumbing repairs and installing devices (such as tap timers). Further training should focus on general skills that improve job readiness, safety and performance, such as first aid, OH&S, computer use and driving. Training should also include additional relevant skills and knowledge identified by the Community Water Rangers. For example, if CWRs decide that it is necessary to install or upgrade a park irrigation system, training specific to this task should be sought.

The 'non-formal' training approach allows the participants to have a central role in identifying what they want to learn; training would then be developed to respond to the participant's needs and interests. The approach seeks to make training highly relevant and provides an ideal environment to engage adults in gaining knowledge and skills that

can be applied in their local situation. This highly adaptive approach also provides the flexibility to use a local person to train, and frees the program from necessarily needing formal registered training that a formal curriculum-based approach would more likely require.

2.4.1 Training providers

Training may be accredited or non-accredited, and therefore provided through Registered Training Organisations (RTOs) and/or organisations or individuals who are not RTOs. This flexible approach to training is recommended so that local opportunities and resources can be used where available. For example, a local contract plumber may be able to train the CWRs in basic plumbing skills.

Registered training organisations that may be able to provide relevant training in the Northern Territory include the following (listed by the Major Industries Training Advisory Council (MITAC 2010) as providing Construction, Plumbing & Services Integrated Framework Training Package or a Water Training Package):

- Top End Training
- Northern Territory Christian Schools
- IS Australia
- Eagle Training Services NT
- Batchelor Institute of Indigenous Tertiary Education
- Charles Darwin University
- Advanced Training International

2.4.2 Training funds

There are a variety of opportunities for Power & Water to fund training or to make training accessible for the Community Water Rangers. The following additional or alternative funds for training exist, including:

- Federal Government Department of Education, Employment and Workplace Relations' Work Experience Subsidy
- NT Department of Employment Education and Training (Flexible Response Fund)
- Funding through indigenous employment services (e.g. Julalikari Remote Employment Services (JRES), or Aboriginal Employment Strategy (AES))

2.5 Task and skills inventory

The task inventory identifies training that may be provided to Community Water Rangers enabling them to undertake the tasks associated within their work. The inventory also identifies more complex skills and knowledge, which could only be undertaken by a fully trained and qualified professional. The more complex tasks include those that would be reported by Community Water Rangers to the Shire office (housing maintenance contractors) to enable them to take the appropriate action.

Table 1: Training & skills inventory. Note: this list is not complete and should be reviewed and/or expanded

Task / skill	Can be undertaken by CWRs with basic training	Require advanced training and/or a professional to implement
Conduct water audit and record audit findings	✓	
Residential first visit/ flyer drop	✓	
Residential audit follow up visit	✓	
Measure flow rates	✓	
Repair taps (washers, re-seating etc)	✓	
Repair/adjust leaking cisterns	✓	
Note blocked pipes and or drains (e.g. toilet blockage)	✗	✓
Adjust evaporative air-conditioner bleed rate	✓	
Clean scale from evaporative air-conditioner pads	✓	
Service / repair evaporative air-conditioner on roof	✗	✓
Drill drainage holes in wheelie bin (to avoid water play and drowning risk)	✓	
Install tap timer	✓	
Install reticulation system	✓	
Recommend watering regimes	✓	
Repair leaking water supply pipes or other problems with water supply infrastructure	✗	✓ (Report to ESO)

Use of digital camera	✓	
Basic computer use (e.g. data entry & printing)	✓	
Installation of showerheads and flow restrictors	✓	

2.6 Tools for managing the Community Water Ranger program

The following tools have been provided to guide management of employees and tasks for a Community Water Ranger program:

1. Job description. This may be used or adapted for recruitment and human resource management purposes (See appendix 4)
2. Sample work-plans (weekly and daily). These may be used or adapted to guide CWRs in organising day-to-day tasks (See appendix 5)
3. Proposed system from monitoring delivery of work outputs. This could be used or adapted to monitor progress of the CWR program, and could form part of a contract between Power and Water and host organisation. (See appendix 6)



Section three: Monitoring and evaluation

3.1 Monitoring deliverables (outputs)

A contract between Power and Water, and the host organisation will contain program objectives and 'deliverables' (outputs). The objectives can be periodically monitored and assessed. The deliverables can be monitored on an ongoing basis using a simple reporting system. This is an important step to ensure accountability in program delivery, but also to ensure deliverables are realistic and the program is adequately supported and resourced. Three monitoring activities are proposed:

Monitoring using work plans

The CWR supervisor should keep copies of the completed daily work plans and use them to record progress in the '*Number completed (progressive)*' column on the six month work-plan. The six-month work plan can be submitted as a report according to the contracting organisations (Power and Water) requirements e.g. monthly.

Monitoring using audit sheets

The audit sheets will be printed in triplicate. One copy of the audit sheet is to be kept by the CWR supervisor for monitoring and evaluation. . The sheet provides a record of the residential, non residential, and community space audits, it reports on all findings including works done, recommended and reported (see annex 1 & 2) The supervisor should keep a tally of the number and types of actions completed. Copies of the audit sheets (or a summary of them) can be submitted as a report according to the contracting organisations (Power and Water) requirements e.g. monthly.

Open communication

Power and Water should communicate regularly and directly with all stakeholders involved in program management and delivery. Progress should be discussed openly, without bias, or fear of honesty, on the basis of trust. Objectives, outputs, training plans, etc. should be modified accordingly.

3.2 Evaluation

Evaluation of the CWR program should take place annually and will provide the means to assess program impact against the stated objectives both qualitatively and quantitatively. It will also assess impact that may have occurred outside the scope of the stated objectives, both positive and negative. These aspects of evaluation will assist Power and Water to determine the efficiency and effectiveness of the program.

A further and equally important purpose is to learn from the implementation of the program to identify ways to strengthen its design and improve its effectiveness.

Annual evaluation is proposed to take place through three stages:

1. Collect and analyse data required for quantitative evaluation
2. Undertake consultations required for qualitative evaluation
3. Conduct a workshop with Power and Water staff and stakeholders to review findings and recommend actions for future implementation

3.2.1 Quantitative impact evaluation

The goal of quantitative impact evaluation is to determine the impact of the Community Water Rangers project on key project objectives concerning the quantity of water consumed in the community.

