

DROUGHT ECONOMIC SECURITY

Basic Business Continuity Planning

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1 Aide Memoir: Basic Business Continuity Planning

This document aims to provide guidance on the development of:

- A water operational plan – supports improved water use practices under water rationing circumstances and
- A business continuity plan to help you ensure that your business can continue during and following water outages (for a short or longer period of time) that will likely disrupt your normal operations. Many businesses drew up such plans during the energy crisis in South Africa, which now need to be reworked for responding to the water crisis.

To support an effective water operational plan, you need to improve water use practices in the context of the changing climate in which your business needs to operate.

- As a first step, ensure you **understand your current water use** by **working out your needs** – actual minimum and maximum usage – what have you used in the past (use your municipal water bills if no other data is available). Do you have a peak period to cater for? If so, your planning will need to accommodate this peak requirement. Where is most of the water used in your operations and therefore where can the biggest demand reduction, be achieved? Undertake a basic audit of water usage as a useful first step (see Annexure A);
- **Understand the economic and business risks** you face so that you can develop strategies to counter the impacts of declining water availability, particularly in the face of climate change. This will help in managing the trade-offs necessary to achieve sustainable water security and improve your water resilience;
- **Understand the disaster management water rationing phases** and the implications which the organisation might need to operate under for specific timeframes;

- **Explore appropriate demand and supply management interventions** to improve water use practices and water source options;
- **Develop a business continuity plan** that focuses on how and which service delivery requirements of the business CAN and MUST continue when there is water rationing conditions. **Include scenario planning for disaster contingency;**
- **Initiate the establishment of fora (internal and external) for collective and joint planning and action.** Internal to your business, e.g. a Water Crisis Committee, to focus discussions and recommend top 3-5 interventions to execute. Also consider external collaboration and work with other businesses to build more resilient water planning and sustainable practices.

2 Understand Economic and Business risk

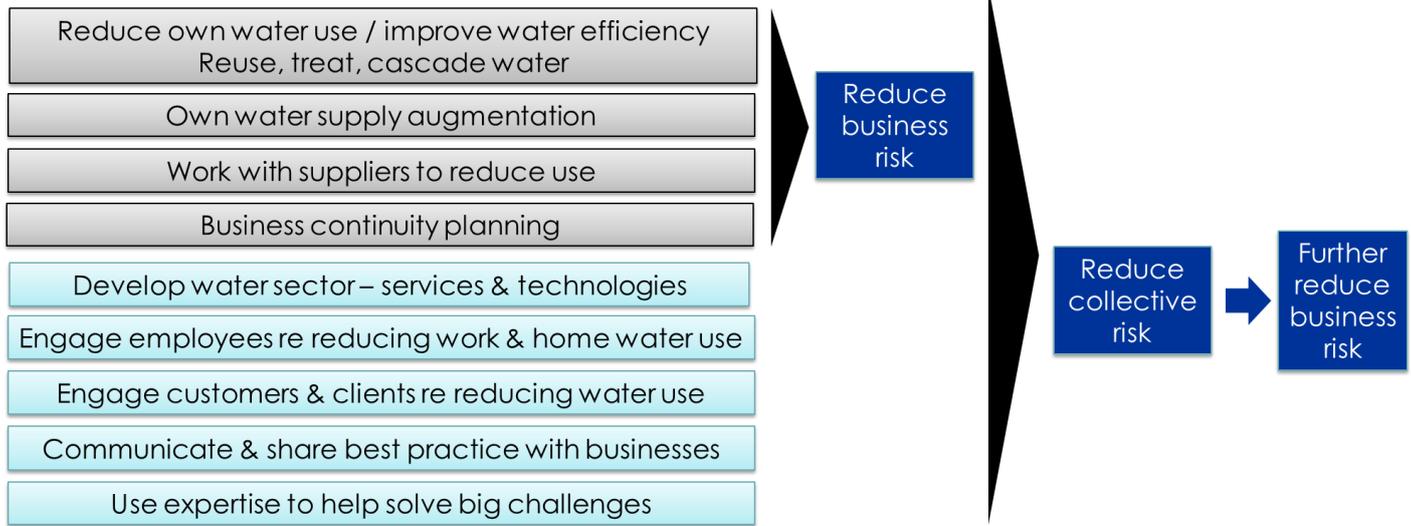
2.1 Potential economic impacts of a water crisis

Understand which of the impacts below may be applicable to your business and ensure that both your water operational plan and business continuity plan aim to avoid or minimise these impacts.



2.2 Role of businesses to reduce own & collective risk

Understand your value chain and impact of employees and explore what role you may be able to play in positively influencing all those in your value chain to reduce both business and collective risks. When developing your water operational plan and business continuity plan aim to use your expertise and channels of influence in the most positive way.



3 Current Drought terminology

3.1 Disaster phase descriptions

PHASE 1: PRESERVATION RESTRICTIONS

Scenario description:

A trigger point has been reached for which the safety and continuity of the region (city) requires significant daily water usage reduction in order to ensure enough supply to maintain life and basic services. Localised water outages are likely to occur in some high laying areas across the region (city) as a result of decreased water pressure in the water reticulation system.