Table 2: Quantitative evaluation matrix

Objective	Indicators of achievement	Means of verification (data requirements)
Decrease annual gross water consumption in the community	Gross water consumption reduced	Monthly and annual gross water production (pre-project) ¹
		Monthly and annual gross water production (post-project) ¹
Reduce operational and maintenance costs of water supply by achieving savings equal to or greater than the investment in the CWR program	Total water supply costs plus CWR program costs are less than the expected business as usual (BAU) water supply costs without the CWR project	Expected BAU water supply costs ²
		CWR program costs to Power and Water ³ (e.g. costs of CWR employment, program management training etc)
		Actual water supply costs 12 months after project inception
Reduce water consumption for the shire, school and other organisations operating within the community	Shire, school and other organisations have reduced water consumption	12 months of quarterly water usage data (through retail system) pre-project intervention ¹
		12 months of quarterly water usage data (through retail system) post-project intervention ¹
Enable local Aboriginal residents to gain culturally appropriate, highly valued, and supported employment in water conservation	Aboriginal residents gain employment and are retained in the CWR position	No. of aboriginal residents employed
		Duration of employment in months (staff retention)
CWR employees develop a diligent work-ethic demonstrated through the quality and quantity of activities delivered	CWRs meet targets (TBC) for quantity of actions and activities delivered	No. of audits conducted (residential, workplace & community)
		No. of minor repairs / retrofits completed
		No. of behavioural prompts installed
		No. of leak / maintenance reports provided
		No. of community education / awareness events conducted
		No. of projects completed

¹ Interpretation of findings should consider possible effects of climate variability between years, and fluctuating population in the community

² BAU costs may be calculated using historic water consumption data, however costs should reflect any changes or expected changes in electricity and water tariffs, maintenance costs or water treatment costs anticipated in the period for comparison

³ Should not include project design costs (e.g. this consultancy) that are incurred only once prior to project inception

3.2.2 Qualitative evaluation

Qualitative evaluation should combine an objective evaluation against the CWR program objectives, and an open inquiry into its effectiveness. The open inquiry allows evaluation to determine the impact of the program beyond its objectives to determine possible unintended impacts, such as (i) what did the program achieve beyond its objectives? and, (ii) what, if any, were the negative impacts of the program? Qualitative evaluation will be the most useful approach in identifying opportunities for strengthening the program.

Consultation approach

A consultative approach seeking engagement with Aboriginal community members, employees and stakeholders affected by the program will be used for qualitative evaluation. This approach, however, is not considered to be a 'participatory,' as stakeholders are not involved in evaluation design. A consultative approach requires fewer resources and time to implement and can provide very useful outcomes.

Consultation will be undertaken using key research questions framed to gain information about the follow aspects of the program:

- Effectiveness (did the activities achieve their intended objectives?)
- Design (were the activities implemented as designed? Should the design change?)
- Efficiency (was the program cost effective?)
- Impact, sustainability and change

Table 3: Qualitative evaluation matrix

Objective	Key research questions	Target audience
Effects of overall program (intended and non-intended)	<ul style="list-style-type: none"> • What (if anything) has changed as a result of the program? • Who has benefited from the program? How have they benefited? • What, if any, are the negative outcomes of the program? 	Community members, CWRs, WCBG members, program stakeholders
Increase local Aboriginal residents sense of stewardship over potable water and motivation to act for water conservation	<ul style="list-style-type: none"> • What were local Aboriginal residents' attitudes towards potable water before the program? • What, if anything, has changed regarding attitudes towards water? • If change has occurred, what aspects of the program have led to the change? • How could the program achieve changes more efficiently? • Who do you think benefited from changes? 	Community members, CWRs, WCBG members, program stakeholders
Enable local Aboriginal residents to gain culturally appropriate, highly valued, and supported employment in water conservation	<ul style="list-style-type: none"> • What do CWRs like and dislike about their job? • What do other Aboriginal and non-Aboriginal people think about the CWR role? • Who provides CWRs with support? How do they provide this support? • What could be done to make the CWR job more satisfying? • What would CWRs need to be better at their job? • What would influence CWRs to stay in their job for a long time? • Where their any weaknesses in the role and it implementation? • Where there any notable strengths in the role and it implementation? • Can the CWR make any recommendations for the future implementation of the program? 	CWRs, families, WCBG members, and community members
CWR employees develop a diligent work-ethic demonstrated through the quality and quantity of activities delivered	<ul style="list-style-type: none"> • What, if any, quality issues were observed with repairs or retrofits conducted by CWRs? • How could education and awareness raising activities be improved? • What additional training is required for CWRs? 	Host management / admin. organisation, CWRs, training providers
Enhanced relationships between residents of the Indigenous community and Power and Water staff	<ul style="list-style-type: none"> • How is the role of Power and Water perceived in the community? • What, if anything, has changed regarding community attitudes towards PWC since the commencement of the CWT program? • How could the program design change to improve relationships between the community and PWC? 	PWC staff, community members, CWRs, WCBG members

Continued...

Objective	Key research questions	Target audience
<p>Model an empowering approach to community service provision / resource management and community engagement which could be scaled up or replicated</p>	<ul style="list-style-type: none"> • What aspects of the CWR program are transferable to other communities? • What about the CWR program would need to change if it were to be relevant in another community? • What is required to support the growth of the program in the NT? • How could the program in this community support replication elsewhere? 	<p>PWC staff, WCBG members, shire representatives</p>
<p>Foster behavioural change to more efficiently use and manage water in the community</p>	<ul style="list-style-type: none"> • What are the barriers to behavioural change? • What behaviours have changed as a result of the program? • What behaviours have not changed? • What (if any) benefits have come about from behavioral change? • What (if any) negative changes have come about from behavioural change? • Have more or less leaks been reported by the community members themselves? 	<p>CWR, Shire maintenance staff and ESO</p>

Potential methods of consultative evaluation

Consultation can be carried out in a variety of different ways. Selection of tools should be made with consideration to minimising cultural or gender influenced barriers to participation, and empowering participants to provide unbiased critically considered feedback. The use of tools should also be guided by the key research questions (see table 3). The following simple techniques should be considered:

Semi-structured interviews:

Interview questions are developed prior to the interview using the key research questions as a guide (although they may be articulated differently). The interviewer is encouraged to ask additional questions to follow a line of conversation that is 'of interest,' however the interviewer should endeavor to keep to the pre-planned questions. Ideally one person should ask the questions, while a second person takes notes. Semi-structured interviews are usually conducted with one interviewee, but could be used to interview pairs or small groups.

Discussion partners:

This technique can be used to increase participation when working with a large group. After posing a question to the group (using the key research questions from table x as a guide), ask everyone to find a partner and discuss the question for a few minutes. Have people report on what they talked about.

Small focus groups:

Focus groups are made up of a small number of participants (e.g. 5 or 6) and are designed to encourage active participation and sharing of perspectives when considering a discussion topic or question. Potential barriers to participation, such as culture, gender or even personal attributes (e.g. introverted personalities) should be considered when choosing members of a group. The key research questions (see table 3) can be used to guide discussion. The findings recorded should include the consensus opinion of the group, or documentation of individual viewpoints if everyone does not hold the same view.

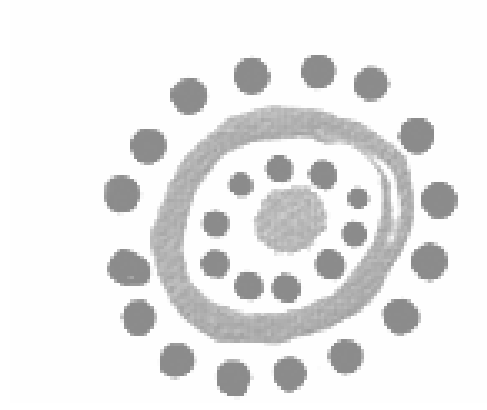
Written survey / questionnaire:

This technique is only suitable for use with program stakeholders who have a high level of English literacy. It may be used as a low cost way of seeking feedback from multiple stakeholders who are geographically distant (e.g. via email). The key research questions should guide preparation of the survey (see table 3).

3.3 Evaluation review / planning workshop

The purpose of an evaluation review and planning workshop is to ensure that the findings from evaluation are effectively communicated to stakeholders, and that lessons learned are used to make decisions about the program. It is not a productive exercise to simply write an evaluation report that is available to stakeholders; the findings must also be *accessible*.

The review should seek to engage decision makers and stakeholders (including those implementing the program such as CWRs) in interpreting evaluation findings. The findings may need to be presenting using creative media (i.e. not necessarily written report style) to enhance accessibility. Critical discussion of findings should lead to decisions that can be incorporated into future program plans.



Section four: Activity Guide

The following section provides a detailed description of the activities that would be undertaken by the Community Water Rangers in the course of their daily work. The following activities are included:

1. Residential / non- residential water audits
2. Community space water audits
3. Community projects
4. Education and awareness raising activities

Activity 1:

Residential or non-residential water audits

Audit objectives:

By undertaking residential or workplace water audits the Community Water Rangers hope to:

- Increase Aboriginal residents' awareness and interest in conserving water
- Increase Aboriginal residents' or employee's motivation and capacity to undertake simple behaviours and actions for water conservation
- Identify sources of residential or non residential water wastage
- Repair minor leaks and install/retrofit simple water saving devices
- Report major leaks or repair requirements

Activity summary:

The residential or non-residential audit will be carried out through a simple seven-step process:

Pre-audit visit:

1. Select target households or workplace and arrange for the audit to take place with the residents or staff present. At the time of this visit introduce a basic flyer which outlines some of the main content of the audit, the ideas and themes behind the reason to conserve water and how to do it. This visit should take up to 15 minutes so it is remembered by the resident or workplace.

At the time of the audit:

2. Explain the purpose of the audit to the residents or staff
3. Carry out the audit (ask questions, make observations and record findings) by following the residential or non-residential water audit form (see annex 1).
4. Take action (e.g. provide advice, make minor repairs, perform retrofits, report major problems, affix stickers etc) according to the audit findings and the instructions provided on the audit form
5. Seek a public commitment from an influential resident or staff member to improve and promote water efficient practices, leave a commitment card with them so it is front of mind, affix it to the fridge or some other prominent place.
6. Monitor and record audit findings and actions taken by filling out the audit form (to be used for reporting)

Post Audit:

7. Visit the residence or workplace one to two weeks after the audit to discuss the participant's progress in keeping with their commitments. Offer additional advice, note down results of conversation. This visit should take up to 15 minutes so it is remembered by the resident or workplace.

Materials needed:

- Introductory and informative 'conversation starter' flyer
- Residential or non-residential workplace water audit forms (see appendix 1): The audit forms will be produced in triplicate, with carbon paper to allow recording and reporting of findings, actions required and actions completed
- Measuring bucket & stopwatch: Used to record bleed rate of evaporative air conditioners
- Repair toolkit (containing tools and parts required for minor repairs of taps etc. found during the audit)
- Behavioural prompt stickers/tap tags: Mounted to prompt residents / staff members to take specific behaviours required based on audit findings
- Commitment forms and magnetic commitment card : Used to gain written commitment from resident / staff member to act for and promote water conservation
- Digital camera: used to photograph residents or staff to make public their commitment to act for and promote water conservation in the community

Detailed audit instructions:

Step one: The Community Water Ranger should select target households or workplaces and arrange visits. It is important that an audit is completed with the participation of one or more people who live in the house, or work at the location. If possible identify and involve the person who is the 'head of the household,' or manager, this is the person most likely to make the decisions about how water is used, and who may be able to influence the behaviour of other people who live or work in the property. A flyer should be used to start up the conversation and left behind to remind them of the upcoming visit.

Note: If a suitable resident or staff member is not available to participate in the audit, then the CWR should postpone the audit. Audits should not be undertaken without the resident or staff members' involvement.

Step two: Explain the role of a Community Water Ranger and the purpose of the audit to the residents or staff member. The purpose includes the specific objectives listed above. However the audit also has a broader purpose in helping to make the community more

sustainable (reducing the costs of supplying water to everyone), and looking after water that has cultural significance to people.

The CWR should ask the resident or staff member if they have any questions about water, or if they have any particular problems with water supply. The CWR should attempt to answer the questions and examine any issues during the audit.

Step three: The CWR should undertake the audit with the resident or staff member present and work through each step of the residential water audit form (see appendix 1). The audit involves asking the resident or staff member questions about how water is used, and making direct observations and measurements.

- **Toilet:** Ask the resident or staff member if there are any problems with the toilet. Examine the toilet for leaks or damage. You can tell if a toilet cistern is leaking by listening for a slight hissing sound (the toilet constantly refilling), or by observing if there is water running down the back of the bowl. You can also tell if the cistern is leaking by adding a few drops of food dye in the cistern. Come back to the toilet at the end of the audit (20-30min), if there is coloured water in the bowl (when no one has flushed) then the cistern is leaking. *Record observations and take actions according to the audit form.*
- **Shower:** Ask the resident or staff member if there are any problems with the shower or how it is used. Do the members of the household or employees turn the tap off completely after use? Examine the shower rose (nozzle) and taps for leaks and damage. Turn the shower on and see if the taps can be turned off easily. Measure flow rate using a bucket and timer. The bucket should fill less than 9 litres in one minute, if the flow rate is greater than this, change over the showerhead to new water efficient one. *Record observations and take actions according to the audit form.*
- **Taps (indoor and outdoor):** Ask the resident or staff member if there are any problems with the taps or how they are used. What are the taps used for? Do the members of the household or employees turn the taps off completely after use? Examine each tap for leaks and/or damage. Turn taps on and see how easily they

The following process is a useful guide to examining each appliance or water use:

Ask the resident: Do you have any issues here? Do you have any leaks? What has happened?