Purpose:

- To prevent the water disaster escalating to Phase 2: Disaster Restriction
- To minimise the impact of the disaster on human life, dignity, property and the economy.
- To prevent daily water use from exceeding predefined limits
- To provide an operation protocol for dealing with localised water outages

PHASE 2: DAY ZERO

Scenario description

Residential reticulation will be severely reduced or cease, and the daily water use of the region (city) will be controlled through the distribution of water to residents through localised water collection points across the city. In this scenario, critical services, industrial and commercial nodes and vulnerable areas, where feasible, will remain connected to and able to draw from the reticulation system or access water through bulk supplies. Some of these areas may be cut off the reticulation system if the daily available volume of water reduces substantially.

Purpose:

- To prevent the Water Disaster escalating to Phase 3
- To minimise the impact on human life, dignity, property and the economy
- To prevent daily water use from exceeding predefined limits
- To provide an operational plan for dealing with widespread water outages
- To maintain critical services, businesses and lifeline water supply only

PHASE 3: EMERGENCY DISASTER MANAGEMENT**Scenario description**

Dam water storage in the WCWSS has been completely depleted and water needs to be trucked into the city.

Purpose:

- To minimise the impact on human life, dignity, property and the economy.
- To provide an operational plan for the systematic rationalisation of critical services and shutdown of non-critical services provided by the region (city)
- To maintain lifeline drinking supply only

The City or municipality would need to identify and communicate the trigger points at which we move from one phase of disaster management to the next. For example, the trigger point to move from phase 1 to 2 in the City is when the collective dam level of the Western Cape Water Supply System (i.e. the Berg River Catchment Management Area) reaches 13.5%. This would allow the City to have enough water to provide for the phase 2 plan. How long this phase lasts depends on the extent to which the City can keep collective consumption under 350 mega litres per day.

4 Water Operational Plan

NAME OF BUSINESS	
HEAD OFFICE LOCATION	
STAFF COMPLEMENT	
Office based	
Field based	
TOTAL	

Author:

Version:

Date:

Key contact in charge of water operational plan

Name:

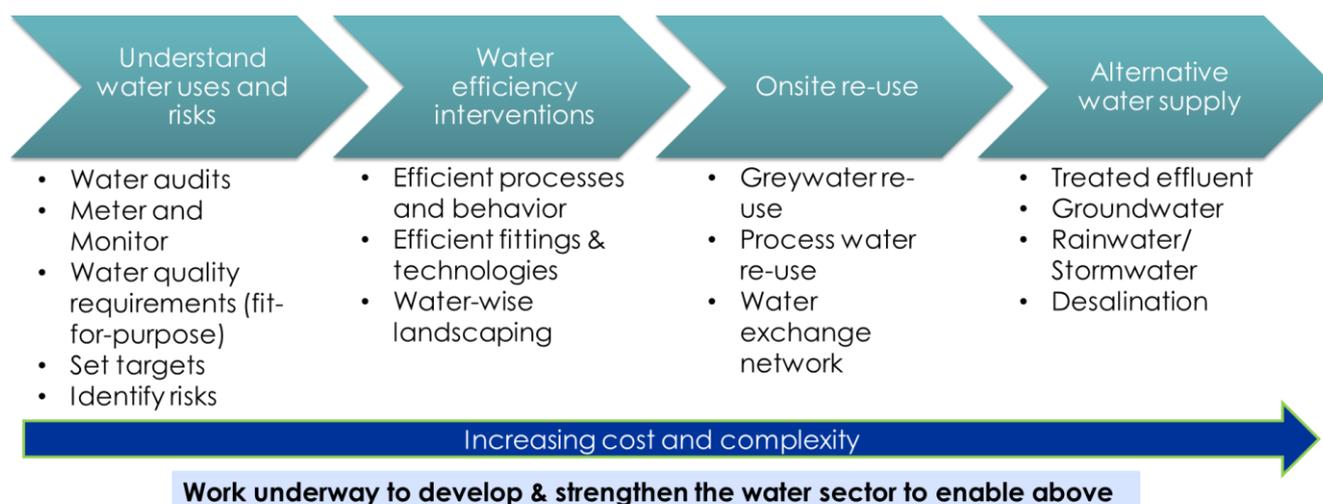
Designation:

Tel / Mobile no.:

E-mail:

4.1 What can businesses do to reduce economic risks?

Businesses need to work through a water management continuum to ensure that the most cost effective and relatively less complex interventions are tackled first, with more costly and complex interventions following as and when necessary. This is to ensure that the businesses is able to reduce its risk in the most time and cost effective manner.



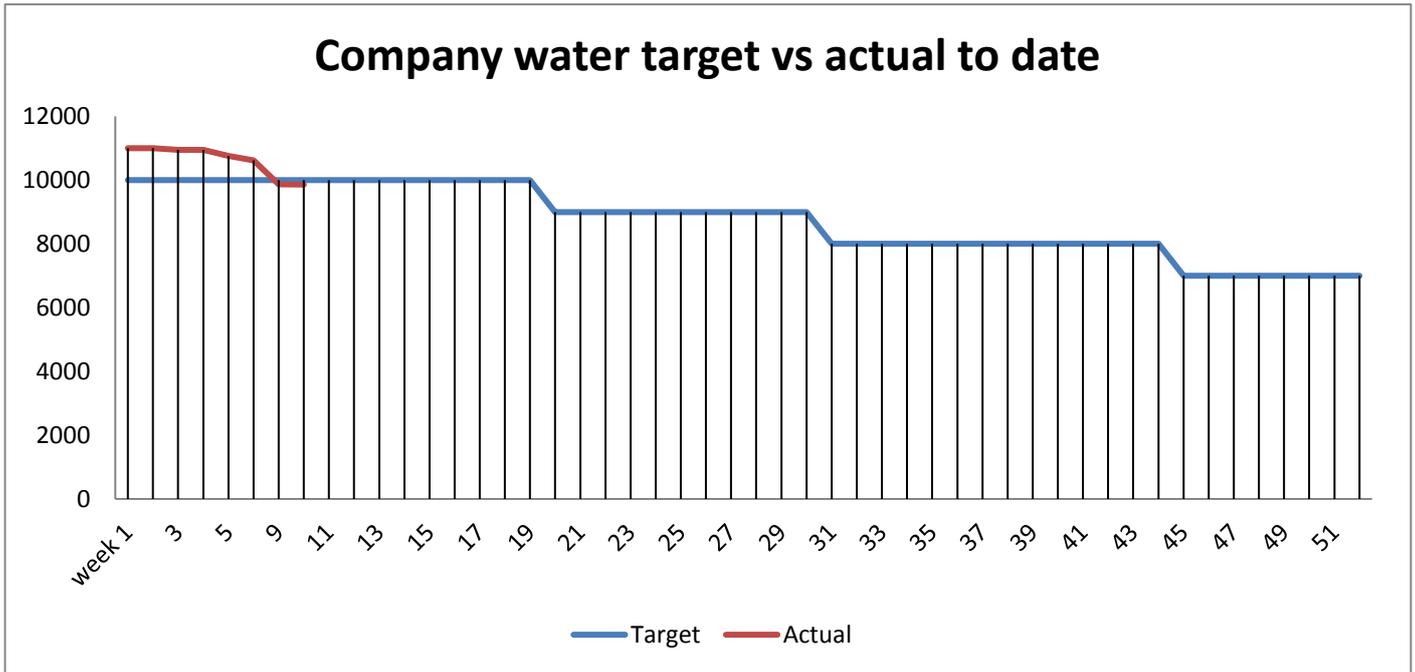
Water Management Continuum (Source: GreenCape, 2017)

4.2 Water Usage Tracking

Annual

Week-by-week water usage tracker

Year	Water usage target (litres)	Water usage actual (litres)	Cost to company	y-o-y variance (R+/-)	On target?
2013					
2014					
2015					
2016					
2017					
2018 (to date)					



It is critical to monitor night-flow as this may indicate whether there is leakage or unidentified usage.

4.3 Quick Water Audit Checklist

Facility Name Location		Date	
Completed by		Last checklist Date	
Responsible staff member/ Facilities manager			
How many taps are outside building/facilities?			
Are all taps secured to ensure no unauthorized usage		YES / NO If NO how many are unsecured?	

How many outside taps are leaking?	Number: Locations:	
How many taps inside the property/building/facility?		
What are the flow rates of each tap?		
How many do have aerators/flow restrictors fitted?	Number with: Number without: Uncertain:	
What type of taps are in the bathroom	Manual	Automatic
How many inside taps are leaking?	Number: Locations:	
Are there awareness signs or reminders to conserve water?	Yes	No
Is there any indication of how to report leaks?	Yes	No
How many toilets are on site?		
How many urinals are on site? What type? How much water is used by the urinal?		
What are the cistern sizes of each toilet (the amount of water flushed per flush)		
How many toilets are leaking?		
How many showers are on site?		
What is the flow rate of each shower head on site?		

How many showers are leaking?	Number:	
	Locations:	
How many kitchens are on site?		
What is water used for in each kitchen location		
Is the facility using grey water?	Yes	No
If yes, how much and from where?		
Is the facility using rain water harvesting?	Yes	No
If yes, how much and from where?		
If yes, For what purpose?		
Other than bathrooms and toilets what volume and source of water is used on site for cleaning		
Is water used in the production of your product/service?		
If yes, how much on average per item/per customer/per day?		
What is the metered consumption for this location/facility?		

4.4 Possible water demand interventions to consider

Reduce water consumption to as low as possible (while maintaining production)-reconsider your production processes? - is there a new or better way to deliver your product/service? Ensure close consideration of your big risk areas such as ablution and drinking facilities, air conditioning including cooling of data centres and fire suppression systems. The table below lists some possible interventions – add or edit these to best suit your business.

Intervention	Cost to company	Anticipated Litres saved/ augmented	Impact on business	Feasibility /trigger to implement
Smart metering and monitoring systems I				
Leak detection and repair				
Do not use any municipal drinking water for outdoor purposes (irrigation, cleaning etc.)				
Review & adjust water use across all processes to optimise water use. Which elements of the process can you switch off, use less water, collect and reuse water?				
Utilise appropriate waterless cleaning options and reduce the need for washing (such as using compostable plates, cups and stirrers) - these should be included in your organic waste stream so as to not increase pressure on landfills				
Water efficient bathroom fittings - invest in automatic shut off taps, install low flow aerators and restrictors on taps and showerheads				
Install toilets that either use chemical solution or use non-potable water (this requires dual reticulation if it is a permanent installation to make sure the drinking (potable) water and non-potable water don't mix				
Switch from a water-based cooling system to an air-based cooling system and/or adjust operating times and settings of HVAC, lower water pressure in buildings				
Reuse the water you use on-site				
Install storage tanks, explore rainwater harvesting from roof area				
Water re-use/grey water use on site - capture greywater and condensate for various uses such as toilet flushing. There are commercial products which will do this without needing to use buckets if you want to invest for the longer term.				