Observe: Check for indications of a problem (e.g. leaks)

Measure: Use the equipment to measure water use where required

Discuss: Ask the resident what they think about the problem and the solution (action) you are recommending

Act: Take actions with the assistance and permission of the resident

can be turned off again. Measure the flow rate, depending on flow rates and what tap it is, install flow restrictors. The most common tap to have a flow restrictor is the bathroom sink. *Record observations and take actions according to the audit form.*

- Evaporative air conditioner (swampy): Ask the resident or staff member about when the air conditioner is switched on. Is it switched off when no one is in the building? Are doors and windows closed when it is on? (Note: for evaporative coolers to work effectively, some windows should be left slightly ajar). Ask the resident or staff member if there are any problems, such as leaks, with the air conditioner. Turn on the air conditioner and examine for leaks and/or damage. Measure the bleed rate of the air conditioner by placing the measuring bucket under the bleed and timing how long it takes to fill. Ideally it should take 15 minutes to fill up to 2.5 litres. *Record answers and observations and take actions according to the audit form.*
- Swimming pool / water play: Ask the resident if children or adults in the household engage in 'water play.' How do they use water for play? Are there any problems or issues with water play? *Record answers and observations and take actions according to the audit form.*
- Gardening or lawn watering: Ask the resident or staff member if gardens or lawn are watered? Find out who does the watering, and if possible include them in the discussion. Ask how watering is carried out including how often watering occurs (frequency) and for how much time (duration), record answers on the audit form. Make recommendations about watering schedules by referring to the *Waterwise Action in Central Australia*⁴ booklet (watering schedule pp 26 -27). *Take actions according to the audit form.*
- Leaking pipes: Many communities have ageing water supply pipes that may develop leaks. Most of these pipes are underground, and therefore leaks may escape notice for long periods of time. In dry country, the presence of a leaking pipe is usually indicated by an unusual growth of plants (e.g. lush green grass) around the leak site. In some cases the leak may occur at or near the surface, and water runoff may be visible. *Record observations and take actions according to the audit form.*
- Other: Ask questions and/or make observations about other water use. Do the residents use water in any other way? How much, how long and why? (E.g. do they

⁴ Desert Smart COOLMOB & Power & Water Corporation (2010), *Waterwise Action in Central Australia* Alice Springs, Northern Territory

wash cars, suppress dust, water down driveways or roads, leave taps on for animals?)

The audit form should be completed with the involvement of the resident or staff member. It is not a secret document or report to be filled out and taken away. The audit is more likely to have impact if the resident or staff member agrees and participates in the actions suggested.

Step four: The CWT should use the audit results (on the form) under the heading 'actions to be taken,' to identify minor repairs to make, advice to give, stickers to put up and devices to install (e.g. tap timer). If the resident or staff member agrees, the stickers should be put up during the audit. Installations can also be made during the audit. Minor repairs (e.g. to taps or cisterns) can be made immediately after the audit, or on a return visit that should be scheduled at the audit (e.g. the next day).

Major repair requirements (or anything outside the capacity of the residents or CWR to do themselves), should be reported to the Shire Office using a copy of the audit form. The actions required by the Shire are highlighted in red.

COMMUNITY WATER LEADERS

These people have made a commitment to look after water, and make sure it is not wasted: *for a strong community and healthy country!*



Name...
Resident



Name...
Resident



Name...
Arts Centre



Name...
Resident



Name...
Health
worker



Name...
Resident



Name...
Policema
n



Name...
Resident



Name...
Shire
Office

Step five: The CWR should seek commitment from the resident (preferably the ‘head of household’) or the staff member (preferably a manager) to take responsibility for water conservation in the household or workplace. Explain that this means reporting leaks or damage to the CWR team or Shire Office, and promoting water efficient behaviours (such as turning off taps, and turning off the air conditioner when no one is in the house).

Ask the resident or staff member if they will agree to take on this responsibility and sign a commitment form to acknowledge this. Also, ask if the resident or staff member is willing to have their commitment made public on the Shire notice board. If they agree, take a digital photograph of the person to be displayed along with other residents on the shire notice board as ‘community water leaders.’ *See example above.*

A commitment card with individual commitment items should be left with the participant. This will elect the behaviours the participants are committing to.

Step six: Monitor and report on audit findings and actions taken by using the audit form. The actions required should be recorded by ticking the boxes under the column heading 'Action to be taken.' Progress toward implementing the action should be recorded by signing in the final column when actions are completed.

The audit forms will be provided in triplicate (3 copies). One copy of the audit form should be provided to the Shire Office to report the actions that they are required to take. Another copy of the form should be kept by the CWR to guide actions taken by the CWR and to record progress. When actions are completed, a final copy should be provided to Power and Water to enable them to monitor impact of the CWR program.

Step 7: Revisit the household up to a week or two after the audit and/or works have been completed. Speak with the original participants of the audit and ask them about what they thought of the process, how the appliance changes are going and how their behaviour change commitments are going. Report general findings and document.

Activity 2:

Community space water audit

Audit objectives:

By undertaking community space water audits the Community Water Rangers hope to:

- Identify sites in the community commons where water is wasted (e.g. inefficient watering practices, or taps left on etc.)
- Identify water related infrastructure in the community commons that is leaking or requires repair
- Repair basic leaks and install simple water saving devices
- Report major leaks or repair requirements

Activity summary:

The community space water audit will be carried out through a simple six-step process:

1. Work with a representative of the Shire to identify the community spaces that will be audited (using a simple community mapping process).
2. Create an audit circuit to be walked or driven
3. Carry out the audit (make observations and record findings) by following the community space water audit form (see Annex 2)
4. Take actions (e.g. make minor repairs, report major problems, affix notices etc) according to the audit findings and the instructions provided on the audit form
5. Seek a public commitment from the relevant person/s from within the Shire (or relevant authority) to improve and promote water efficient practices
6. Monitor and record audit findings and actions taken by filling out the audit form (to be used for reporting)

Materials needed:

- Community space water audit forms: The audit forms will be produced in triplicate (3 copies) with carbon paper to allow recording and reporting of findings, actions required and actions completed
- Repair toolkit (containing tools and parts required for minor repairs of taps etc. found during the audit)
- Behavioural prompts: Mounted to prompt residents to take specific behaviours required based on audit findings
- Commitment forms: Used to gain written commitment from Shire staff to act for and promote water conservation

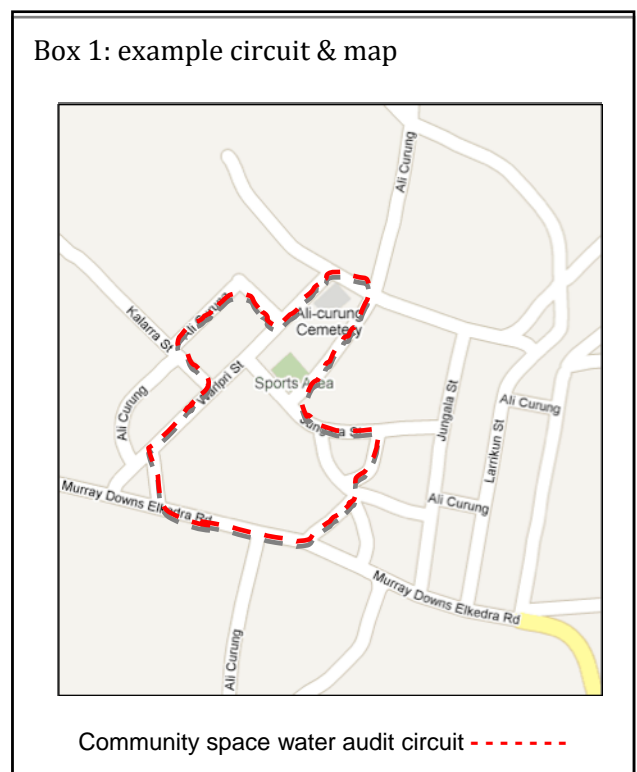
- Digital camera: used to photograph shire staff to make public their commitment to act for and promote water conservation in the community

Detailed audit instructions:

Step one: The Community Water Rangers should work with representatives from the Shire (and potentially Power and Water) to undertake a community mapping exercise. A map should be used to identify where pipes, irrigation systems, storage tanks, public toilets and taps etc. are located. Particular attention should be given to identifying where problems have occurred in the past or are likely to occur in the future (for example taps that are regularly left on or vandalised etc.). The important information should be marked on the map.

Step two: Using the map as a guide, develop a circuit that can be walked or driven to inspect places of significance to water use or conservation. For example the audit circuit may include the Council lawns, a park, and the football oval. If there are too many places of importance to audit it may be worthwhile developing two circuits that can be undertaken on alternate days. Mark the circuit/s on a map, which can be displayed in the office.

Step three: Carry out the audit. Using the map as a guide, drive or walk around the circuit and make direct observations of water infrastructure and how it is being used. If driving, the CWRs will need to get out of the vehicle at many of the locations to make closer inspections of hardware (for example a tap or public toilet). Use the community space audit form to record observations and locations.



- Public toilets: Examine toilets for leaks or damage. You can tell if a toilet cistern is leaking by listening for a slight hissing sound (the toilet constantly refilling), or by observing if there is water running down the back of the bowl. You can also tell if the cistern is leaking by adding a few drops of food dye in the cistern. Come back to the toilet at the end of the audit (20-30min), if there is colored water in the bowl (when no one has flushed) then the cistern is leaking. *Record observations and take actions according to the audit form.*

- Fire hydrants: Examine fire hydrants for leaks or damage. If possible determine if they have been turned on for reasons other than their intended use (e.g. by children). *Record observations and take actions according to the audit form.*
- Irrigation (e.g. poly pipe reticulation systems, or sprinklers attached to hoses): Examine the irrigation systems for leaks and damage. If possible determine how the irrigation systems are being used and if there is a more efficient way (for example watering times or better rotation of sprinklers). This may be achieved by asking the person responsible for watering (e.g. the Shire), or by making observations over time. *Record observations and take actions according to the audit form.*
- Leaking pipes: Many communities have ageing water supply pipes that may develop leaks. Most of these pipes are underground, and therefore leaks may escape notice for long periods of time. In dry country, the presence of a leaking pipe is usually indicated by an unusual growth of plants (e.g. lush green grass) around the leak site. In some cases the leak may occur at or near the surface, and water runoff may be visible. *Record observations and take actions according to the audit form.*
- Taps: Examine taps for leaks or damage. If possible determine if they have been turned on for reasons other than their intended use (e.g. by children). *Record observations and take actions according to the audit form.*

Step four: The CWR should use the audit results (on the form) under the heading ‘actions to be taken,’ to identify recommendations to provide to the Shire, minor repairs to make or devices to install (e.g. tap timer). Permission from the Shire should be sought prior to making any repairs or installations.

Major repair requirements (or anything outside the capacity of the residents or CWR to do themselves), should be reported to the Shire office or PWC using a copy of the audit form. The actions required by the Shire are highlighted in red.

Step five: The CWR should seek commitment from the relevant Shire staff to take responsibility for water conservation in community spaces. Explain that this means adopting good practice in watering parks and ovals, repairing leaks or damage promptly, and promoting water efficient behaviours (such as turning off taps etc) in the community.

Ask the Shire representative if they, or a group of staff, will agree to take on this responsibility and sign a commitment form to acknowledge this. Also, ask if the person or group of people is willing to have their commitment made public on the shire notice board.

If they agree, take a digital photograph of the person to be displayed along with other residents on the shire notice board as 'community water leaders.' See page 35 for an example of a community water leaders display for a public notice board.

Step six: Monitor and report on audit findings and actions taken by using the audit form. The actions required should be recorded by ticking the boxes under the column heading 'Action to be taken.' Progress toward implementing the action should be recorded by signing in the final column when actions are completed.

The audit forms will be provided in triplicate (3 copies). One copy of the audit form should be provided to the Shire Office to report the actions that they are required to take. Another copy of the form should be kept by the CWR to guide actions taken by the CWR and to record progress. When actions are completed, a final copy should be provided to Power and Water to enable them to monitor impact of the CWR program.