Direct re-use, - installation of onsite treatment of greywater, production wastewater recycling, spring or basement water (where available).				
Assess water cascading options within your business.				
Assess water cascading options between your business and other businesses.				
Communication campaign on water saving (educate your staff, clients and suppliers/supply chain)				
Have a special engagement with cleaning staff and identify realistic ways to reduce water use without compromising health and safety. This will need to be actively managed for the duration of the drought				
Help your employees to reduce their water consumption at home, i.e. running mini workshops with employees to understand bills, chat about what they can do to reduce water use				
Hand out cistern displacement devices to staff members for use at home and install them in the work place toilet cisterns. (Note: test the minimum liquid necessary to clear the toilet bowl before using water displacement materials)				

NOTE: kitchen sink water is black water because of the food and oils and should be put into the sewer; do not store it for use later

4.5 Possible augmentation interventions to consider

Once the business has managed to reduce its water use to as low as possible, you should also look to use alternative sources of water (augmentation). The table below lists some possible interventions – add or edit these to best suit your business.

Intervention	Cost to company	Anticipated Litres saved/ augmented	Impact on business	Feasibility /trigger to implement
What are you doing to store or capture more water? (E.g. rainwater harvesting (see Appendix A), capturing storm-water into on-site retention dams, using water pumped out of basements etc.). Note that basement water is regarded as waste water and so does not need a licence to be used.				
Condenser technologies that requires a unit (like an air-conditioning unit which can be sited anywhere with a supply of air) it draws in air, drops it to dew point and harvests the water into storage tanks. Depending on the scale and model the equipment may also treat the water and produce potable drinking water. This technology works best in coastal regions but does not require proximity to the sea. There are currently no authorisations required for use of this technology on your site however if you intend to sell it to others there are regulations and licences which apply need to be approved by the Local Municipality				
Use of onsite, back-up storage tanks to minimise the impact of interruptions and to provide for fire system needs (as required in municipal by-laws)				
Treating own effluent water for reuse (in manufacturing)				
Onsite reuse of wastewater – e.g. in restaurants ice machines can be run every 2 weeks, and then the ice is stored in the freezer; requesting staff to reuse unused crockery and glasses, dishwashers can be switched off and handwashing instead.				
Are you treating the stored or other water supplies in any way? (Unless you treat the water to a potable standard, you can only use it for non-potable water functions)				
Ensure that water reticulation is optimised or newly installed for dual reticulation of potable and non-potable water separately. These should never be allowed to mix as this				

is a health hazard and against local Municipal regulations				
Look to access groundwater (a water use license is required from the National Department of Water and Sanitation). Be careful as too many boreholes in an area or over-pumping a borehole can lead to low yields and contamination of the water. Groundwater is NOT an endless supply.				
Desalination or water treatment – any source of water can be treated for own use to potable standards given sufficient treatment. The treatment is often a form of chemical and/or manual processing to remove pollutants, pathogens and unwanted natural chemicals such as salts. Water can be treated to potable or non-potable standards. On-site desalination requires a direct seawater source and may require an Environmental Impact Assessment and heritage permitting as well as licenses from National Department of Environmental Affairs: Marine and Coastal Management both for the taking of seawater and the discharge of brine				
Discuss with your neighbouring companies/industries whether you can share infrastructure for water security. Depending on the use of the water and whether you are planning to use it on site or share/provide others with water from the above sources, there are local and sometimes national regulations and licences that apply.				
Buy in water from another source (food-grade tankers). Ensure that water is not purchased from a municipality that is also experiencing water shortages				

NOTE: be aware that the water must be taken from a legal source¹ which is licensed for the type of use you are buying or abstracting it for. In many instances, the owner is NOT allowed to sell the water, so ensure that the correct legal procedures have been followed. Check the quality before using it for potable purposes². Taking water from another area which is at risk of drought is strongly discouraged.

¹ How can I check my water is from a legal source? - <http://www.dwa.gov.za/Projects/WARMS/>

² How do I check the quality before using brought bulk water for potable purposes? <http://www.capetown.gov.za/Departments/Water%20and%20Sanitation%20Department>

5 Business Continuity Plan

Businesses are all encouraged to develop their own Business Continuity Plans (BCPs) for use in the event of severe restrictions (i.e. phase 2 and 3 scenarios). Focus on how and which service delivery requirements of the business CAN and MUST continue when there is constrained or no municipal water.

SERVICES			
#	Objectives	Action Plan	Person Responsible
1	Identify critical services rendered.	Understand at a high level which elements of your business will need to be kept operational (due to financial, legal, customer service or reputational impact)	
2	Prioritise the critical services to be rendered	<i>Note: You may have to downscale production or service temporarily</i>	
3	Employees have the appropriate technology to access their remotely	What is required to keep these aspects in operation?	
4	Identify critical time periods/cut-offs/ Service Level Agreements already in place for the organisation		
5	List services that cannot be delivered at all	<i>Note: You will need to notify service providers, staff and clients</i>	
6	Ensure you know who has the right to make specific decisions regarding staff and operations		
7	Prepare the operational arrangements for staff working from the office/ factory; staff working remotely; staff going to regional offices/factories which are not affected; and/or staff working from a disaster recovery site		
WATER DEMAND ACTIONS			
#	Objectives	Action Plan	Person Responsible
1	Ensure continuation of all water saving interventions		
2	Plan for minimum water demand to ensure that focus remains on what is critical or not		
3	What is your plan for emergency potable water supplies – i.e. for drinking? Ensure essential supply of drinking water for a period of 6 months		

4	Develop a schedule of how and when essential staff could access their water allocation at their local collection points or from the office/factory		
5	Actively engage and align daily action and monitoring with landlord /tenants		
7	Shut down certain water-intensive facilities		
8	Switch off air-con (where water cooled) for parts of the day if no windows can be opened or all the time if windows can be opened.		
9	Close your taps when they're not in use to prevent damage when the supply returns		
10	Shut off systems which depend on water flow as they could be damaged or cause fires if no water flows through them (e.g. solar water heaters, hydro boils, etc.)		
11	Check that your multi-storey building's water supply system (pumps and rooftop storage) is in working order and complies with the municipal by-law (by way of example, the City of Cape Town Water By-law (2010))		

STAFF

#	Objectives	Action Plan	Person Responsible
1	Identify key staff that will remain on site after Phase 2 (Day Zero)	<p>Determine the need for essential staff and non-essential staff required at the business premises. How many people can you supply for should the water mains be switched off (direct and sanitation use)? If the system cannot supply enough for all employees, have you mapped out which functions are critical and which functions can be performed at home?</p> <p><i>Note: These staff will have to supply their families with water using the Points of Distribution provided by the Municipality which may require standing in queues. To limit absenteeism- can you consider providing them with water on-site for them to take home</i></p>	

2	Identify staff that will work flexi hours or reduced hours	<i>Note: Labour processes need to be in place. Flexitime or reduced hours, reduced pay must be clearly communicated and negotiated with staff.</i>	
3	Identify staff that will work from home	<i>Note: As an employer, you are required to provide drinking water and sanitation for the "workplace" if you REQUIRE a staff member to work from home you need to enable their water security. Consider joint home offices, equipment requirements, IT Support Consider childcare needs should parents be required to work from home.</i>	
4	How would the functions of on-site staff and support staff be re-assigned		
5	Develop an emergency plan that can be activated, to include an evacuation plan for staff		
6	Put your emergency/ BCP team on standby.		
7	Ensure your staff know and understand the emergency plan		

HR MATTERS

#	Objectives	Action Plan	Person Responsible
1	How would work deliverables be managed for staff working away from the office?		
2	Mechanism or day/s whereby staff must report for HR purposes to be established		
3	Negotiate the necessary steps with your employees		
4	How will you continue to pay your staff during phase 2?		
5	Adjust staff policies and communicate new arrangements		
6	Consider staff financial assistance that may be required		
7	Consider staff that may no longer be able to continue normal tasks. (Re-assign tasks)		
8	Consider performance management within a disruption scenario		

RESOURCES			
#	Objectives	Action Plan	Person Responsible
1	How would resources (transport, telephones, IT connectivity) be provided and managed on-site and remotely?		
2	Could you be required to refund clients who have paid in advance-will this cause significant business hardship. Can you negotiate or find a financial institution to cover this?		
SAFETY CONSIDERATIONS			
#	Objectives	Action Plan	Person Responsible
1	How will you protect /disconnect processes/equipment which will fail without water flow? e.g. solar geysers and water boilers can overheat if there is no flow through		
2	How will your fire prevention system function without water or sufficient pressure? Ensure that you have sufficient water storage in place to provide for fire management (as required in the municipal by-law)	Ensure water security for fire safety - check that your fire extinguishers are in legal working condition. If possible, increase the number of fire extinguishers	
3	How will you protect your site/s should staff not be working normal hours?		
4	Can you renegotiate your insurance to ensure you are covered for the risks/impact of this disruption?	Check what your insurance covers under the disaster management environment	
5	Have you accounted for a potentially increased security threat if people know you have water provisions on-site?		
6	Ensure water security for medical first aid and assistance		
COMMUNICATION			
#	Objectives	Action Plan	Person Responsible
1	Have a communications plan which covers your staff, service providers and clients How will the plan be communicated to staff?		
2	How will communication be run with clients and stakeholders regarding disruption or closure of certain service delivery initiatives?		

3	How would you ensure that Reception is informed of the names of staff in office and staff working away?		
4	How do you contact your customer base to indicate status of business pre, during and post Day Zero?		
5	Identify key audiences and messages to each audience. Pre-draft messages.		
6	Determine appropriate channel to be used for communications within the disruption period. Will normal channels be effective?		
7	Perform regular staff awareness sessions		
8	How will you communicate your recovery phase to your staff, service providers and clients?	Update Business Contiguity Plan and distribute internally	
9	Engage your suppliers to check that they have done their own business continuity planning.		

DRINKING WATER AND SANITATION

#	Objectives	Action Plan	Person Responsible
1	How will you provide drinking water for on-site staff?	Store and provide access to bottled drinking water for staff and clients	
2	How will you provide sanitation for staff working on-site?	What is your plan for sanitation and basic hygiene? e.g. consider chemical toilets and close off access to the bathrooms and showers on higher floor levels, be sure to properly communicate where facilities are open	
3	How will you provide drinking water for off-site staff?		
4	How will you enable sanitation for staff off-site?		
5	Will you provide additional water for staff's households and if so how will you achieve this?		
6	Do not attempt to flush wet wipes and sanitary pads down toilets as these will cause unnecessary blockages		

FACILITIES MANAGEMENT			
#	Objectives	Action Plan	Person Responsible
1	Determine occupants needs – employees/ tenants etc.		
2	Working hours and conditions of cleaning and security service staff to be considered		
3	Improve security - plan for increased/different threats to normal operations		
4	To reduce cooling requirements, does your building have natural ventilation options?		
5	Provide alcohol-based hand sanitisers to prevent spread of disease for high traffic areas (e.g. fingerprint turn-styles), security search areas or decontamination zones		

GENERAL			
#	Objectives	Action Plan	Person Responsible
1	Undertake a test of the business continuity plan (BCP) as soon as possible to confirm readiness		
2	Update all staff contact details and "in case of emergency" contacts on BCP and staff systems		
3	Finance: Consider likely areas for emergency expenditure and identify situations, items and limits which would be applied.		
4	Understand the lead times on various activities (some items will not be available if left to the "last moment")		

SPECIFIC DIVISION: xxx			
#	Objectives	Action Plan	Person Responsible
1			
2			

SPECIFIC DIVISION: xxx			
#	Objectives	Action Plan	Person Responsible
1			
2			

SPECIFIC DIVISION: xxx			
#	Objectives	Action Plan	Person Responsible
1			
2			

Additional Notes:

Phase 2 & 3 scenario planning – Contingency plans

Scenario #	Scenarios	Impact on business	Steps that will need to be taken
1	We hit Day Zero, and despite interventions, substantial augmentation of supply by the business has not taken place.		
2	We hit Day Zero, but by then, we have augmented supply of x litres through y intervention		
3	We hit Day Zero, but by then we have augmented supply of xx litres through yy interventions		
4	We hit Day Zero, but by then we have augmented supply so that we use no municipal water		

Notes:

- Trigger points for certain scenarios should be agreed.
- What source of information or specific event would trigger a certain scenario being enacted?

- What immediate actions should be undertaken when specific triggers occur?
- Whose responsibility is it to undertake those actions?
- If that person is not available who becomes the nominated person?
- What would cause the actions to be escalated?
- Who would authorise escalation and associated expenditure?
- There may be critical trigger points for your business or staff which would cause a fundamental reaction from the company. What are those for you or your staff? e.g. schools closing will have a profound effect on employees who are parents
- How would your business and staff need to accommodate these significant factors?

See **Annexure B**: Preparedness & Contingency Plan Example

See **Annexure C** as an example of a BCP and Disaster Contingency Plan Management: Information and Monitoring template

Additional BCP templates may be accessed via the following links:

<https://publications.qld.gov.au/dataset/business-continuity-planning-template/resource/63f7d2dc-0f40-4abb-b75f-7e6acfeae8f3>

http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0ahUKEwji vt6xsMPZAhVBLMAKHVtdDzlQFgg9MAE&url=http%3A%2F%2Fwww.waterrf.org%2Fresources%2FLists%2FPublicProjectPapers%2FAttachments%2F6%2FBCP_Template.docx&usg=AOvVaw0leJq5v9jDafHgXUA5cc1Z

6 Collective or joint planning and action

To build more resilient water planning and sustainable practises, undertake joint planning and action.

Within your organisation

- Establish a Water Committee to focus efforts;
- Request volunteers from units wishing to join and nominate participants to specific sub-groups or work areas;
- Schedule regular meetings that report on specific activities or objectives;
- Hold monthly review sessions to assess progress or agree to alternative course of actions;
- Review the business continuity plan;
- Undertake all required preparations for Day Zero;
- Useful supply preparation - Send out lists of things that staff need to purchase in advance;
- Stay abreast of both local (neighbourhood) and regional (the municipal areas) developments;
- Source publicly available communication materials for staff education on sanitation and health. There is no need to create communication materials as there are many people doing this already. Source these materials from WWF, and others and send them to staff

Within your supply chain

- Contact your suppliers and distribution channel operators to see if they have business continuity plans;
- Establish how they are being affected by the water crisis and whether they have a contingency plan in the event of serious rationing (i.e. a Day Zero scenario).

- Ask them what they will do if their employees can't come to work because they are queueing for water, and whether they are able to continue to make deliveries, or take orders.
- Encourage them to institute water saving practices (which your internal committee may be able to help identify).
- Contact and work with other supply chain initiatives to share information and good practice.

External to your business environment (within your business neighbourhood)

- Contact local, neighbouring businesses to see if they have contingency plan in the event of serious rationing (i.e. a Day Zero scenario);
- Ask them what they will do if their employees can't come to work because they are queueing for water;
- Encourage businesses to institute water saving practices (which your internal committee may be able to help identify);
- Identify boreholes and well points in the area - the owners of boreholes and well points can be encouraged to share the groundwater by distributing some water to neighbourhood business as is legally required. If your business is able to access additional water, the water committee can work out a plan for the collection and distribution of this water;
- Contact and work with other local or business neighbourhood initiatives to share information and good practice.

7 Where can I get help?

- 110% Green website: <https://www.westerncape.gov.za/110green/> - Department of Economic Development and Tourism – Green Economy - Mr Lourencio Pick at Lourencio.Pick2@westerncape.gov.za
- Visit GreenCape's website: <http://www.greencape.co.za/content/focusarea/business-support> or contact water@green-cape.co.za
- Agricultural businesses refer to GreenAgri for tools and water-related research: <http://www.greenagri.org.za/>
- City of Cape Town Think Water <http://www.capetown.gov.za/Family%20and%20home/residential-utility-services/residential-water-and-sanitation-services/make-water-saving-a-way-of-life>
- National Cleaner Production Centre: water audits for industry - LRuiters@csir.co.za
- Water Research Commission support - Database of technologies - Dr Manjusha Sunil manjushas@wrc.org.za; Tel: 012 761 9300
- WWFSA Water Stewardship Programme <https://aws.wwfsa.org.za/aws/home/%20%20-www.allianceforwaterstewardship.org> and Wednesday Water File can engage with businesses to help them identify and understand their risks http://www.wwf.org.za/bucket_list.cfm
- National Business Initiative – Water Programme – Mr Alex McNamara email: AlexM@nbi.org.za
- Department of Water and Sanitation Water Use License Application <http://www.dwa.gov.za/WAR/licenceprocess.aspx>
- Department of Environmental Affairs: Marine and Coastal Management <https://www.environment.gov.za/documents/forms>
- City of Cape Town registration of groundwater <http://www.capetown.gov.za/City-Connect/Register/Water-and-sanitation/Register-a-borehole>

8 Annexure A: Rainwater harvesting potential in the Western Cape

Calculating rainwater harvesting potential³

To estimate the volume (V) of rainfall off your roof, you need to know the annual rainfall (R) in your area in millimetres, the roof surface area (A) (m²) and then multiply that with efficiency (e) of collection surface (generally taken as 0.9 for a sloping roof).

The formula is $Volume = Rainfall \times Area \times efficiency$.

Please note that this water would be considered untreated as it washes over the rooftop and gutters prior to being captured and therefore can only be used for uses suitable for "grey water" i.e. non-drinking purposes such as watering gardens, flushing of toilets etc.

Precipitation Range (per year)	Town	Rainwater Harvesting Potential (litres/year/m ²)
> 1000 mm	Ceres	37 130
	Grabouw	36 252
750 – 1000 mm	Knysna	33 516
	Paarl	32 828
	Vredendal	29 257
500 – 750 mm	George	26 035
	Stellenbosch	25 769
	Wellington	25 110
	Kleinmond	24 559
	Plettenberg Bay	23 263
	Somerset West	21 172
	Swellendam	18 902
	Caledon	18 864
	Cape Town	18 569
	Mossel Bay	18 176
	250 – 500 mm	Riversdale
Piketberg		16 992
Tulbagh		16 967
Bredasdorp		16 664
Hermanus		15 797
Malmesbury		13 745
Moorreesburg		13 730
Citrusdal		12 679
Yzerfontein		12 398
Ladismith		12 089
Robertson		12 082
Saldanha		11 502
Montagu		11 286
Uniondal		10 984
Worcester		10 181
Murraysburg		9 900

³ DEADP: Sustainable Human Settlement (April 2013)

	Barrydale	9 781
	De Doorns	9 670
	Beaufort West	9 396
< 250 mm	Oudtshoorn	8 701
	McGregor	8 489
	Touws River	8 179
	Calitzdorp	7 304
	Clanwilliam	6 397
	Prince Albert	6 185
	Lamberts Bay	5 490
	Vanrhynsdorp	5 418
	Laingsburg	4 198

9 Annexure B: Preparedness & Contingency Plan Example

Company Name

Department/ Branch

Compiled by:	Name
Authorised by:	Name
	Post Title
Version:	0.001 (Draft)

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Scope

- <Detail the extent and limitations of the subject covered by this document>

Reference Documentation

Applicable Documentation

- XXX or Not Applicable

Associated/Support Documentation

- XXX or Not Applicable

Definitions

Word	Statement Of Precise Meaning

Abbreviations

e.g.	Example
Etc.	Et cetera
Ltd	Limited
SA	South Africa
wrt	With regards to

Acronyms

Acronym	Word In Full
BCM	Business Continuity Management
CEO	Chief Executive Officer
WC	Western Cape (Provincial)

Management & coordination of any water shortage / supply failure

- Describe the process and procedure of who, when and where the management and co-ordination of Day Zero:

Who must be informed/ notified?

Roles and responsibilities of the management team and decision making.

Emergency Management Team structure (EMT)

Role Responsibility	Name	E-Mail Address	Office Number	Fax Number	Mobile Number

Notification and mobilisation of the EMT

- Describe the process and procedure of who, when and how the EMT will be engaged with.
- Who has the authority to Activate & De-Activate WC water shortage Crisis/Disaster

Triggering Events

- Describe the as guidelines for triggers to activate the plan.

Communication

- Describe the process and procedure of who, when and how internal/ external communication will take place within the Company.
 - i. Align with your Communication Policy

Pro-active creating awareness around saving water etc. internally

Ensure alignment of internal and external communication and communiques

Stick to the approved messages to ensure consistency in messaging.

Relevant and effective communication channels should be used to communicate the messages to the identified stakeholders.

Reporting of water shortage and assistance required

- All requests and enquiries should be communicated via the <identify the specific people within the Department /Branch> to:

Name	E-Mail Address	Office Number	Fax Number	Mobile Number

ROLE and responsibilities

ROLE AND RESPONSIBILITIES FOR MANAGEMENT

- Describe their duties during the incident.
- .

Safety, Health and Environmental (SHE) Division

- Describe their duties during the incident.
-

Security Services

- Describe their duties during the incident.
-

Facility Management Company

- Describe their duties during the incident.
-

Other

- Describe their duties during the incident

Pre-identified potential risks

- Capture pre-identified generic risk which covers the entire Company
- The following risks are pre-identified as potential and imminent during the WC water shortage, but are not limited to;

IDENTIFIED POTENTIAL RISKS per Department/Branch

- Capture specific identified risks per department/branch

Risk Description	Priority	Mitigation/Action

Insurance Claims

- Engage with your Insurance Broker to verify coverage, possible claims and payment of claims.

Staff working hours to collect water at municipal water POD

- Strategy to allow staff on duty to collect water for personal use e.g. flexi hours

Internal water delivery and collection points

- Will you provide drinking water for staff on duty?
- What about mobile toilets?

Staff headcount per work place impacted

Department/ Branch	Current Site	Alternative Site to combine staff on to work from	Headcount	Physical disable Staff	Staff working from Alternative Sites	Staff working from home

See Annexure for possible additional headings or use as annexures only

Annexure

END

Annexure 1: Water dependent Equipment

Building/ Site type	Sites with Standby Generator (EPS)	QTY of Standby Generator (EPS)	Dependent on water for standby generator cooling	QTY of Bulk Water Tanks	Combined water in litres	HVAC- water dependant for equipment cooling	Dependent on water for Comfort cooling
Administrative							
Data Centre							
Workshop							
Grand Total							

Annexure 2: Critical sites for service delivery

Department	Site	Site priority for business purposes	Site priority for Day Zero

Annexure 3: Staff per site type

Building/ Site type	Count of Building/ Site type	Headcount
Administrative		
Data Centre		
Workshop		
Grand Total		

Annexure 4:

VALIDATION PAGE

Name: Title/Position: Department:		_____ Signature	_____ Date
Name: Title/Position: Department:		_____ Signature	_____ Date

10 Annexure C: Information & monitoring template

BCP MANAGEMENT: INFORMATION AND MONITORING TEMPLATE	
Province	
Company Region	
Department	
Metro/ District	
Local Municipality	
Municipality Water Security at Risk	
Town & Current Site Water Security at Risk	
Water POD provided (Y/N)	
Water POD address	
Current Site	
Alternative Site to combine staff on to work from	
Internal Water delivery and collection site	
Head count	
Male	
Female	
Critical Staff Headcount	
Staff Headcount at Alternative site	
Efficient Work stations available at Alternative site	
Efficient power supply available at Alternative site	
Efficient IT infrastructure available (LAN points/ Wi-Fi) at Alternative site	
Efficient phone lines available at Alternative site	
Efficient ablution /toilet facilities available at Alternative site	
Staff headcount who will work from home	
Distance in km between the sites	
Physical disabled headcount	

Cleaning Staff Headcount	
Building/ Site type	
Leased / Owned Site	
Site occupation (Week day Office hours 07:30 to 16:30)	
Site occupation (Saturday Office hours xx:xx to xx:xx)	
Site occupation (Sunday Office hours xx:xx to xx:xx)	
Physical Security on Site (Y/N)	
Headcount Physical Security on Site	
Operation hours of Security guards	
Security supplier	
Facilities Management Company name	
Total parking bays on site	
Available parking bays on site	
Does the mall management have a contingency plan prior to Day Zero? (Y/N)	
Is the mall management going to compile a contingency plan prior Day Zero? (Y/N)	
Is the mall management willing to share the document? (Y/N)	
If the mall management is not willing to share the document, please give brief description of plans and action with timelines?	
Comments	
Does the mall management have a response and preparedness plan for Day Zero? (Y/N)	
Is the mall management willing to share the document? (Y/N)	
If the mall management is not willing to share the document, please give brief description of plans and action with timelines?	

Will the mall be closed for trading on Day Zero? (Y/N)	
Will it be allowed to close the Company shop for trading on Day Zero? (Y/N)	
Comments/ Additional feedback	
Will the mall management provide drinking water to the tenants? (Y/N)	
Will the mall management provide portable toilets for the public? (Y/N)	
Will the mall management provide portable toilets for the tenants? (Y/N)	
Can the Company provide portable toilets for the shop? (Y/N)	
Where is the Company allowed to place the portable toilets for the shop?	
Where is the Company not allowed to place the portable toilets for the shop?	
Comments	
Priority (Business/ Revenue criteria)	
Day Zero priority	
Critical Sites	
Water consumption domestic drinking (2litre/day)	
Water Consumption Domestic Sewerage (8litre/day)	
Estimated chemical portable toilets	
Chemical portable toilets for Security Guards on site	
Drinking Water for Security Guards on site	
Estimated chemical portable toilets as per alternative combined sites	
Male	
Female	

IS there space for portable toilet within the fence/premises at the site	
QTY of Standby Generator (EPS)	
Dependent on water for standby generator cooling	
QTY Cooling tower	
Water capacity in Litre - combine if more than tank	
HVAC-water dependant	
Munic Water Restriction Level	
Fire Prevention on Site (Hose reels and Hydrant)	
Fire Prevention on Site (Sprinkler)	
Fire Sys Backup available - Water tank	
Gas depression on site - Y/N	
Additional fire extinguisher required -hand held CO2 /Powder	
Fire Breaks required	
Engaged with Fire Chief	
Site visited	
Approval obtained to extend fire break	
Fire break extension completed	
Comments	
Fire break completed	
QTY of Water coolers	