CWRs can use their local knowledge and maps to plan a community space water audit circuit

Activity 3:

Interactive Water Conservation Sign

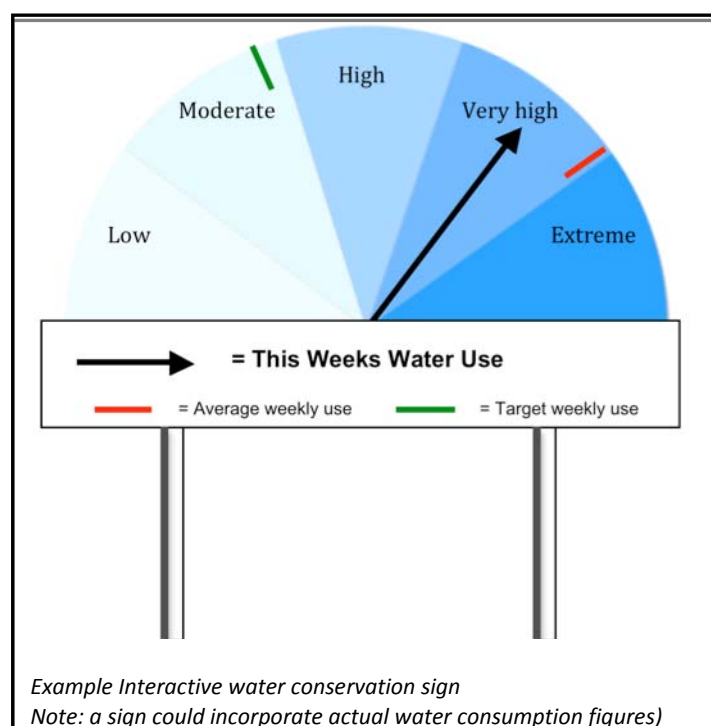
Objectives:

By regularly adjusting an 'interactive water conservation sign' the Community Water rangers hope to:

- Raise the profile of water conservation in the community
- Raise awareness about the 'historic rates' of water consumption, current rates of water consumption, and the water conservation targets
- Provide interested people with regular feedback regarding the impact of efforts to save water on overall water production at the whole of community scale
- Test a possible mechanism to communicate progress towards reaching an incentive based water conservation target on the community scale

Activity summary:

Power and Water will design and install an interactive sign to be located at a prominent, safe place in the community for example, at the Shire office or outside the shop. The sign will have an adjustable arrow that can be moved to show the current rates of water consumption, against the usual historic rates, and a water conservation target. The information should be presented in a way that is understandable and relevant to the community, which would most likely be pictorial.



The Community Water Rangers will be responsible for updating the sign (moving the arrow) on a weekly basis. The Essential Services Operator in the community will provide the data required to the CWRs.

The CWRs should also periodically promote or raise awareness about the sign at meetings (e.g. local Board meetings) or through media. This could be done to highlight when water consumption is unacceptably high, or to acknowledge and commend when community efforts have resulted in a low water use.

Materials / information needed:

1. Interactive water conservation sign (designed and produced by Power and Water in consultation with CWRs)
2. Weekly gross water consumption figures (supplied by ESO) in real terms.

Other community education and awareness raising activities

A flexible approach to education and awareness activities should be taken to allow Community Water Rangers to take ownership of their program. The focus of activities should make the most of a staff member's personal interests and strengths, in addition to maximising use of local resources and responding to local opportunities. Any activities undertaken should be delivered by the CWRs.

A number of examples of community education and awareness raising activities have been provided here, as ideas and inspiration for CWRs and program managers.

- Regularly speak about progress of the CWR program at the local Board meetings
- Conduct a school or community creative competition: Participants can write a water conservation song, write a play, make a movie. CWR should be key members of the judging panel.
- Create water conservation posters, or coordinate a poster making competition through the school and/or art centre
- Hold a community film night – where the CWRs speak about water conservation and then introduce a film about a related theme
- Present water conservation and related stories in local media (e.g. radio)
- Publicise water conservation achievements
- Hold a BBQ and awards night – awarding people from the community who have made special efforts to conserve water
- Take schools students or other community members on a water systems tour – telling them about water supply and conservation issues
- Teach students from the school how to do water audits (e.g. take a small number of students on each audit for work experience)

Activity 4:

Small practical projects

Objectives:

By undertaking small practical projects the Community Water Rangers hope to:

- Save water by addressing problems or issues concerning water use in public spaces or for whole of community benefit
- Install and/or modify water using infrastructure to improve efficiency (for example irrigation systems)
- Learn new practical skills

Activity summary:

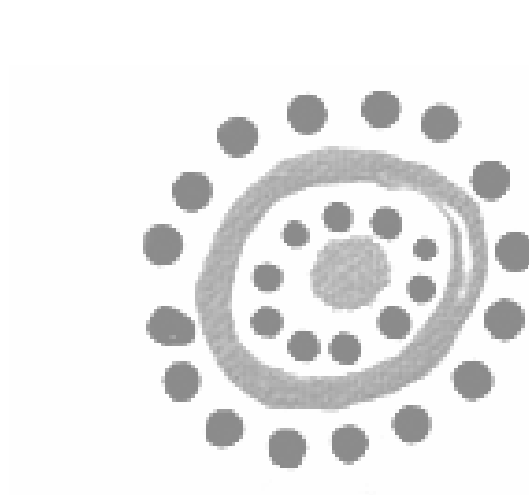
Small practical projects may include any project that has a hands-on component, leading to tangible improvements in water use efficiency, which is within the capacity of CWRs to implement (with support).

The small projects selected should be focused on solving water problems observed by the CWRs, and make the most of a staff member's personal interests and strengths.

Ideally, CWRs will be involved in selecting projects to implement. Alternatively the CWR team could be engaged by an organisation (e.g. the Shire or Territory Housing) to carry out works related to water use or efficiency. Additional training, resources and funding may be required to enable CWRs to carry out a small project.

Example small projects:

- Install a sub-surface irrigation system in a community park or garden
- Make repairs and upgrades to an existing irrigation system in a community park or garden
- Replace publically accessible taps with vandal proof taps
- Maintain bore fields, e.g. clean up vegetation or rubbish, and/or fix fencing,
- Retrofit all Shire buildings with water saving shower-heads (or other devices as appropriate)
- Drill holes near the bottom of all 'wheelie bins' to ensure they are not used for water play



Appendices











Appendix #1: Draft residential / workplace water audit form: (this page includes a concept for pictograms)

Water Audit Form (Residential or Workplace)


Location:..... Date:.....

Auditors Name(s):.....

Resident / employees name(s):.....

Item	Observation	✓ (Location)	Action to be taken (☑)	Sign when completed	
				CWR	Shire
	Good condition 		 Put up toilet sticker on rear of door <input type="checkbox"/>		
	Water leaking into cistern 		 Put up toilet sticker on rear of door <input type="checkbox"/>  Attempt to repair <input type="checkbox"/>  If unable to repair report to Shire Office <input type="checkbox"/>		
	Needs major repair 		 Put up toilet sticker on rear of door <input type="checkbox"/>  Report to shire office <input type="checkbox"/>		

Appendix #1: Draft residential / workplace water audit form: (pictograms would be included in a final version)

Item	Observation	✓ (Location)	Action to be taken (☑)	Sign when completed	
				CWR	Shire
Shower 	Good condition (always turned completely off after use)		No action required ☐		
	Good condition (sometimes not completely turned off)		Put up 'turn me off' shower sticker ☐		
	Leaking (cannot be turned completely off)		Attempt to repair ☐ Put up 'turn me off' shower sticker ☐ If unable to repair report to Shire Office ☐		
	Needs major repair		Put up 'turn me off' shower sticker ☐ Report to shire office ☐		
	Flow rate greater than 15 litres/min		Replace old showerhead for new water efficient showerhead ☐		

Appendix #1: Draft residential / workplace water audit form: (pictograms would be included in a final version)

Item	Observation	✓ (Location)	Action to be taken (☑)	Sign when completed	
				CWR	Shire
Indoor taps	Good condition (turned off)		No action required ☐		
	Good condition (not completely turned off)		Put up 'turn me off' tap sticker on nearby surface ☐		
	Leaking (cannot be turned completely off)		Attempt to repair ☐ If unable to repair report to Shire Office ☐ Put up 'turn me off' tap sticker on nearby surface ☐		
	Needs major repair		Report to Shire Office ☐ Put up 'turn me off' tap sticker on nearby surface ☐		
	Bathroom tap flow rate greater than 10L/min		Install flow restrictors ☐		
Evaporative air – con. (Swampy)	Left on when no-one is in the house		Put up 'turn me off when you leave the house sticker' nearby the switch ☐		
	Bleed running at or less than 10 l/hr (Test bucket not full after 15 mins.)		No action required ☐		
	Bleed running at more than 10 l/hr (Test bucket full or overflowing after 15 mins.)		Turn down bleed rate to approx. 10 l/hr ☐ Report to shire office if air con is roof mounted (do not climb roof) ☐		
	Pads have high levels of scale		Report to shire office ☐		
	Has major leak or needs major repair		Report to shire office ☐		

Appendix #1: Draft residential / workplace water audit form: (pictograms would be included in a final version)

Outdoors

Item	Observation	✓ (Location)	Action to be taken (☑)	Sign when completed	
				CWR	Shire
Outdoor taps	Good condition (turned off)		No action required ☐		
	Good condition (not completely turned off)		Hang 'turn me off' label from tap ☐		
	Leaking (cannot be turned completely off)		Attempt to repair ☐ If unable to repair report to Shire Office ☐ Hang 'turn me off' label from tap ☐		
	Needs major repair		Report to Shire Office ☐		
Swimming pool / water play	Children / residents use wheelie bin as a pool		Explain health and safety risks ☐ Drill holes in base of bin ☐ Recommend purchase of small portable pool ☐		
	Portable pool		Seek commitment from resident to only fill when necessary ☐		
	Play with taps		Seek residents commitment to prevent children from playing with taps, and/or ensure that they are turned off after play ☐		
	Play with fire hydrant		Seek residents commitment to prevent children vandalizing or turning on fire hydrants ☐ Report to shire ☐		

Appendix #1: Draft residential / workplace water audit form: (pictograms would be included in a final version)

Garden	Method of watering	How often? (Frequency)	How long? (Duration)	Action to be taken (☑)	Sign when completed (CWR)
	Garden / grass not watered			No action required <input type="checkbox"/>	
	Hand watering (e.g. hose)			If overwatering refer to garden watering schedule <input type="checkbox"/> Install trigger nozzle <input type="checkbox"/> Advise watering after dark <input type="checkbox"/>	
	Sprinkler			If overwatering refer to garden watering schedule <input type="checkbox"/> Install manual tap timer <input type="checkbox"/> Advise watering after dark <input type="checkbox"/>	

Appendix #2: Draft community space water audit form: (pictograms would be included in a final version)

Water Audit Form (Community Space)

Item	Observations	Location	Action to be taken (☑)	Sign when completed	
				CWR	Shire/ESO
Taps			No action required <input type="checkbox"/> Attempt to repair <input type="checkbox"/> Report to Shire Office <input type="checkbox"/>		
Fire hydrant			No action required <input type="checkbox"/> Report to shire <input type="checkbox"/>		
Major water supply leaks			No action required <input type="checkbox"/> Report to ESO <input type="checkbox"/>		
Other issues			Please describe:		

Appendix #2: Draft community space water audit form: (pictograms would be included in a final version)

Watering (community spaces)

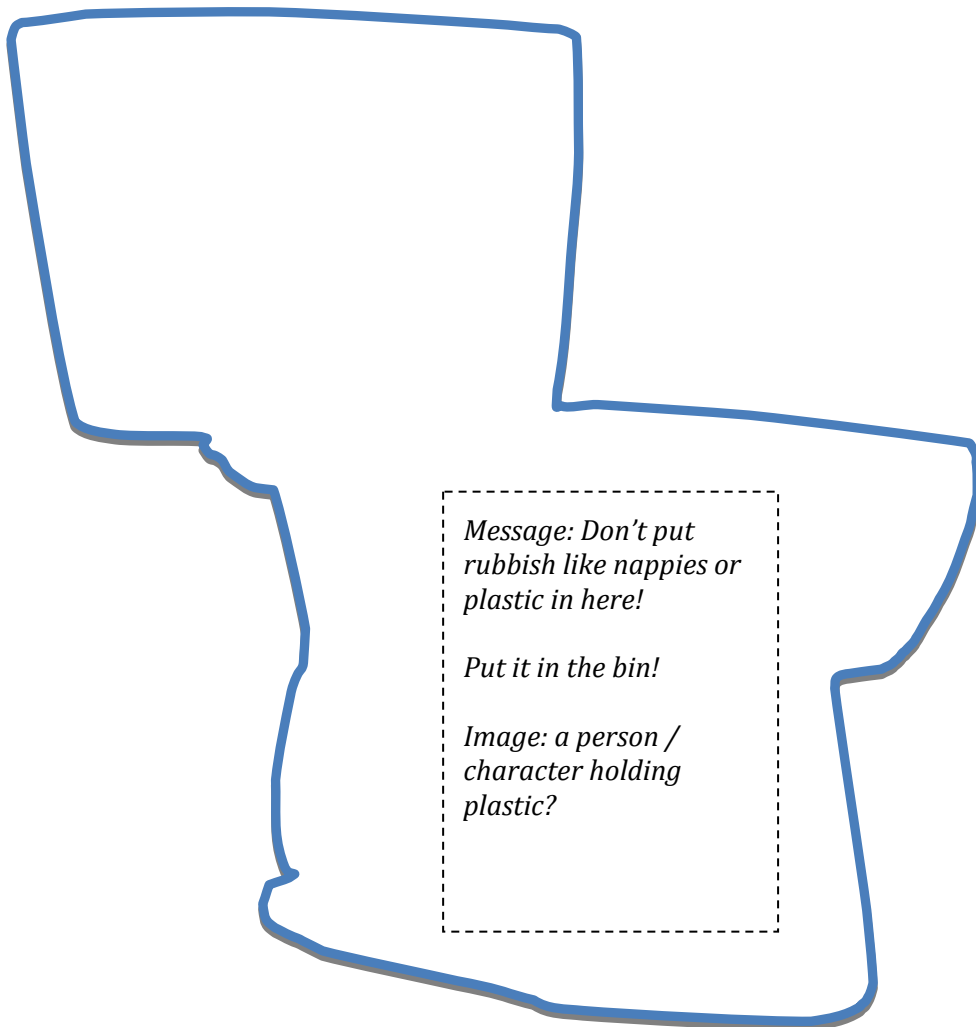
Location	Method of watering	How often? (Frequency)	How long? (Duration)	Action to be taken (☑)	Sign when completed (CWR)
1:	Sprinkler			Refer responsible person to watering schedule ☐ Turn off if required ☐ Install manual tap timer ☐	
	Irrigation system			Refer responsible person to watering schedule ☐ Turn off if required ☐	
2:	Sprinkler			Refer responsible person to watering schedule ☐ Turn off if required ☐ Install manual tap timer ☐	
	Irrigation system			Refer responsible person to watering schedule ☐ Turn off if required ☐	
3:	Sprinkler			Refer responsible person to watering schedule ☐ Turn off if required ☐ Install manual tap timer ☐	
	Irrigation system			Refer responsible person to watering schedule ☐ Turn off if required ☐	

Appendices #3: Example behavioural prompts (draft only)

Behavioural prompts

1. Toilet sign or sticker

The prompt could be shaped like a toilet, which would be affixed behind the toilet door



Appendices #3: Example behavioural prompts (draft only)

2. Shower / indoor tap sign or sticker

The prompt should feature a 'change agent' (respected and influential person) selected by the community



Annex #3: Example behavioural prompts (draft only)

3. **Outdoor tap tags**

The prompt should feature a 'change agent' (respected and influential person) selected by the community. Durable and UV resistant materials should be designed to allow the tag to be attached to outdoor taps (e.g. using zip ties).



Annex #4: Example Job Description

Job description

<u>Position Title:</u>	Community Water Ranger
<u>Responsible to :</u>	Manager – ‘Host organisation’ TBC
<u>Term of Position:</u>	TBC
<u>Remuneration:</u>	TBC
<u>Position Objective:</u>	To implement a program of community water conservation activities

Responsibilities

1. Perform residential and non-residential (workplace) water audits
2. Carry out minor repairs and installation of water fixtures (e.g. taps, shower heads)
3. Undertake ‘community space’ outdoor water audits
4. Implement education and awareness raising activities about water conservation in the community
5. Carry out small practical water conservation projects in community areas (e.g. irrigation upgrades)
6. Report major leaks and repair requirements to the Shire
7. Make daily reports of activities completed
8. Participate in training
9. Participate in ‘Community Water Business Group’ meetings
10. Participate in program evaluations

Candidate attributes

Work Organisation:	<ul style="list-style-type: none">• Able to follow daily work-plans• Able to effectively prioritise and organise daily duties• Accountable to work times and hours worked
Work Knowledge:	<ul style="list-style-type: none">• Ability to attend training and learn basic practical skills in plumbing, irrigation and reporting• Existing basic ‘handyman’ skills are an advantage
Work Experience:	<ul style="list-style-type: none">• Experience in undertaking regular paid or volunteer work
Team Work:	<ul style="list-style-type: none">• A willing, inclusive and respectful team player
Communication:	<ul style="list-style-type: none">• Basic ability to read and write in English
Problem Solving:	<ul style="list-style-type: none">• Can identify problems and seek solutions or assistance based on sound judgment
Interpersonal:	<ul style="list-style-type: none">• Able to work effectively in a cross-cultural environment
Other:	<ul style="list-style-type: none">• Must be an Aboriginal resident in the community

Personal Qualities

Openness to learning, takes initiative, highly motivated, accountable, and ability to work within a team.

Annex #5: Six-month Work Plan

Six-month work plan

The following provides an example six-month work plan. Ideally the work plan would be developed with participation of the Community Water Rangers team to provide ownership. However, the work plan will also be driven by the objectives of the program and the contract between Power and Water and the organisation within the community that is hosting the program.

Activity	Target outputs (Total number to be completed)	Completion rate (Approximate)	Number completed (progressive)
First residential visit - drop off of flyer	52	Two per week	
Residential water audits	52	Two per week	
Residential water audit follow up	52	Two per week	
Community space water audits	52	Once per week	
Workplace water audits	13	One per fortnight	
Adjust community water production sign	26	Once per week	
Education and awareness activity	2	One per quarter	
Small community project	1	One every six months	

Annex #6: Daily Work-plan

Daily work-plan

The following provides an example of a very simple daily work plan. Ideally the CWR team would be involved in determining the daily tasks, using the six monthly work plan as a guide. The supervisor (and Power & Water) can use the completed daily work plan to collect data to account for water conservation results, also to assist in monitoring the progress of individual employees.

Employee and/or team:.....

Date:.....

<p>Today's Work Plan</p> <ul style="list-style-type: none"> • Conduct first visit/flyer drop • Conduct residential water audit at house 6 on Main Rd. • Conduct water audit of police station • Conduct community space water audit 	<p>Priorities for completion</p> <ul style="list-style-type: none"> • Residential first visit/flyer drop • Residential water audit at house 6 on Main Rd. • Community space water audit
<p>Tasks completed</p> <ul style="list-style-type: none"> • Residential first visit/flyer drop • Residential water audit at house 6 on Main Rd. • Community space water audit 	<p>Tasks not completed</p> <ul style="list-style-type: none"> • Water audit of police station
<p>Reasons for non-completion of tasks</p> <p>There were a lot of things to repair at house 6, not enough time to do the police station audit today</p>	

TOTAL Hours Worked6.....

ADDITIONAL Hours Worked0.....

Signed (employee).....

Signed (manager)

Date:

