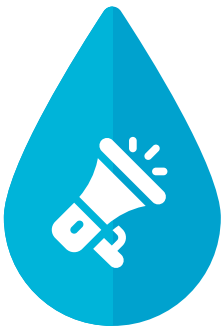
CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

CAPE TOWN'S **DROUGHT CRISIS** COMMUNICATION



How the City of Cape Town communicated with its residents and other stakeholders

Making progress possible. Together.

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EXECUTIVE SUMMARY

In 2018, Cape Town came close to running out of water – a situation no other city in the world had faced. A drought with three consecutive years of record-breaking low rainfall, the lowest in recorded history, had left the dams that supply the city and surrounds at less than 20% full. If the drought continued and water consumption remained at the level of the day, Cape Town's taps would have run dry. If water consumption remained at the level of the day, the City would have been forced to shut off water to the majority of the city and create water collection points to preserve the remaining water before winter 2018.

Fortunately, such a scenario was avoided. Through a combination of measures that included stringent water-use restrictions, steep tariff increases (especially for those who used the most water), and technical interventions such as pressure management, the City and its 4,5 million residents averted a social and economic crisis. The role of the City's demand management programmes in preceding years must also be acknowledged as a significant factor in successfully averting Day Zero.

Effective communication was central to this. The City ran an exhaustive, sustained communication campaign through channels ranging from print, radio, billboards and social media to displays in shopping centres. Its philosophy: meet water users where they are and communicate in the most appropriate way. These measures were ultimately effective – overall water consumption in Cape Town fell from 1 100 megalitres per day (Mℓ/day) in March 2015 to 500 Mℓ/day for the same month in 2018. Water usage has remained below 650 Mℓ/day despite the relaxation of restrictions despite the relaxation of restrictions since then.

THE CITY'S PHILOSOPHY: MEET WATER USERS WHERE THEY ARE AND COMMUNICATE IN THE MOST APPROPRIATE WAY.

While most residents were keenly aware of the extent of the crisis, and responded heroically, finding ingenious ways to minimise their water use, in some quarters there was the perception that the City did not manage the water crisis as effectively as it could have. Some people believed that the City was to blame for the water crisis arising in the first place despite it not, as a city government, being responsible for planning and implementing new bulk water sources.

The reality was more nuanced, and the City was certainly not caught by surprise – water demand and conservation programmes had been in force for more than a decade. However, the sheer scale of the drought could not have been predicted – especially given the forecasts and modelling provided by the relevant government agencies and weather forecasters. In fact, due to proactive management, Cape Town had consistently been using less water than that which it was allocated by the National Department of Water and Sanitation, despite population growth.

THE CITY HAD FULFILLED ITS MANDATE

Cape Town has seldom had an abundance of water. Indeed, the City of Cape Town was formed in 1918 through the amalgamation of several municipalities that separately could not afford to build a dam urgently required to meet a growing city's needs.

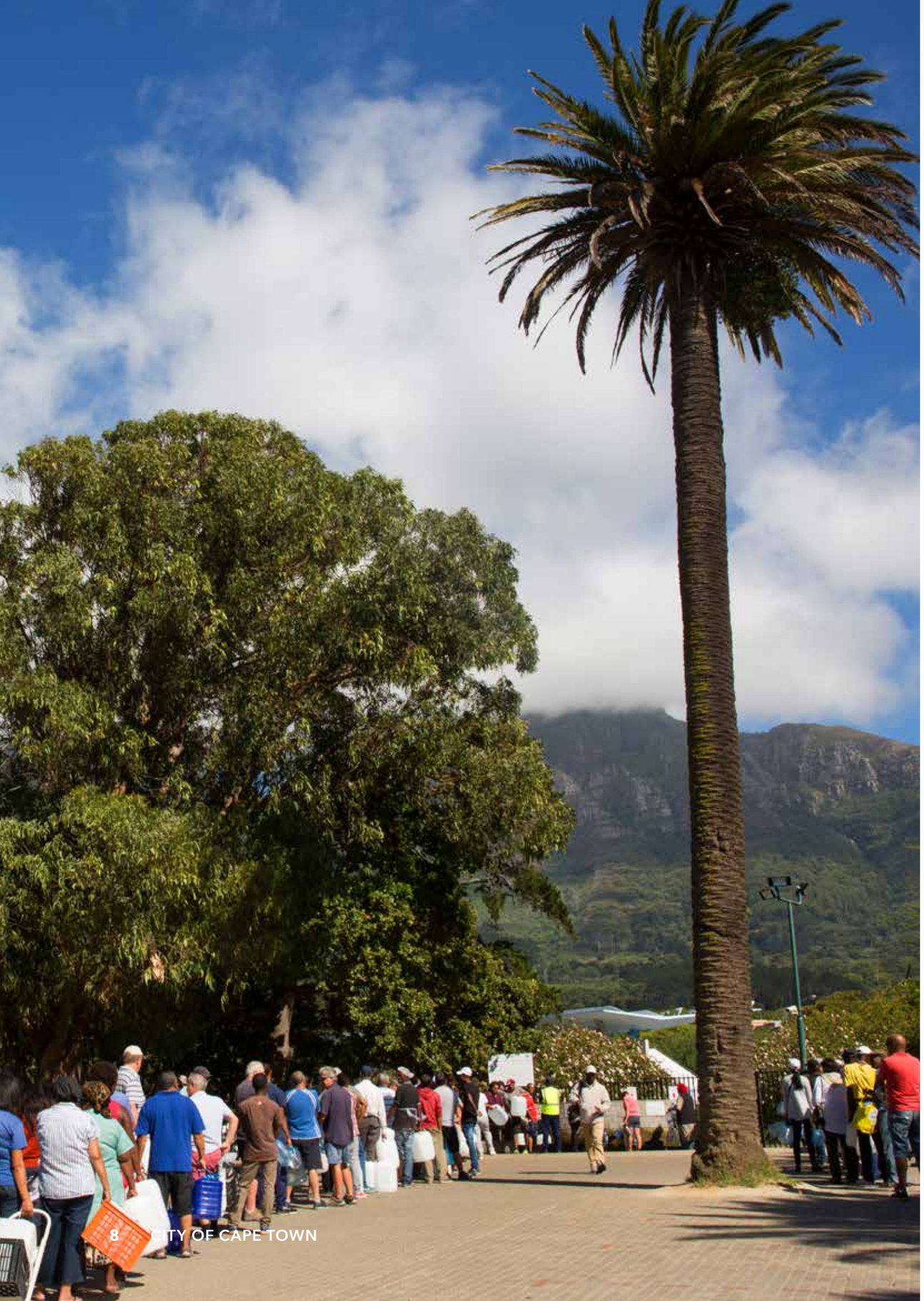
Since the current City of Cape Town was formed in 2000, again through the amalgamation of several municipal entities, sustainable management of a limited water supply has been crucial. A water demand management (WDM) strategy, which aimed to reduce water demand by 20% by 2010, was implemented in 2001 and resulted in demand levelling off for 15 years before the drought, despite a population increase of 30%.

Many of the WDM projects implemented over the years were innovative and explored new ways of dealing with water loss in urban environments with sensitivity to poverty and social needs. The projects included:

- ✔ Installing award-winning pressure management systems.
- ✔ Minimising water leaks from the municipal network to the lowest level on the continent.
- ✔ A comprehensive pipe replacement programme.
- ✔ Implementing water restrictions in 2005.
- ✔ Substituting drinking water with non-drinking sources.
- ✔ Improving water metering.
- ✔ Inclining block tariffs where water gets more expensive as customers use more.
- ✔ Information and research, including monitoring water losses.
- ✔ Updated by-laws and improved enforcement.
- ✔ Addressing water leaks in low-income households.
- ✔ Education and awareness.
- ✔ Innovative approaches in low-income communities.

In 2015, the WDM programme was recognised internationally when it received the C40 Cities Award for Best Climate Change Adaptation Implementation Project at the Paris COP21 climate conference.

Effective as the City's WDM programmes are, they could not mitigate against a prolonged and unprecedented drought. Cape Town and much of the Western Cape Province has a Mediterranean climate, receiving rainfall during the Southern Hemisphere's winter months (between May and September), with hot and dry summers. For three years in a row, rainfall had been significantly lower than average, with the 2017 rainfall the lowest in over a century – at only 30% of the average. This resulted in a substantial decline in the levels of the dams that make up the Western Cape Water Supply System (WCWSS).



What few residents or commentators understood was the complexity of Cape Town's water supply system. Most of the bulk water the city uses is supplied by the national Department of Water and Sanitation (DWS)*, which manages the WCWSS. There are no suitable sites left to build major dams for the WCWSS. So, looking forward, our only options are alternative sources such as desalination, aquifer abstraction and purification of wastewater. These are not really minor sources, as they all have potentially very big yields.

IN JANUARY 2016, THE CITY HAD BEGUN TO IMPLEMENT VIGOROUS DEMAND MANAGEMENT MEASURES

The City treats and distributes water, but does not have a legal mandate to fund and develop its own sources, and where it did so, it required licences from national government. The City also has no control over the distribution of agricultural water, which, in normal times, accounts for around 30% of consumption from the WCWSS. In effect, the City was managing a complex situation involving many role-players over which it had limited authority and control.

Although the City do not have jurisdiction over those with whom it share the WCWSS, relative radio silence from national DWS helped cement the impression that the City was responsible for perceived water planning deficits.

MANAGING A FAILURE IN FORECASTING

Given the limitations of long-term weather forecasting, historical rainfall records are used to determine the expected minimum rate of inflow into the dams each winter so that the water supply system can be equipped to function under these conditions. However, the scale of the drought was worse than anything we had experienced since records began, testing the resilience of the system to supply water during the drought almost to breaking point. Based on research done by UCT, it is now thought that the drought was a 1-in-590-year event.

The dams last exceeded 100% of storage in the winter of 2014, which resulted in available storage capacity of 84% at the beginning of 2015, the first dry year. Poor rainfall in 2015 led to 2016 starting with storage capacity at 55%, followed by a further below-average rainfall year in 2016. This left the dams at only 46% of capacity in January 2017.

**The national Department of Water and Sanitation has been renamed after a cabinet reshuffle, combining it with Human Settlements to make it the national Department of Human Settlements, Water and Waste.*

In January 2016, the City had begun to implement vigorous water restrictions that strictly limited commercial, municipal and domestic irrigation. Communication with residents was stepped up, and the 'Think Water' campaign urging residents to reduce water use was launched.

Further 'Level 3' restrictions and water tariff increases were implemented in November 2016, and stricter restrictions were implemented in February 2017, when both the City and the Western Cape Government declared a 'state of disaster', which allowed for extra funding and some relief measures.

At this point, the City was communicating extensively through media releases, community and social media, its website, billboards, posters and the variable messaging boards on the major highways, urging residents to bring combined water use down to 500 Mℓ/day. Consumption duly dropped, but not enough. A characteristic of communications during the drought crisis was the volume of misinformation, righteous outrage, political point-scoring, and confusion in the public sphere, and thus how to ensure the City's calls to save water triggered the desired behaviour changes without stoking resentment, or further entrenching impressions of incompetent management of the water supply. Ensuring water is conserved to endure a drought successfully while minimizing inconvenience requires that residents start making behaviour changes even when dams are relatively full. Motivating this "proactive" behaviour change without being accused of manufacturing the catastrophe to drive revenue generation is a challenge.

By June 2017, the City was urging residents to use no more than 100 litres per person per day. This message was graphically illustrated with an array of 1 litre bottles and how they should be apportioned for drinking, washing, and so on.

This essentially quantified water usage for residents so they could measure and therefore manage their water use much easier. An online water calculator was also produced so that residents could easily tally up their consumption and then share it on social media. The 'Think Water' slogan became 'Think Water. Think 100 ℓ or less a day'. The golden thread throughout was effecting immediate behavioural change – and consumers could not be told what to do if they were not given the tools to do it.

DAY ZERO LOOMS

In July 2017, recommended daily use was reduced to 87 litres per person per day, Level 4B restrictions were imposed and tariffs were raised again. At this point, the concept of 'Day Zero', coined by a provincial government official, entered public consciousness. The term was originally meant as when the dams would run dry, but the City started defining it as the time when water supply to homes would be cut off and residents would have to collect water from public collection points.

However, the idea of 'zero' was a powerful one, and encouraged residents to use even less water. Use of this term increased gradually over time. At this stage, few residents or visitors could have been unaware of the depth of the crisis.

Pictures of people collecting water from springs were a commonplace, water storage containers were in short supply, dam levels were a talking point, airline crew were making announcements about water savings as they approached Cape Town, and the internet was awash with ingenious water-saving techniques. There was much speculation in international media, and hundreds of international media representatives descended on Cape Town.

In September, the City began installing supply-limiting water management devices (WMD) for residential properties using more than 20 000 litres per month relative to pre-drought consumption. Businesses were being urged to reduce consumption by 20% relative to pre-drought consumption. Apart from the water management interventions and communication programmes, there was constant engagement with stakeholders across the metro from business groupings to private sector partners and civic and residential organisations.

DASHBOARDS, MAPS AND OTHER TOOLS

Throughout the water crisis, communications from the City were incessant. In November, the long-standing weekly dam level report available on the City's website was expanded into a 'water dashboard' that gave useful information and projections about consumption, supply and all matters water related.

It soon became one of the most-accessed pages on the City's website. Posters and brochures on how to save water, fix leaks, use greywater safely and how to maintain hygiene and food safety were also issued in English, Afrikaans and isiXhosa. Many easy-to-understand infographics were produced, as well as several short video clips.

New angles, meaning new questions and scenarios arising from the crisis, were discussed daily with communication and stakeholder action plans to address these issues.

Misinformation was also constantly being corrected as part of the City's drive to communicate transparently and honestly about what was happening. Toolkits were also developed to ensure that private sector partners and communities and organisations with limited resources could access communication material in an open source manner.

Numerous briefings were held with stakeholders. Resident and business associations were fully engaged, and organisations as diverse as property owners' associations, shopping centre landlords, hospitality industry associations, schools and civic organisations were provided with regular mailers, rates bills inserts, educational materials, or templates that could be customised for their own use. The City ran a Water Star rating certification system to recognise companies and organisations for best practices in water management. These bodies responded magnificently, and it was rare that a resident or visitor could enter any form of public facility without being exhorted to use less water.

Partnerships with companies and non-profit organisations assisted to extend the reach of water-saving messaging. A retail group invited the City to provide information sessions for their staff and allowed the City to place people in their stores to engage with shoppers about saving water.

With the influx of tourists expected during the year-end holiday season, the City launched the 'Save Like a Local' campaign that urged visitors to embrace water-saving habits. This campaign was rolled out in all tourist hot spots, and brochures and leaflets were made available to hotels and hospitality outlets.

It was important to strike a balance and not make the message too strong on the doom-and-gloom side, as tourism is incredibly important to the metro as well as the region. A message suitable for tourists had to be developed.

In January 2018, the collective dam levels were below 30%. WMDs were being installed at properties using more than 10 500 litres a month, and the first *Water Outlook*, a comprehensive report on the steps the City was taking in its drought management and augmentation efforts, was published. Despite the severity of the crisis, the City went to great lengths to always balance the needs of its diverse population.

The innovative and pioneering 'Water Map' also went live. Householders could access an online map and easily see how they and other residents were performing against the targets. Using an online spatial viewer, combined with geographic information system data, the Water Map displayed light and dark green dots to indicate the level of consumption per property. This quickly became a very popular page on the City's site. The City was very careful to make this a constructive behavioural tool and not one of judgement and shame, which it believed would be the wrong route to follow in an already tense environment.

In February 2018, individual water use was reduced to 50 litres per person per day, and 10 500 litres per household per month. A pilot public water collection point was built and widely publicised as part of the City's crisis actions. This left Capetonians in no doubt that Day Zero would be a grim event, and overall consumption fell to 450 Mℓ/day. It must be stated that such interventions were thoroughly considered and it was based on consumption trends. It was not a gimmick, but rather an immense effort to drive consumption down.

AND THEN IT RAINED ...

Although water consumption was reduced drastically, residents continued failing to meet targeted consumption levels, which over time had become increasingly ambitious as a result.

But for a last minute transfer of water from the Groenland Water Users Association, who manage and draw water from their own dam (Eikenhof), the City would have had to institute water collection points before the start of the winter rains. Mercifully, near-average rains in the winter of 2018 restored dam levels to just under 75% by November, and the City was able to positively communicate that the onerous restrictions would be relaxed.

The City had averted a crisis through concerted technical effort and engagement with residents, who vied with each other to show the world how to live with very little water. This collective effort drew the admiration of cities worldwide that had managed a drought.

Sobering lessons have been learned, and there are many areas where, in the event of another water shortage, things would be done differently. Importantly, Cape Town had never been in this position so there were no benchmarks or historic indication of how consumers would react.

The City did not always present a coherent and unified message with politicians at times contradicting messaging developed by the administration, leading to confusion amongst the public.

There should have been earlier cooperation and collaboration with local businesses, the media and civic organisations to assist in delivering the message during the crisis. Closer alignment between the City's political and administrative arms also would have helped. Political reassurances that a 'well-run city will never run out of water' started to look hollow as the crisis bit.

Tensions, largely unrelated to water, within the political administration that culminated in the resignation of the mayor also provided an unwelcome distraction and contributed to the noise that was already present in the public sphere.

An ill-conceived political campaign to 'name and shame' households with excessive consumption backfired, as this high consumption was by and large a result of plumbing on the various properties which was being allowed to leak rather than naked wastage, and based on this, the public and media were sympathetic to those listed and criticized the City's decision to name and shame.

A WHATSAPP CHANNEL WAS OPENED – OFFERING RESIDENTS ANOTHER CHANNEL OF DIRECT WATER-RELATED COMMUNICATION.

This was widely seen as a 'drought tax' and was much resented by residents, most of whom had long been doing their utmost to reduce their consumption.

Revenue shortfalls due to the City's use of an inclining block tariff structure, combined with drastically reduced consumption, can severely limit resources available for maintenance, and cause problems in the longer term, and as such, the ability to adjust tariffs based on consumption levels is included in the legislative framework around water supply. However, getting the public to see it this way, was a big challenge.

Unrealistic projections and promises of 'augmentation' schemes such as aquifers, boreholes and desalination plants eroded the City's reputation for competence in service delivery, while the City's long-standing commitments to practical measures such as water re-use, leak repair and pressure management – and its considerable efforts to lead by example – were overshadowed.

Response mechanisms could also be improved. The City's call centre was overwhelmed with water-related queries and complaints, many of which related to WDMs. Residents were informed before a WMD was fitted and given an opportunity to either reduce consumption or apply for an increased allocation.

High call volumes and a lack of capacity in the call centre, where some positions were not filled as a matter of urgency, left many calls unanswered, and in many cases, call centre operators were unable to assist residents as they lacked operational information. Essentially, a handful of the City's staff had to perform all of the duties brought about by a massive crisis. A transversal approach where staff from all departments were deployed to assist with the myriad tasks was lacking and so, too, a high-level organisational intervention to effect this.

However, more call centre staff were appointed, and a WhatsApp channel was opened – offering residents another channel of direct water-related communication. Throughout the water crisis, the City's Water and Sanitation Department ran a city-wide education campaign. They went door to door to educate residents on their water consumption and helped businesses hold water-saving demonstrations and information sessions.

There were also some overly optimistic assumptions about the efficacy of social media messages, which a substantial proportion of residents do not access. Graphic, multilingual inserts into community papers might have been more effective.

Water and sanitation services are complex and costly, and with stakeholders at all levels of government, not everyone's interests are aligned. Nonetheless, the City and its residents managed an unprecedented challenge admirably. The outcome is that residents have a greater appreciation for the value of water, and the City has a model for dealing with the next drought.

THE CONTEXT: RAINFALL, THE WATER SUPPLY SYSTEM AND WATER USE

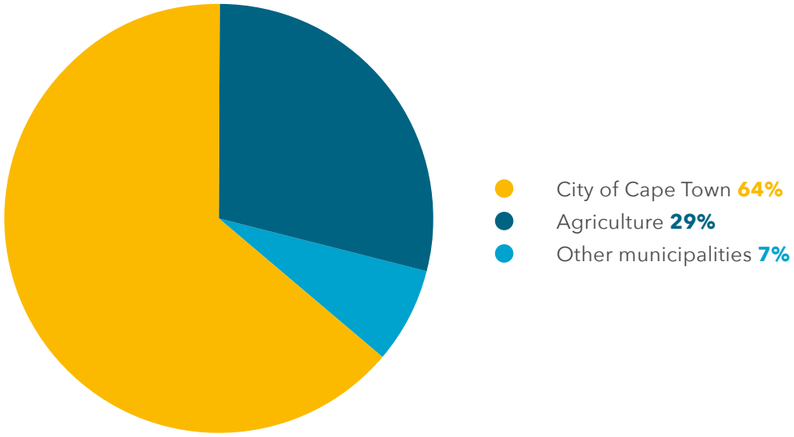
Cape Town is supplied with water largely through the WCWSS, an interlinked system of six major dams, tunnels, pipelines and aqueducts. Three of the dams – Steenbras Upper, Steenbras Lower and Wemmershoek – are owned by the City. The DWS owns the Berg River, Theewaterskloof and Voëlvlei dams. The WCWSS has a capacity of about 900 million cubic metres of water, which provides enough water for around a year and a half of normal usage. The City has several small dams in the Table Mountain chain, but these only contribute 2% of the City's requirements.

The WCWSS has exploited every viable dam site in the region, and the only additional resource that could be exploited is the Berg River augmentation scheme, whereby water is pumped from the Berg River into the Voëlvlei DWS dam. This scheme is unlikely to be ready before 2021. In short, there are no other rainfall resources to exploit within the WCWSS catchment area.

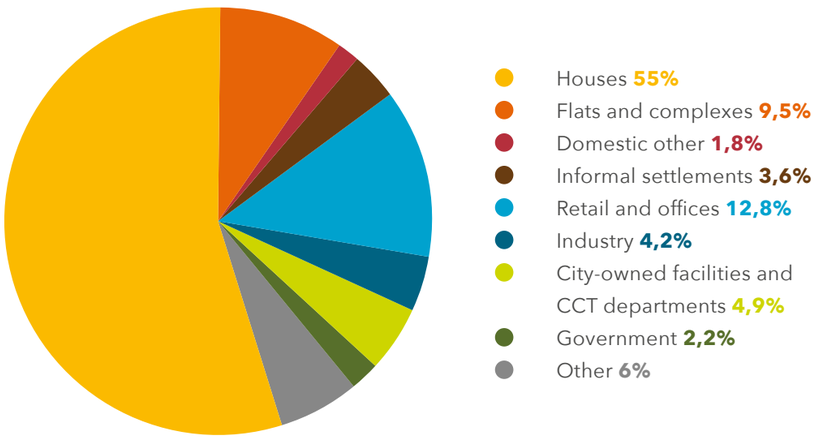
CAPE TOWN'S WATER SUPPLY: DAMS, RESERVOIRS AND THE MAJOR BULK SUPPLY PIPELINES

The WCWSS also supplies the West Coast district municipality and the local municipalities of Drakenstein, Stellenbosch and Witzenberg, and agriculture. Cape Town is the biggest WCWSS consumer, at 64%, while agriculture consumes 29% and other municipalities 7%. Within Cape Town, residential consumption accounts for 69,9%, retail and offices 12,8%, and industry 4,2%.

BROADER WCWSS CONSUMPTION

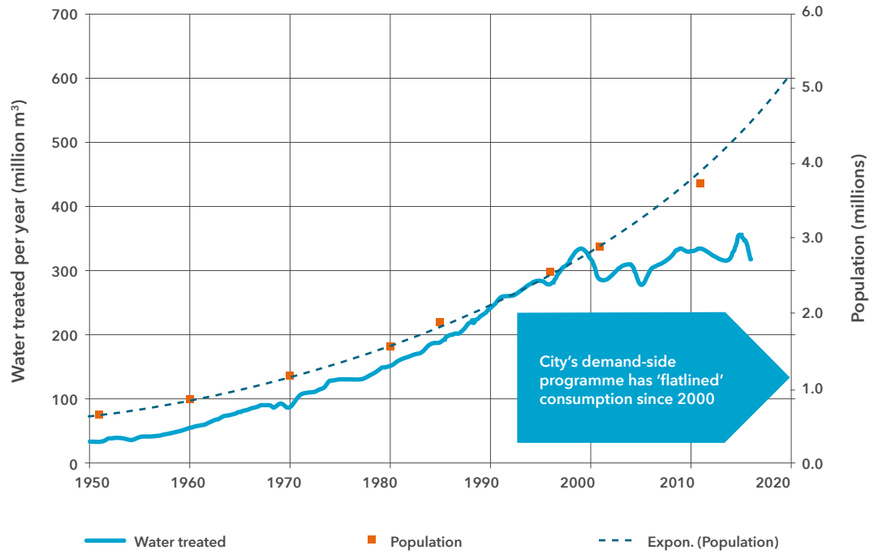


WCWSS CONSUMPTION WITHIN CAPE TOWN



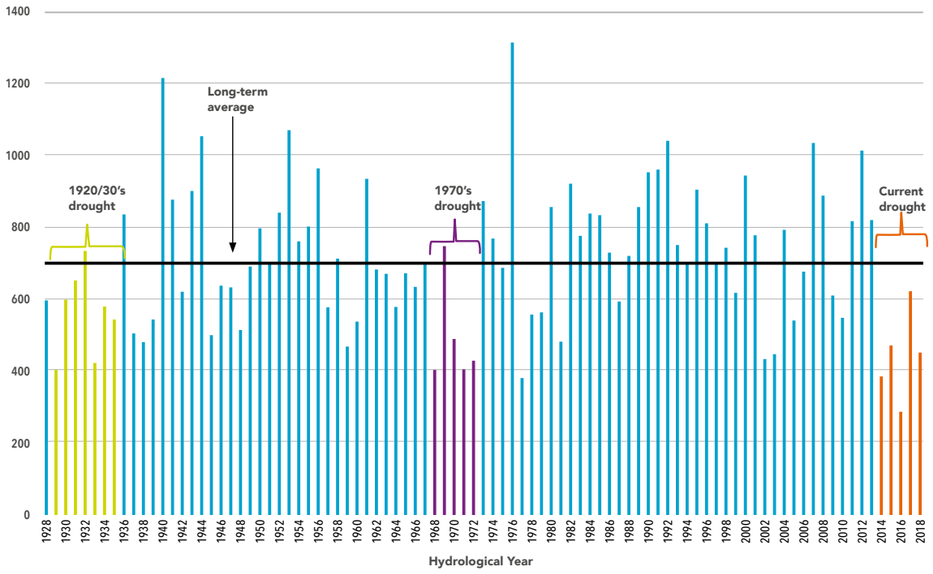
The City has long been acutely aware of the tensions between a growing population and a finite water supply. It implemented a demand management strategy in 2001, with the aim of reducing water demand by 20% by 2010. This strategy had been extremely effective in reducing consumption.

WATER TREATED PER YEAR VS POPULATION GROWTH

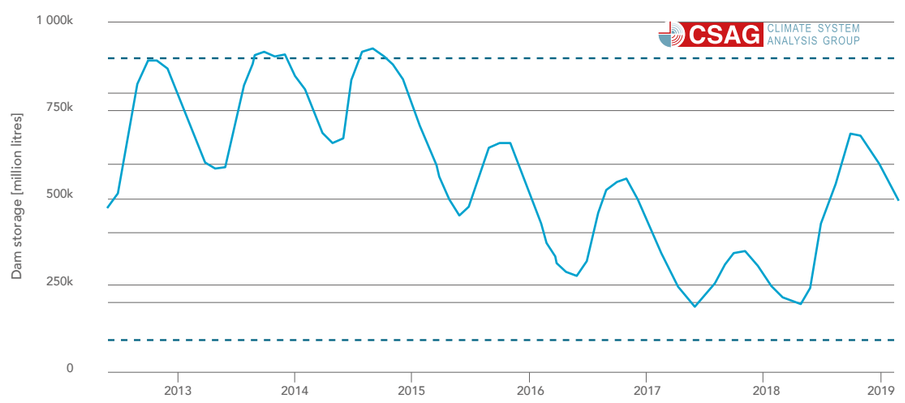


However, below-average rainfall in 2016, 2017 and 2018 resulted in the worst drought on record, and led to the WCWSS dam storage levels declining sharply. The drought was not forecast. Typically, water supply planning is done on the basis of a worst-case scenario occurring one in every 50 years. This drought was much more severe than a 1:50 event, and was estimated to be in the region of one in 311 years.

WCWSS ANNUAL RUNOFF



WCWSS DAM LEVELS



This led to the City imposing increasingly stringent water restrictions and higher tariffs, and intensifying communication around the drought, restrictions and the need to use minimal water. Measures included extensive campaigns in traditional and social media, comprehensive weekly reporting, and the development of an online water-consumption map and other innovative measures.

WATER RESTRICTIONS, HIGHER TARIFFS, AND INTENSIFYING COMMUNICATION

LEVEL	DATE	KEY MEASURES	COMMUNICATIONS AND EVENTS
Level 1	2005	No irrigation between 10:00 and 16:00. Compulsory spray nozzles for hosepipes. No hosing down of hard surfaces. No dampening of building sand.	
Level 2	Jan 2016	Irrigation for maximum of one hour on Tuesdays, Thursdays and Saturdays. Level 2 tariffs from January 2016.	
Level 3	Nov 2016	Irrigation with buckets only. Compulsory pool covers. Level 3 tariffs from December 2016.	
Level 3B	Feb 2017	No private car washing.	'Name and Shame' campaign. March – the City declared a local state of disaster. May – Western Cape Government (WCG) declared a provincial state of disaster.
Level 4	Jun 2017	100 litres per person per day water-use limit; 500 Mℓ per day for the city as a whole. No irrigation. No topping up of private pools.	'New normal'. 'Water resilience'.
Level 4B	Jul 2017	87 litres per person per day water-use limit. No topping up of public pools. Level 4 tariffs from July 2017.	'Day Zero' appears in media.
Level 5	Sept 2017	The installation of WMDs and fines for residential properties using more than 20 000 litres per month. Commercial properties to reduce consumption by 20% relative to consumption one year ago.	Aug – Section 80 Committee to engage with external advisors. Oct – critical water shortages disaster plan engaged. Nov – water dashboard live.
Level 6	Jan 2018	The installation of WMDs and fines for residential properties using more than 10 500 litres per month. Non-residential properties to reduce consumption by 45% relative to 2015 consumption.	Water map live.
Level 6B	Feb 2018	50 litres per person per day water-use limit. Households limited to 10,5 kℓ per month, but 6 kℓ per month encouraged; 450 Mℓ per day for the city as a whole. Non-residential users restricted to 45% saving compared to previous year. Agricultural users restricted to 60% saving compared to previous year.	DRM water collection points simulations.

TIMELINE OF EVENTS

JANUARY 2016

Dam levels at
55%

Level 2
water restrictions and tariffs implemented.

Irrigation for a maximum of one hour, three days a week.

'Think Water' campaign urging residents to reduce water use launched (Appendix A).

NOVEMBER 2016

Level 3
water restrictions and tariff increases implemented.

'Think Water' campaign continued (Appendix B).

Compulsory pool covers.

Irrigation with buckets only.

JANUARY 2017

Dams at
46%
capacity.

FEBRUARY 2017

Level 3B
water restrictions implemented.

Communications intensified, with frequent media releases, social media posts, website updates and other techniques (Appendix C).

Private car washing prohibited.

The City released a list of the roads where the top 100 water consumers in the city lived ('Name and Shame' campaign).

MARCH 2017

Mayor declares City a local disaster area.

City intensified the 'Think Water' campaign (Appendix D).

Additional water-saving campaigns went live (Appendix E).

MAY 2017

WCG declared a provincial state of disaster.

Water Resilience Task Team created by Council.

Water Resilience Plan developed.

JUNE 2017

The first Think Water exhibition followed by a series of exhibitions across the city. The start of the Water Map which made consumption public.

JUNE 2017

Level 4
water restrictions implemented (Appendix F).

Residents urged to use no more than 100 litres per person per day (Appendix G). Letters being sent to warn excessive users (20 000 litres per month or more) to curtail use or face installation of a WDM device, which would curb daily use.

The City communicated their water-saving efforts (Appendix H).

No irrigation or topping up of private pools.

Request for information on water augmentation options issued.

JULY 2017

Level 4B
water restrictions implemented; Level 4 tariffs introduced.

Recommended use reduced to
87 litres
per person per day, and media campaign revised accordingly.

No topping up of public pools.

'Day Zero' concept coined.

AUGUST 2017

Section 80 Water Resilience Advisory Committee established.

The City engaged with external stakeholders (Appendix I).

An online water calculator was created (Appendix J).

SEPTEMBER 2017

Level 5
water restrictions implemented (Appendix K).

Mass roll out of WMD devices to cap excessive use and after warning letters were sent.

Fines levied for excessive consumption (more than 20 000 litres per month for residential properties).

Commercial properties to reduce consumption by 20% relative to 2016.

Tenders for emergency desalination advertised.

DWS gazetted a 40% restriction on Cape Town consumption.

OCTOBER 2017

'Day Zero' used within City discussions.

Water Resilience Task Team meets for the final time.

Mayor's daily meetings and briefings start.

Minister of Finance allows City to alter budget mid-year and introduce new tariffs.

Pilot pedestrian Point of Distribution (POD) launched (Appendix L).

Critical water shortages – disaster plan activated (Appendix M).

Weekly water report on the City's website was enhanced.

Business forum meeting that pulled almost 600 people.

NOVEMBER 2017

'Save Like a Local' campaign for tourists launched (Appendix N).

Avoid 'Day Zero' campaign started (Appendix O).

Provincial Disaster Management Joint Operation Centre (JOC) launched.

Weekly dam level report expanded into an official 'water dashboard' (Appendix P).

The City started promoting the
50 litre
life (Appendix Q).

World Bank consultants provide feedback on emergency augmentation.

DECEMBER 2017

Council proposed 'drought surcharge' (not imposed; Appendix R).

DECEMBER 2017/ JANUARY 2018

The City created a set of computer desktop screensavers that were deployed across the City's network (Appendix S).

The City's internal newsletter, *Contact*, showed the groundwater drilling progress.

JANUARY 2018

Dam levels at
30%

Level 6 water restrictions implemented (Appendix T).

Non-residential properties to reduce consumption by 45% relative to 2015.

The limit for excessive use was dropped to 10 500 litres per property per month.

Online 'green dot' water map launched (Appendix U).

First *Water Outlook* published (Appendix V).

Day Zero estimated to be 22 April 2018.

Council hands over leadership of water savings to Deputy Mayor.

FEBRUARY 2018

Level 6B
water restrictions implemented.

Individual water use reduced to
50 litres
per person per day, and media campaign revised accordingly (Appendix W).

DWS further restricts agricultural usage.

Households limited to 10,5 kℓ per day; 6 kℓ encouraged.

Non-residential properties to reduce consumption by 45% relative to 2017; agricultural users 60%.

A special 'Day Zero' edition of CityNews was published.

Water transfer from Eikenhof dam in Groenland to supplement City supply.

Drought declared a national disaster in three provinces.

MARCH 2018

Second pedestrian POD was set up in Observatory.

Political party leader announced that Day Zero would not occur in 2018. This was interpreted by the media as Day Zero being "cancelled".

MAY 2018

First emergency desalination plant comes online.

Day Zero cancelled for 2018 and 2019. Early rains helped push out Day Zero for 2018.

JUNE 2018

Relaxed restrictions back to
Level 5

JULY 2018

New water tariffs that include a fixed charge introduced.

OCTOBER 2018

Restrictions dropped to
Level 5

'Thank you, Cape Town' TV ad flighted (Appendix X).

NOVEMBER 2018

Water strategy draft developed.

Dam levels at just under
75%

DECEMBER 2018

Restrictions dropped by City to
Level 3: 30% saving
(Appendix Y).

Restrictions lowered by DWS for urban and agriculture to 10%.

COMMUNICATION IN ACTION

In February 2017, the Water and Sanitation Department started generating weekly dam level reports and updated the City's website accordingly. In addition to dam level updates, this comprehensive report showed trends, rainfall, storage and consumption over time and against targets. As such, residents were introduced to the average daily consumption figures and the City's targets. This soon became a media benchmark, cited and discussed along with the dam levels. This report was viewed or downloaded with increasing frequency over the drought period.

In March 2017, the City's Communications Department intensified its 'Think Water' campaign, urging residents to think before they used water (Appendix D). This campaign educated residents on the volume of water that activities such as showering typically used, while other campaigns emphasised that 'brown is the new green' and provided comparative images of dam levels over time (Appendix E).

The campaign was carried out in community and daily newspapers, on social media, and as posters. As the drought had long been of public concern, there was considerable media coverage.

Less effective was a 'name and shame' campaign that targeted excessive consumption. Some of those named had legitimate reasons for their high consumption, which had not been investigated beforehand. However, due to the diverse population in Cape Town, there were also those who were in favour of such a campaign.

LEVEL 4

In June 2017, the City introduced Level 4 water restrictions, which required residents to use no more than 100 ℓ per person per day, wherever they were. An illustration outlined how those 100 litres could be allocated (Appendix G). The message was promoted through social media, posters, billboards, radio and the City's website. There were installations and displays at the Cape Town Civic Centre and other Council facilities.

The City invited proposals for various augmentation schemes, including desalination, pressure management, the use of spring water and/or aquifers, boreholes and other groundwater extraction systems. Residents were left with the impression that these schemes could come online relatively quickly, and would eventually add 500 Mℓ/day. Perhaps it illustrates the lack of alignment between the political and administrative spheres.

The City also produced campaigns to show that it was leading by example, and being as water-efficient as possible, and set targets for overall daily consumption at 500 Mℓ/day (Appendix H). Although this target was seldom met, increased public awareness did result in consumption halving from January 2015's level of 1 200 Mℓ/day.

The phrase 'the new normal' was introduced, with the aim of stressing that water was scarce and would remain so. The concept of 'water resilience' was also promoted to demonstrate that the City had various interventions and strategies to safeguard current and future water supplies, through augmentation schemes such as desalination, groundwater and re-use.

Internally, the restrictions and general situation were communicated to staff through the staff newspaper, email, posters and brochures. Staff were encouraged to take the lead and to set an example in water saving. The City's Facilities Management Department played a role in assisting City facilities to become more water-wise.

LEVEL 4B

In August 2017, Level 4B water restrictions were introduced, reducing daily consumption to 87 ℓ per person per day, and new tariffs were introduced the previous month. The concept of 'Day Zero', first proposed by a provincial official, gained wide currency. This highlighted in residents' minds the very real possibility that Cape Town could run out of water.

At this point, the City stepped up its already extensive engagement with residents and other stakeholders, through public meetings and briefings, information displays at exhibitions, festivals, corporate events and in public spaces such as large shopping centres (Appendix I). Stakeholders and interest groups included neighbourhood watch groups, ratepayer associations, non-profit and environmental non-government organisations, subcouncils, schools, industry associations, business bodies, chambers of commerce, as well as corporate communication arms of private sector companies and industrial collectives.

By this point, the City's water-saving campaigns were extensive. Social media was used widely, and billboards, posters and electronic displays in public spaces such as the airport and shopping centres (Appendix Z, AA and AB). An online water-use calculator was provided on the City's website; this received wide media coverage (Appendix J).

LEVEL 5

In September 2017, Level 5 restrictions were introduced. No reduction in recommended daily use was proposed, but additional charges and fines were levied for excessive consumption and the City intensified the installation of WMDs that restricted supply to households with high consumption.

Households and businesses were urged to cut their consumption by 20%, and a new overall consumption target of 450 Mℓ/day was stressed. The City started implementing more rigorous pressure management of its reticulation systems, and urged residents to reduce their pressure by adjusting stopcocks.

In October, the weekly water report on the City's website was enhanced, with detailed consumption data, water use projections and 'best-case' and 'worst-case' scenarios.

A water POD was set up in Maitland to show the media how residents would collect daily allocations of water (Appendix L). Despite extensive media coverage, there was little response from residents, or at least not in terms of a noticeable reduction in consumption.

In November, the 'Save Like a Local' campaign (Appendix N) was launched. Aimed primarily at visitors, it included banners, posters, door hangers and countertop cards. It was a careful balancing act to drive the message home, but at the same time not to frighten tourists away due to the economic importance of the tourism sector. There were comprehensive displays at the airport, and repeated messaging on SANRAL's highway message boards and in public spaces. Extensive City engagement with a wide range of stakeholders had resulted in shopping centres and other commercial entities running their own water-saving campaigns in concert with the City (Appendix AB).

At the same time, the City officially adopted 'Day Zero', and a new campaign was designed accordingly. This campaign – 'Together we can avoid Day Zero' – was built on the City's motto: 'Making progress possible. Together' to promote the idea of inclusivity. Residents were featured, along with their reasons for saving water (Appendix O).

'Day Zero' was interpreted in different ways. The media saw it as the day the dams ran dry and there was no water at all, whereas the City saw it as the day when the collective dam levels reached 13,5%, this being the point at which rationing would be introduced to preserve the remaining water in the dams (technically the last 10% in a dam is difficult to extract). Whatever the interpretation, everyone understood that this was the day their domestic taps would be dry and they would have to queue for water.

An official, live water dashboard was introduced on the City's website in November (Appendix P). This gave the key dam level and consumption information and the progress of augmentation projects in accessible graphic formats. While not yet enforced, the City started promoting the 50 ℓ a day life, urging residents to cut consumption even further (Appendix Q).

Despite the influx of visitors over the holiday season, overall daily consumption held steady, and there were no further measures introduced in December.

To keep staff abreast of augmentation efforts, the December 2017/January 2018 issue of the *Contact* newsletter included a centrespread showing the progress in drilling for groundwater. A set of computer desktop backgrounds were also developed using children and their messages, and were deployed across the City's network (Appendix S).

LEVEL 6

In January 2018, with dam levels at 30%, the City introduced Level 6 restrictions (Appendix T). These included fines for properties with excessive consumption, and the requirement that properties reduce consumption by 45% relative to their 2015 usage.

WATER MAP CONSUMPTION INDICATIONS

MONTH	NUMBER OF DARK GREEN DOTS <6000 LITRES PER MONTH	NUMBER OF LIGHT GREEN DOTS <10 500 LITRES PER MONTH	TOTAL DOTS
January 2018	153,819	159,743	313,562
February 2018	203,144	166,184	369,328
March 2018	218,705	167,008	385,713
April 2018	211,497	171,640	383,137
May 2018	217,271	182,404	399,675
June 2018	217,254	183,284	400,538
July 2018	211,487	185,697	397,184
August 2018	212,720	186,631	399,351
September 2018	203,620	189,663	393,283
October 2018	190,165	191,974	382,139

The Water and Sanitation Department launched an innovative online 'water map' to acknowledge households that were achieving water-saving targets (Appendix U). Householders could access the map online and see how they were performing against the City's targets. The Water Map displayed individual light and dark green dots to indicate the level of consumption per household. This map was designed for positive reinforcement, hence green dots to indicate compliance and no indicator to highlight households that were not yet compliant.

The Water Map was an instant hit and received a record number of visits in the days following the launch. Extensive media coverage suggests that the map was highly effective, despite the City's concerns that some residents would see it as an invasion of privacy. It is believed that it was effective as it was used as a constructive tool, and not as a 'Name-and-Shame' exercise.

On 18 January, the Executive Mayor announced that Day Zero would occur on 22 April, unless Capetonians cut their water use even more drastically. This was a reversal of her October 2017 statement that 'a well-run city does not run out of water', and led to a great deal of negative sentiment on social media. This announcement also reflected the fact that the City had been overly optimistic about the feasibility and implementation of augmentation measures. At that stage, consumption was not yet at the required levels. Based on the data, the decision was made to give residents a chance to prepare and at the same time to drive the message home that Day Zero would no longer be avoidable at current consumption levels – further reductions would be essential.

A proposed 'drought surcharge' that had been agreed by Council in December 2017 was not implemented, due to a backlash by residents who thought this was an insult after their extraordinary water-saving efforts (Appendix R). After more detailed communication about the realities of the Water and Sanitation Department's financial models later in the year, the surcharge was introduced as a fixed delivery fee so as to stabilise income.

The 'Together we can avoid Day Zero' campaigns, run since November of the previous year, urged Capetonians to use only 50 ℓ/day. This became official with the introduction of Level 6B restrictions in February. Households were limited to 10,5 kℓ/month, and the overall daily consumption target was set at 450 Mℓ/day. The projected date of Day Zero was indicated on the water dashboard.

The '50 ℓ a day' posters and social media posts took on a darker hue and a more ominous tone, becoming '50 ℓ a day keeps Day Zero away' (Appendix W).

In addition to its intensive social media, poster and billboard campaigns, in February a special Day Zero edition of *CityNews* was published. This publication, written in clear English, with translations of the key points in Afrikaans and isiXhosa, was inserted in community newspapers across the metro. This was effective in reaching people who did not want, have, or could not afford internet connectivity and access to social media and websites.

The Water and Sanitation Department produced the first *Water Outlook* in February 2018, which provided an excellent insight into water matters (Appendix V). It became common practice to direct any enquiry that could be answered by that document about the drought and the City's response to the latest update of *Water Outlook*. However, it was clear that this document was primarily used by a niche audience. Daily updates and enquiries still needed a response to ensure that the information was accessible to the average person, and that the City catered to the evolving daily media enquiries for the most up-to-date information. The *Water Outlook* provided information with a month's lag time.

In March, a second pilot water POD was set up in Observatory to show the media how residents would collect water using their vehicles. Unlike the POD set up in October, this one received enormous media coverage and drove the reality of the situation home to Capetonians. It is believed that this illustrates the difficult task of communication, where the crisis has been one of a slowly unfolding nature. Residents increased their Day Zero preparation efforts by purchasing buckets, storage tanks and containers, as well as water itself (Appendix AC). Local flights from around the country also encouraged travellers to bring bottles of 5 ℓ water into the city.

By this point, international media had focused on Cape Town, and tourism suffered. Although the concept of Day Zero did have the effect of getting residents to bring their consumption down to the required levels, it affected Cape Town's image as it was incorrectly portrayed in most media as the day the city would run out of water entirely, rather than what it actually was – the introduction of rationing.

With dramatically reduced daily water use by residents, vigorous pressure and water demand management initiatives, and with some additional supply from private agricultural dams, Day Zero was pushed out to after the winter rains were expected to begin.

In March 2018, Day Zero was eventually called off altogether, though residents were urged not to change their behaviour and restrictions remained in force. The 2018 winter rainfall was still below average, but much higher than 2017 and posed an extraordinary relief. By June 2018, the City was able to relax restrictions back to Level 5.

Cape Town had dodged a bullet.

LESSONS LEARNED

The City narrowly averted an unprecedented crisis due to many factors, but communication to/with residents and visitors was key. At the beginning, communications were fragmented and indistinct as the City was still coming to terms with an event it had never seen or had to manage before. There was considerable tension between those who felt more severe measures should be implemented and those who feared that doing so would damage the City's reputation and economy.

Initially, these conflicting views led to confusion, and possibly even complacency among residents. The result was that when the severity of the situation was acknowledged, the City was criticised for doing too little too late and its reputation for effective service delivery was dented.

However, as a common view and approach developed, communication became more focused and effective. Asking people to modify their behaviour was challenging, and it was only the threat of Day Zero that led to residents reducing their consumption to the required level. Responses to the City's campaigns varied widely, from people who took great pride in the measures they had taken to use the absolute minimum amount of water, to those who were seemingly indifferent to the crisis at hand.

The actual communication was very effective. Strong visuals, simple graphics and clear messaging were hallmarks, and detailed multilanguage documents regarding water demand management devices, leak detection and repair, and alternative water sources were widely dispersed (Appendix AD and AE).

In hindsight, one problem was a reliance on the internet to spread the word. Given Cape Town's demographics, it would be unlikely that disadvantaged residents had the desire or even the resources to follow the City on social media or to access downloads. Radio, community newspapers, *CityNews* and public information displays were more effective in reaching those residents.

The outcomes have been positive in the main. The City has a template and toolkit for managing future crises of this kind, and residents' perceptions of water and its sustainable use have changed for good. Water pricing is now more resilient to drought shocks, and residents have largely accepted that the clean, safe water they consume comes at a cost. The development of the Water Strategy has helped make a sustainable water supply a public issue and concern, and more residents now understand that the City is a careful custodian of scarce water resources and has long been implementing demand reduction and loss control measures.

The water shortages unified residents. Everyone was affected, regardless of income, status or political affiliation. Initially, there was a great deal of playing the 'blame game', but, in time, many residents came to understand that the causes of the crisis were complex and numerous, and that many were completely beyond the City's control. There was a distinct attitude of coming together to face down an unprecedented crisis, a strengthened sense of civic and environmental responsibility, and closer cooperation between residents and the City. In October 2018, the City flighted a TV ad thanking residents and staff for their efforts (Appendix X).

There was the risk that residents would relax in their water-saving efforts and return to previous consumption patterns, however, this does not seem to have happened. On the whole, Capetonians are generally consuming less water weekly than the City's targets. Part of this can be attributed to permanent changes resulting from individual households' consumption reduction and augmentation efforts, but it does seem as though the collective mindset has changed. Capetonians will continue to be acutely aware of the scarcity of water and act accordingly.

To reinforce this thinking, the City ran a number of 'close out' campaigns featuring adults and children, promoting the careful use of water and the need to preserve resources for the future.

The City's success in managing the water crisis is summed up by Arron Wood, Lord Mayor of the City of Melbourne, who applauded Capetonians for halving their water consumption in just two and a half years, whereas his city's residents, during Australia's extreme 'Millennium Drought', took 12 years to reduce their consumption by just 35%.

If anything, the water crisis helped to cement a view of Cape Town's exceptionalism. Initially, Capetonians dithered, debated and hoped for the best, as they do. Once it became apparent that there was a real crisis, they responded magnificently – on every level.

APPENDICES

APPENDIX A: ‘THINK WATER’ CAMPAIGN – JANUARY 2016

The ‘Think Water’ campaign educated Capetonians on water use and behavioural changes:

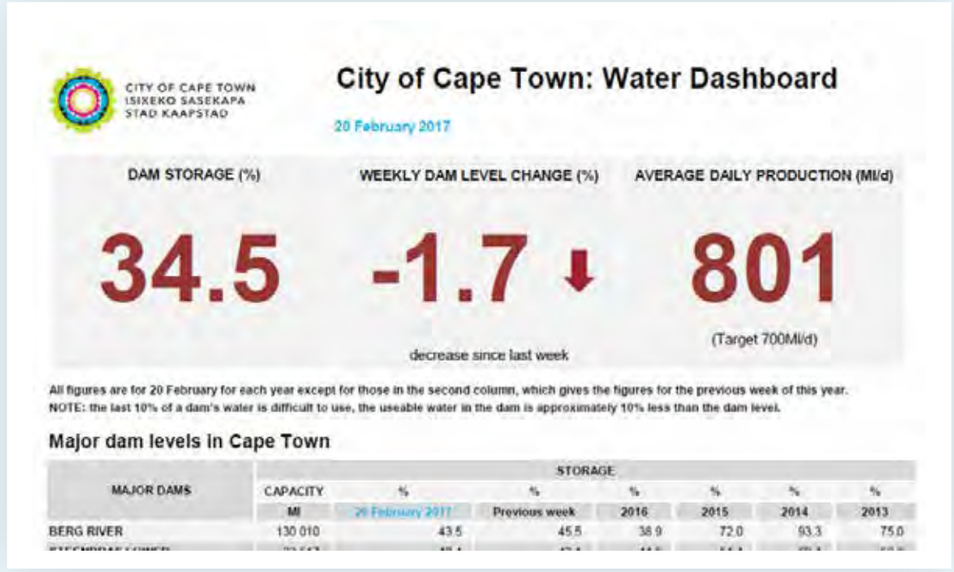
The City’s water mascot, Manzi, was also involved in the ‘Think Water’ campaign:

APPENDIX B: LEVEL 3 WATER RESTRICTIONS – NOVEMBER 2016

The 'Think Water' campaign continued throughout Level 3 restrictions:

APPENDIX C: WEBSITE UPDATES – FEBRUARY 2017

The Water and Sanitation Department provided weekly dam level, rainfall, consumption and storage updates on the City's website:


CITY OF CAPE TOWN
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City of Cape Town: Water Dashboard

20 February 2017

DAM STORAGE (%)	WEEKLY DAM LEVEL CHANGE (%)	AVERAGE DAILY PRODUCTION (Ml/d)
34.5	-1.7 ↓	801
	decrease since last week	(Target 700Ml/d)

All figures are for 20 February for each year except for those in the second column, which gives the figures for the previous week of this year.
NOTE: the last 10% of a dam's water is difficult to use, the useable water in the dam is approximately 10% less than the dam level.

Major dam levels in Cape Town

MAJOR DAMS	STORAGE						
	CAPACITY	%	%	%	%	%	%
	Ml	20 February 2017	Previous week	2016	2015	2014	2013
BERG RIVER	130 010	43.5	45.5	38.9	72.0	93.3	75.0

APPENDIX D: EXTENSION OF THE 'THINK WATER' CAMPAIGN – MARCH 2017

The City intensified the 'Think Water' campaign, educating residents on the volume of water used when undertaking certain activities:

APPENDIX E: ADDITIONAL WATER-SAVING CAMPAIGNS – MARCH 2017

The City emphasised that 'brown is the new green', encouraging Capetonians not to wash their vehicles:

APPENDIX F: LEVEL 4 WATER RESTRICTIONS – JUNE 2017

The City outlined what Level 4 restrictions entailed in a public notice:

DROUGHT CRISIS: LEVEL 4 WATER RESTRICTIONS

CATEGORIES	LEVEL 4
IRRIGATION WITH MUNICIPAL DRINKING WATER	Prohibited
IRRIGATION WITH NON-DRINKING WATER	Discouraged
BATHROOM	Flushing toilets with non-drinking water (e.g. greywater or rainwater) encouraged
WATER FEATURES	Use of municipal drinking water prohibited
SWIMMING POOLS	• Top-up, filling or refilling prohibited • Use of portable play pools prohibited • Pool covers for public swimming pools strongly encouraged
WASHING VEHICLES	• Prohibited with municipal drinking water • Car wash businesses may apply for exemption
FACILITIES	• Operation of spray parks prohibited • Golf courses, sports facilities, parks, schools and learning institutions are not allowed to establish new landscaping or sports fields, except if irrigated only with non-drinking water
INDIGENT WATER ALLOCATION	Still applies
OVERALL CONSUMPTION PER PERSON	Less than 100 litres per person per day wherever you are strongly encouraged

THINK WATER
CARE A LITTLE. SAVE A LOT.

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Making progress possible. Together.

APPENDIX G: 100 ℓ PER DAY – JUNE 2017

The City released a graphic illustration of how people could use the 100ℓ they had been allocated each day:

APPENDIX H: THE CITY'S 'LEAD BY EXAMPLE' CAMPAIGN – JUNE 2017

The City aimed to lead by example and communicated their water-saving efforts with the public:

APPENDIX I: STAKEHOLDER ENGAGEMENT – AUGUST 2017

The City engaged with residents and other stakeholders through public meetings and briefings and information displays at exhibitions, festivals, corporate events and in public spaces like shopping centres:


SAVE LIKE A LOCAL
CAPE TOWN IS EXPERIENCING ITS WORST DROUGHT EVER.


THIS CERTIFICATE HAS BEEN
AWARDED TO
CITY OF CAPE TOWN
THE BEST STAND AWARD
WATERWISE
At SA Cheese Festival 2018


CITY OF CAPE TOWN - WATER CONSERVATION


REPORT ALL WATER-RELATED

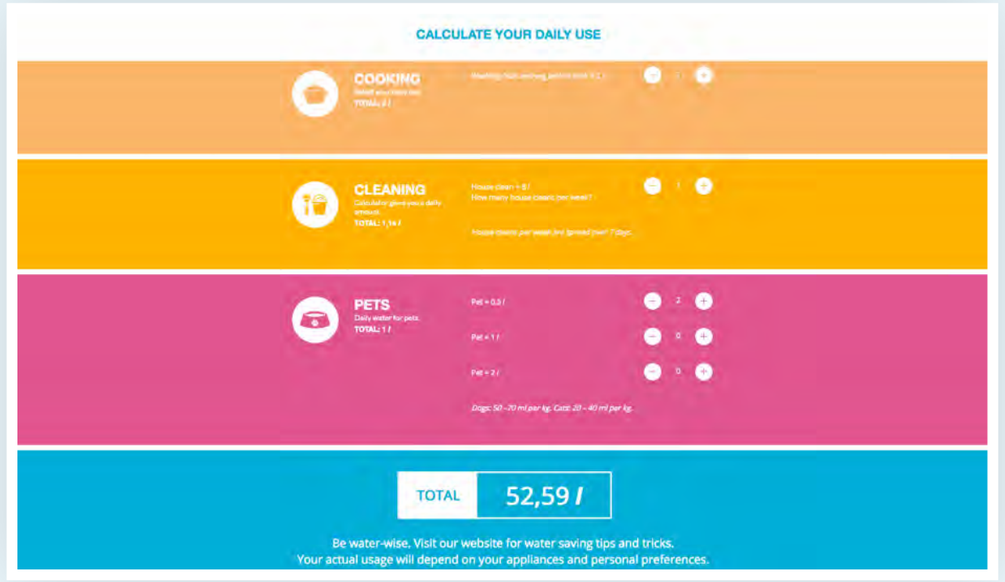

LORENZETTI


WATER CONSERVATION


CREATING A WATER-RESILIENT CITY

APPENDIX J: ONLINE WATER CALCULATOR – AUGUST 2017

The City created an online water-use calculator that could be accessed via the City's website:



APPENDIX K: LEVEL 5 WATER RESTRICTIONS – SEPTEMBER 2017

The details of Level 5 water restrictions, and what they entailed, were drawn up, printed and inserted into residents' rates bills:

LEVEL 5 WATER RESTRICTIONS

The City of Cape Town has implemented level 5 water restrictions, effective from 3 September 2017 until further notice.

RESTRICTIONS APPLICABLE TO ALL CUSTOMERS

- All water users are required to use no more than 87 litres of municipal drinking water per person per day in total, irrespective of whether you are at home, work or elsewhere.
- No watering/irrigation with municipal drinking water is allowed. This includes watering/irrigation of flower beds, lawns, vegetables, agricultural crops, other plants, sports fields, golf courses, schools, educational facilities, nurseries, parks and other open spaces, customers involved in agricultural activities, etc. (Nurseries and customers involved in agricultural activities or with historical gardens may apply for exemption. For more information, visit www.capetown.gov.za/thinkwater.)
- City departments may only water/irrigate sports fields, parks, etc. using non-drinking water and upon agreement of days and times with the Water and Sanitation department.
- Facilities/customers making use of borehole water, treated effluent water, spring water or wellpoints are encouraged not to water/irrigate within seven days after rainfall that provided adequate saturation.
- All boreholes and wellpoints must be registered with the City and must display the official City of Cape Town signage clearly visible from a public thoroughfare. Visit www.capetown.gov.za/thinkwater for how to register.
- Borehole/wellpoint water must be used efficiently to avoid wastage and evaporation. Borehole/wellpoint water users are strongly encouraged to water/irrigate only on Tuesdays and Saturdays before 09:00 or after 18:00 for a maximum of one hour.
- All properties where alternative, non-drinking water resources are used (including rainwater harvesting, greywater, treated effluent water and spring water) must display signage to this effect clearly visible from a public thoroughfare. Visit www.capetown.gov.za/thinkwater for further information.
- No washing or hosing down of hard-surfaced or paved areas with municipal drinking water allowed. Users such as abattoirs, food processing industries, care facilities, animal shelters and other industries or facilities with special needs (health/safety related only) must apply for exemption. For more information, visit www.capetown.gov.za/thinkwater.
- The use of municipal drinking water for ornamental water fountains or water features is prohibited.
- No topping up (manual/automatic) of swimming pools with municipal drinking water is allowed, even if fitted with a pool cover. This includes the filling of new pools or the refilling of an existing pool after repairs. This applies to all pools, including public pools and pools at clubs, businesses and institutions.

RESTRICTIONS APPLICABLE TO RESIDENTIAL CUSTOMERS

- Single residential properties (domestic full tariff category) consuming more than 20 000 litres per month will be fined. (See note 1)
- Cluster developments (e.g. flats and housing complexes) consuming more than an average of 20 000 litres per residential unit per month will be fined. (See note 1)
- No washing of vehicles, trailers, caravans or boats with municipal drinking water is allowed. These must be washed with non-drinking water or cleaned with waterless products or dry steam cleaning processes.

It was also communicated in the media:

https://youtu.be/2rHG8L9WOcM

APPENDIX L: PILOT PEDESTRIAN POINT OF DISTRIBUTION (POD) – OCTOBER 2017

A water POD was set up in Maitland to show the media how residents would collect daily allocations of water:

APPENDIX M: DISASTER PLAN ACTIVATED – WATER RATIONING – OCTOBER 2017

The City's disaster plan was set in action and water rationing was activated:

CITY ACTIVATES WATER RATIONING AS PART OF DISASTER PLAN

Phase 1 of critical water shortages disaster plan activated: water rationing

Water rationing has been implemented to stretch the water supply in our dams and to avoid a full-scale disaster.

It will lead to intermittent supply disruptions, likely during peak water consumption hours in the morning and evening but won't result in a complete shutdown. Service will be restored as quickly as possible.

- Keep up to 5 litres of water for essential use only.
- Please do not store excessive municipal water.
- Definitive timetables of the outages cannot be provided as water systems must be managed flexibly to avoid damage to critical infrastructure.
- When you experience a loss of water supply and before contacting our call centre, check your neighbour's supply first to see whether it is likely a case of rationing.
- Those in multistorey buildings must ensure that the water supply system (booster pumps and roof-top storage) is in working order in compliance with the Water By-law (2010).
- The City is not liable for the impact of or damage to private infrastructure resulting from the rationing or associated operations.
- Please ensure that all taps are closed when not in use to prevent damage/flooding when the supply is restored. Ensure that you take the necessary steps, such as speaking to your insurer if possible, to mitigate potential damage and for fire prevention.
- Critical services such as clinics and hospitals will be largely unaffected.

Water management devices are being installed city-wide to limit excessive consumption.

Further restriction levels and usage targets will be announced as necessary to drive down consumption to a safe level.

The limit of 87 litres per person per day wherever you are remains.

Visit www.capetown.gov.za/thinkwater and the City's Facebook page for useful information.

We need to stand together.
Thank you Team Cape Town.

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Making progress possible. Together.

APPENDIX N: 'SAVE LIKE A LOCAL' CAMPAIGN – NOVEMBER 2017

The City launched the 'Save like a local' campaign to encourage tourists to conserve water:

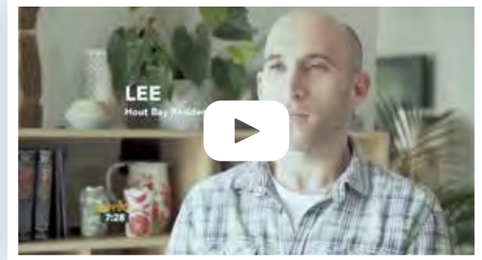
APPENDIX O: ‘DAY ZERO’ CAMPAIGN – NOVEMBER 2017

The City adopts the concept of ‘Day Zero’ and a tagline was created as an offshoot of the City’s ‘Making progress possible. Together’ motto:

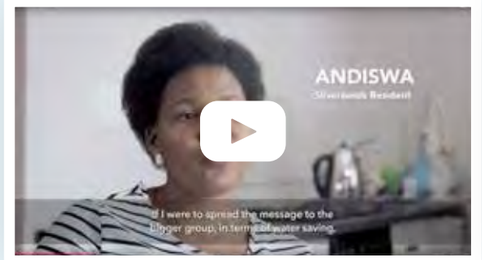
Residents were also featured in the save water ‘Day Zero’ campaign in attempts to make the communication more relatable:

These ‘water warriors’ were also featured in the media on shows like Expresso.

https://youtu.be/zqnCmQOaex8



https://youtu.be/59oMH4dpKGY

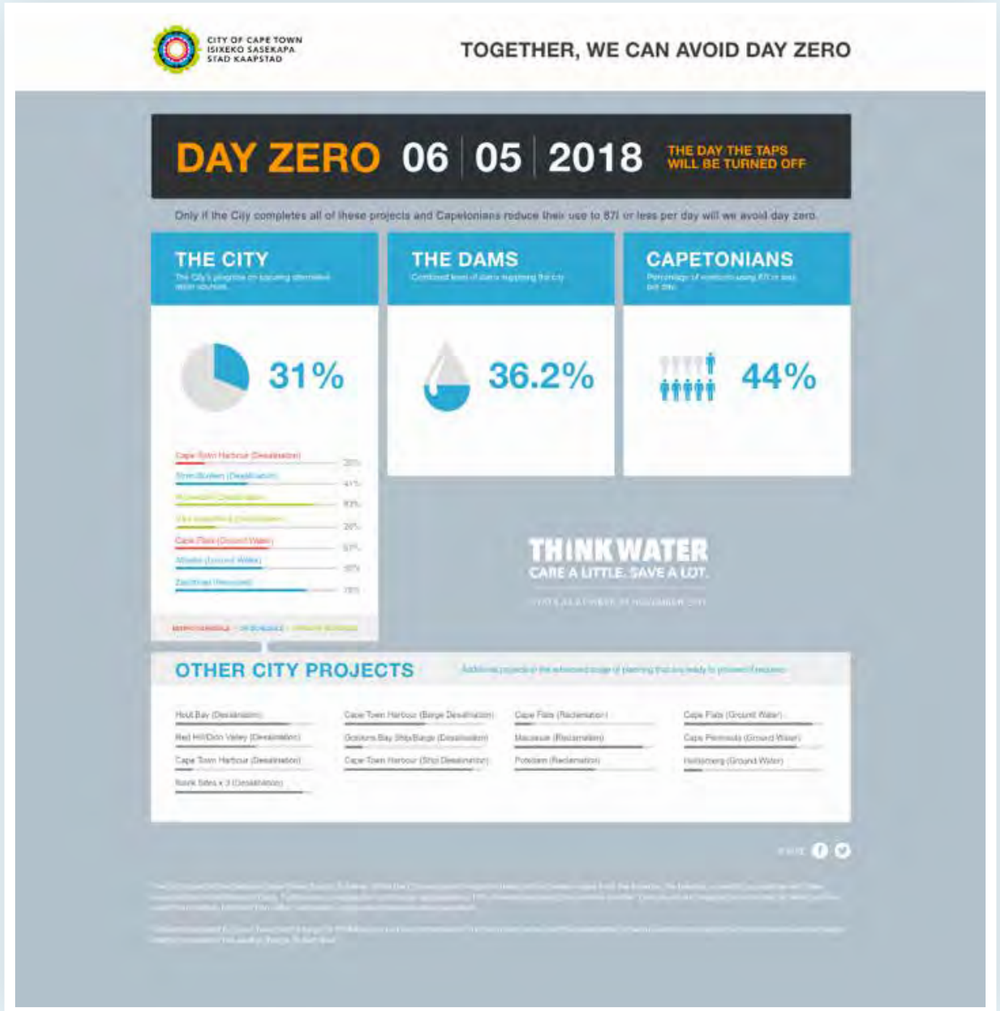


https://youtu.be/OZt8sivrHZU

https://youtu.be/OZt8sivrHZU

APPENDIX P: WATER DASHBOARD – NOVEMBER 2017

A live water dashboard was featured on the City's website that indicated dam levels, the City's progress in securing alternative water sources, what percentage of Capetonians were complying with the water restrictions, and an outline of the City's other water projects:



APPENDIX Q: 50 ℓ PER DAY WAS PROMOTED – NOVEMBER 2017

While not yet enforced, the City started encouraging Capetonians to use only 50 ℓ of water per person per day:

APPENDIX R: DROUGHT CHARGE – DECEMBER 2017 (NOT IMPLEMENTED)

The City planned to insert a 'drought charge' cheat sheet into rates bills, however, after a backlash by residents, they chose not to implement it:

DROUGHT CHARGE TO HELP US AVOID DAY ZERO

Our long, dry summer is here. Right now we are likely to reach Day Zero where we will have to queue for water.

Half of you are making a huge effort to save water and the City appreciates your commitment. We know that it hasn't been easy.

The City is working hard to make new water available. We have doubled the output from the Atlantis aquifer, we've made water available from the Oranjezicht main springs and we are drilling abstraction boreholes into the Table Mountain Group Aquifer to supply the Steenbras catchment area.

These projects are essential, but expensive. We'll continue to put pressure on national government to pay what they should be paying for, to police those who aren't paying their bills and restricting the water usage of water abusers. We will continue to cut costs every day.

But this won't be enough. We have proposed a drought charge on property rates in 2018 to help pay for these vital projects and will primarily also be used to ensure the water operations of the City remain available for all. Our pensioners and indigent persons will still get protection. We will strive to ensure that what you will pay is not more than what your water bill was before the drought. **This has been an incredibly tough decision to make. It is not punative. It is absolutely vital to help us to avoid Day Zero.**

We know this is not easy and that we've already asked a lot of you. But if we work together, we can avoid Day Zero.

Impact of proposed drought charge (examples) based on 10% of municipal rates portion of municipal account

(Applied to residential properties with a valuation of **R400 000 and above** and all commercial properties with a valuation of **R50 000 and above.**) We will strive to ensure that residents will not pay more than what your water bill was before the drought.

Residential property valuation (without rebates) R	Suggested monthly drought charge R	Commercial property valuation R	Suggested monthly drought charge R
Less than 400 000	R0	Less than 50 000	R0
400 000	R25	50 000	R10
600 000	R35	500 000	R60
800 000	R45	750 000	R85
1 000 000	R60	1 000 000	R115
2 000 000	R115	2 500 000	R280
3 000 000	R170	5 000 000	R560
4 000 000	R225	10 000 000	R1 120
5 000 000	R280	15 000 000	R1 680
6 000 000	R340	20 000 000	R2 240
7 000 000	R420	30 000 000	R3 360
10 000 000	R565	50 000 000	R5 600
20 000 000	R1 120	100 000 000	R11 200
50 000 000	R2 800	500 000 000	R56 000

* **This table does not take any rebates, such as for pensioners, into account.**
* If approved, this emergency drought charge will be valid from **1 February 2018.**
* The drought charge is calculated at between 10% and 11% of the rates portion of your municipal account.
* The current rates rebates that apply on the standard property rates will also apply to this drought charge.
* The drought charge will only be valid until 30 June 2021.

Please submit your comments to drought.charge@capetown.gov.za until 12 January 2018. Check your municipal account for your property valuation or see the municipal valuation roll on www.capetown.gov.za.

For general queries about this drought charge, please phone the City's call centre on 0860 103 089.

Proud Capetonians use water responsibly and stay informed about the drought.

Take action – find out about:
- Level 6 water restrictions (from 1 January 2018)
- Making water saving a way of life
- The Day Zero dashboard
- The drought charge

Help spread the water-saving word by downloading our water resource packs for your home, the hospitality industry and business at www.capetown.gov.za/thinkwater.

Thank you, Team Cape Town.
City of Cape Town

THINK WATER
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APPENDIX S: DESKTOP SCREENSAVERS – DECEMBER 2017/JANUARY 2018

The City created a set of computer desktop screensavers that were deployed across the City's network:

APPENDIX T: LEVEL 6 WATER RESTRICTIONS – JANUARY 2018

The City explicitly outlined what Level 6 restrictions entailed:

DROUGHT CRISIS: LEVEL 6 WATER RESTRICTIONS

CATEGORIES	LEVEL 6
CONSUMPTION PER PERSON	87 litres or less per person per day wherever you are: home, work, school, etc
LIMIT FOR INDIVIDUAL RESIDENTIAL UNITS	Residential units exceeding 10 500 litres per month will be prioritised for enforcement
COMMERCIAL PROPERTIES	Reduce consumption by 45% compared to the corresponding period in 2015 (pre drought). Properties exceeding this will be fined
IRRIGATION WITH MUNICIPAL DRINKING WATER	Prohibited
IRRIGATION WITH BOREHOLE/WELLPOINT WATER	Discouraged in order to preserve groundwater resources
BATHROOM	Flushing toilets with non-drinking water (e.g. borehole/wellpoint, greywater or rainwater) encouraged
WATER FEATURES	Use of municipal drinking water prohibited
SWIMMING POOLS (public and private)	• Top-up, filling or refilling with drinking water prohibited • Use of portable play pools prohibited
WASHING VEHICLES (privately or at a formal/informal car wash)	Prohibited with municipal drinking water
FACILITIES	• Operation of spray parks prohibited • No new landscaping or sports fields may be established, except if irrigated only with non-drinking water
INDIGENT WATER ALLOCATION	Still applies

APPENDIX U: GREEN DOT WATER MAP – JANUARY 2018

The Water and Sanitation Department launched an online 'water map', which acknowledged households that were achieving the water-saving targets. Members of the public were able to access it at: www.capetown.gov.za/watermap

APPENDIX V: *WATER OUTLOOK* PUBLICATION – FEBRUARY 2018

The Water and Sanitation Department produced the first *Water Outlook* publication, which provided insight into various water matters:

DROUGHT CRISIS: LEVEL 6 WATER RESTRICTIONS	
CATEGORIES	**LEVEL 6**
CONSUMPTION PER PERSON	87 litres or less per person per day wherever you are: home, work, school, etc
LIMIT FOR INDIVIDUAL RESIDENTIAL UNITS	Residential units exceeding 10 500 litres per month will be prioritised for enforcement
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WATER FEATURES	Use of municipal drinking water prohibited
SWIMMING POOLS (public and private)	• Top-up, filling or refilling with drinking water prohibited • Use of portable play pools prohibited
WASHING VEHICLES (privately or at a formal/informal car wash)	Prohibited with municipal drinking water
FACILITIES	• Operation of spray parks prohibited • No new landscaping or sports fields may be established, except if irrigated only with non-drinking water
INDIGENT WATER ALLOCATION	Still applies

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APPENDIX W: 50 ℓ PER DAY – FEBRUARY 2018

Level 6B level restrictions meant residents were limited to using 50 ℓ of water per person per day. The copy was slightly more ominous than previous communications:

APPENDIX X: 'THANK YOU, CAPE TOWN' TV AD – OCTOBER 2018

The City flighted a TV ad that thanked residents and City staff for their water-saving efforts during the crisis:

To view the ad, visit <insert link>.

APPENDIX Y: RESTRICTIONS DROPPED TO LEVEL 3 – DECEMBER 2018

The City issued a notice outlining water usage when Level 3 water restrictions were reimplemented:

LEVEL 3 WATER RESTRICTIONS
1 DECEMBER 2018

CATEGORIES	LEVEL 3
OVERALL CITY WATER US OVERALL	650 million litres per day
CONSUMPTION PER PERSON	105 litres or less per person per day wherever you are: home, work, school, etc.
LIMIT FOR INDIVIDUAL RESIDENTIAL UNITS	Not applicable under Level 3
COMMERCIAL/AGRICULTURE	• Percentage reduction restrictions not applicable under Level 3 • All customers must adhere to the Water By-law at all times and are strongly encouraged to use water responsibly
IRRIGATION WITH MUNICIPAL DRINKING WATER	• Watering with municipal drinking water allowed only if using a bucket or watering can • No use of hosepipes or any sprinkler systems allowed • Limited to a maximum of one hour per property on Tuesdays, Thursdays and Saturdays before 09:00 or after 18:00 • No watering within 48 hours of rainfall that provides adequate saturation
BOREHOLE/WELLPOINT WATER	• Must be used efficiently to avoid wastage and evaporation • Customers are strongly encouraged to limit watering to a maximum of one hour per property on Tuesdays, Thursdays and Saturdays before 09:00 or after 18:00
BATHROOM	Customers are encouraged to flush toilets with greywater, rainwater or other non-drinking water
WATER FEATURES	Use of municipal drinking water prohibited
SWIMMING POOLS	Topping up or filling of swimming pools with municipal drinking water allowed subject to: • The pool being covered with a non-permeable solid pool cover when not in use • Recovery of backwash water and the use of rainwater for pool topping up where practically possible
WASHING VEHICLES	• Washing vehicles with municipal drinking water at home or at informal car washes allowed using a bucket - not a hosepipe • Commercial car washes may use municipal drinking water subject to industry best practice water conservation norms and the recycling of at least 50% of water used
FACILITIES	• Spray parks may operate subject to their strict management to minimise water use • No new landscaping or sports fields may be established, except if irrigated only with non-drinking water
WATER AND SANITATION TARIFFS	Level 3 tariffs

www.capetown.gov.za/thinkwater

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They also detailed the tariffs involved and how residents should go about using water post-drought:

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This document is a guide to the most commonly-used water and sanitation tariffs.
Please see our website for all water and sanitation tariffs for 2017/18 (Annexure 6) and 2018/19 (Annexure 6).

RESIDENTIAL WATER TARIFFS (Domestic Full and Domestic Cluster)

Water Steps (1kl = 1000 litres)	Level 5 (2018/19) Until 30/11/2018 Rands (incl VAT)	Level 3 (2018/19) From 1/12/2018 Rands (incl VAT)
Step 1 (0 ≤ 6kl)	R24.37 (free for indigent households)	R15.73 (free for indigent households)
Step 2 (>6 ≤ 10.5kl)	R39.59 (free for indigent households)	R22.38 (free for indigent households)
Step 3 (>10.5 ≤ 35kl)	R60.25	R31.77
Step 4 (>35kl)	R345.00	R69.76

RESIDENTIAL SANITATION TARIFFS (Domestic Full and Domestic Cluster)

Water Steps (1kl = 1000 litres)	Level 5 (2018/19) Until 30/11/2018 Rands (incl VAT)	Level 3 (2018/19) From 1/12/2018 Rands (incl VAT)
Step 1 (0 ≤ 4.2kl)	R19.47 (free for indigent households)	R13.82 (free for indigent households)
Step 2 (>4.2 ≤ 7.35kl)	R34.79 (free for indigent households)	R19.67 (free for indigent households)
Step 3 (>7.35 ≤ 24.5kl)	R51.92	R29.43
Step 4 (>24.5 ≤ 35kl)	R124.30	R52.96

COMMERCIAL / INDUSTRIAL TARIFFS

Water Steps (1kl = 1000 litres)	Level 5 (2018/19) Until 30/11/2018 Rands (incl VAT)	Level 3 (2018/19) From 1/12/2018 Rands (incl VAT)
Water	R43.13	R28.82
Sanitation (standard)	R34.83	R25.89

SCHOOLS / SPORT BODIES / RELIGIOUS INSTITUTIONS / CHARITIES TARIFFS

Water Steps (1kl = 1000 litres)	Level 5 (2018/19) Until 30/11/2018 Rands (incl VAT)	Level 3 (2018/19) From 1/12/2018 Rands (incl VAT)
Water	R43.13	R28.82
Sanitation (standard)	R34.83	R25.89

FIXED BASIC DELIVERY CHARGE

Size (mm)	Monthly Charge Rands (incl VAT)
15	R64.40 (free for indigent households)
20	R115.00 (free for indigent households)
25	R179.40 (free for indigent households)
40	R460.00 (free for indigent households)
50	R718.75
80	R1 840.00
100	R2 875.00
>150	varies

*Sanitation charged to a maximum of 35kl

Domestic Full = Stand-alone houses

Domestic Cluster = Flats, sectional title units, cluster developments and gated villages

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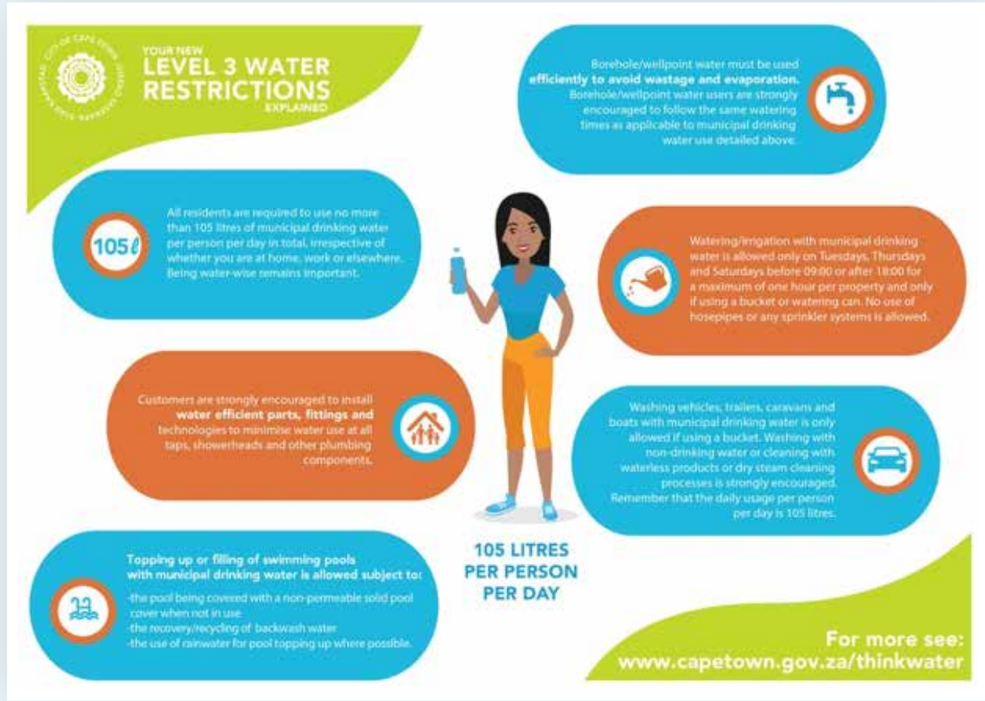
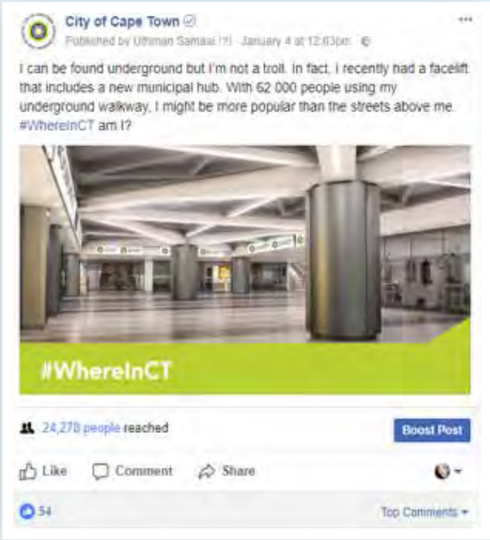


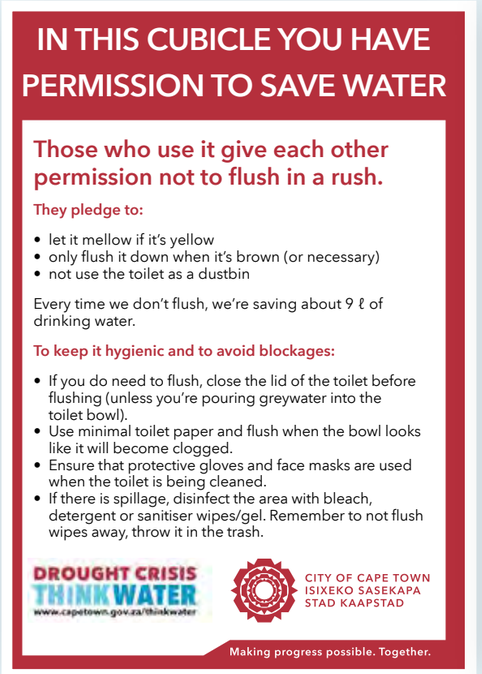
APPENDIX Z: SOCIAL MEDIA

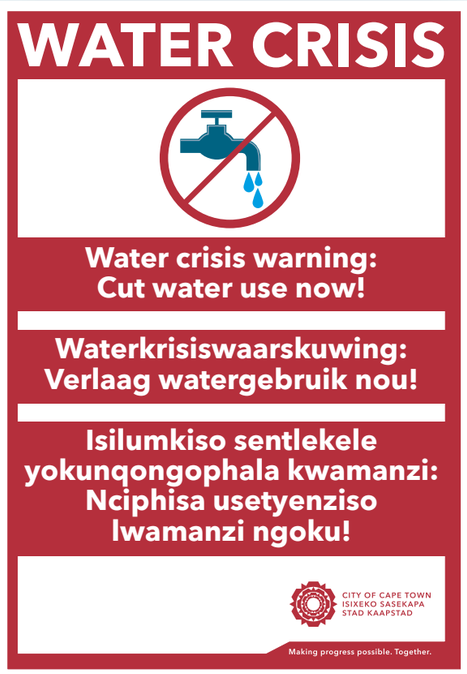
The City was largely active on social media platforms like Facebook and Twitter throughout the drought. This helped residents keep up to date with the ongoing water crisis, and allowed them to openly communicate with the City:



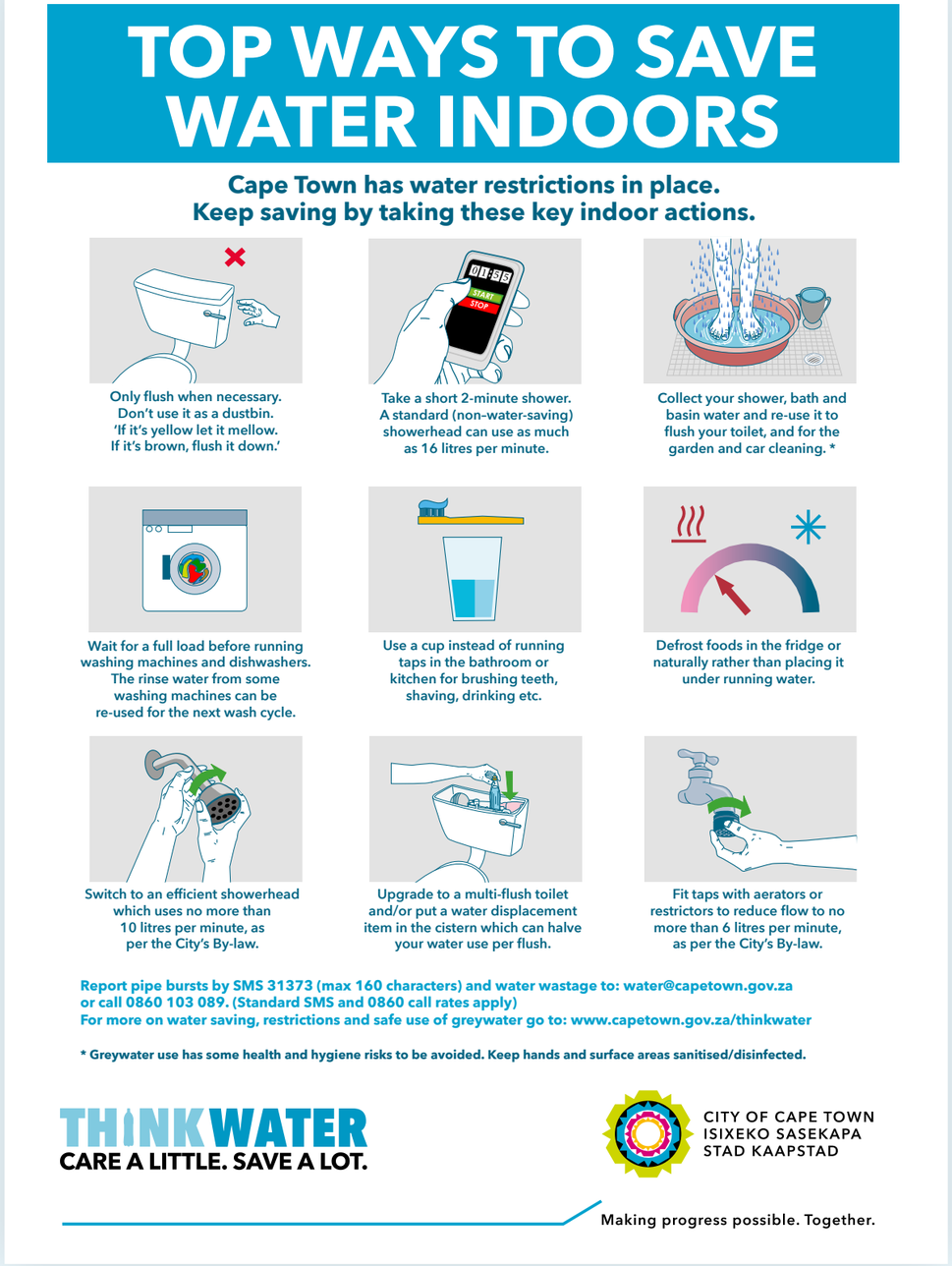
APPENDIX AA: WATER-SAVING COMMUNICATION FROM THE CITY

The City created posters to be displayed in public bathrooms and public places:



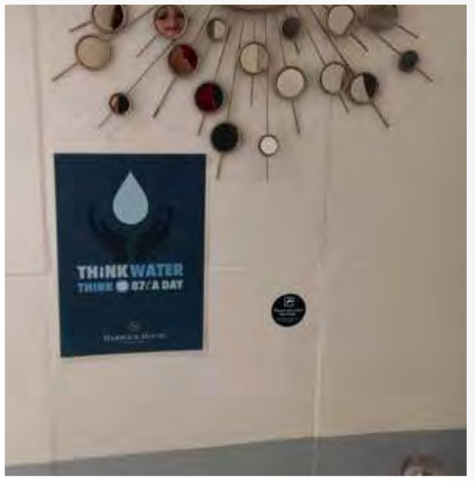


Capetonians were also educated on how to change their water-use behaviour:



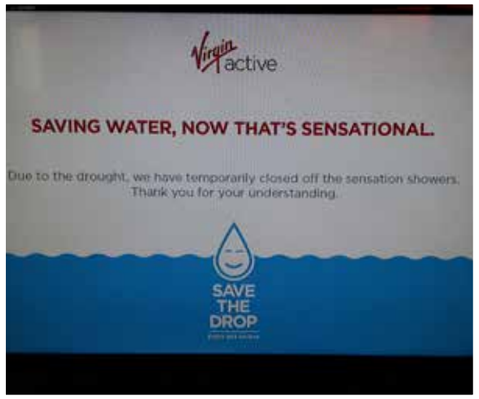
APPENDIX AB: EXTERNAL WATER-SAVING COMMUNICATION

Some organisations deployed their own bathroom water-saving signage:



Other water-saving and general water awareness signage was displayed in gyms, malls and public places:

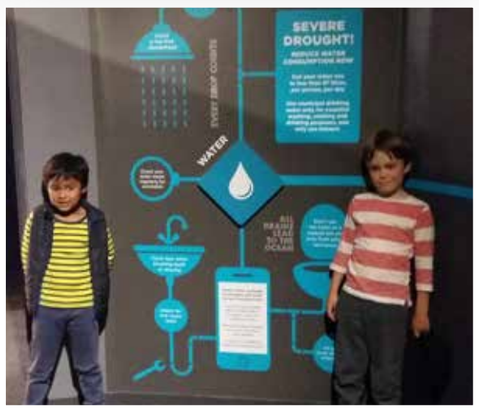
VIRGIN ACTIVE GYMS:



V&A WATERFRONT:

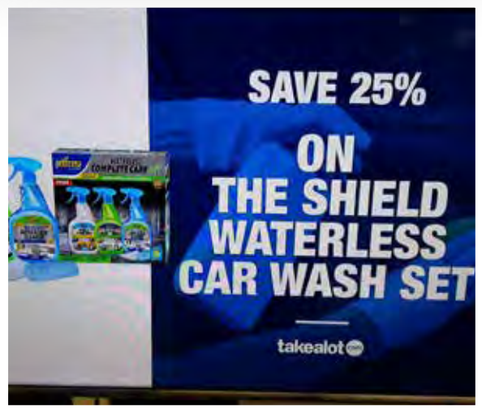
Prominent signage and exhibitions at shopping centres and on vehicles; businesses selling items residents used to collect and use water:

CAPE TOWN BUSINESS SPREADING THE MESSAGE



Organisations like Takealot.com offered promotional deals that encouraged people to purchase and make use of water-saving devices:

TAKEALOT.COM



The presenters from *Expresso* also shared their water-saving tips:

https://youtu.be/rvPbjTo1Tfw

APPENDIX AC: PREPARING FOR DAY ZERO

Capetonians bought buckets and water storage containers to reduce their water use and to prepare for Day Zero and use alternative water (e.g. greywater in the shower) to flush the toilet.

APPENDIX AD: WATER MANAGEMENT DEVICES

The City created guides on how to install water management devices to help conserve water:

GUIDE TO WATER METERS AND WATER MANAGEMENT DEVICES

Your home or business is connected to the City's water network. The water meter measuring the water consumption is normally situated in a small chamber on the pavement outside your property. Every month, you receive a municipal bill. Your water usage is indicated on the bill and it is important that you check what your water usage was for the previous month.

During this severe drought, it is more important than ever to check your usage and to ensure that you keep to minimal/essential use only as detailed in the current restriction measures. Checking the registered consumption on your meter is a fundamental way of doing this.

HERE'S HOW:

- Make sure you know where your water meter is located
- Make sure it is not obstructed (e.g. by sand or weeds) and is easy to read
- No matter what type of water meter you have, black numbers represent kilolitres and red numbers represent litres. (To check for leaks, turn off all taps, do not flush the toilet or use municipal water. If the meter keeps on turning, it is an indication of a leak on your property. Please find details on how to fix leaks on www.capetown.gov.za/thinkwater.)

Your water meter should be accessible to City officials at all times. The City reads your water meter once a month to calculate your monthly water and sewerage consumption.

If your water meter is behind locked gates, or other reasons prevent the meter readers from taking a reading, you can submit the reading yourself by calling 0860 103 089 or registering and entering the reading online via your municipal account on our e-Services portal.

If you have a water management device (WMD) installed at your property, please note that:

- Most formal households are supplied via a 15 mm or 20 mm water connection and all new installations and meter replacements on these properties are WMDs.
- A customer who has been identified as an excessive water user by the City, based on the monitoring of a specific account, will have a WMD installed due to water restrictions measures not being adhered to. In this case:
  - » The WMD is set to a daily allocation of 350 litres to restrict the water supply to the property in line with the current water restrictions.
  - » The customer has received a warning letter to reduce water usage or to apply for usage above the limit. Upon receiving the application, the WMD will be set at the approved limit.
  - » The limit is determined by the current level of restriction and the average number of people in a single residential property, which is three to four.
- All indigent customers who form part of the Water Leaks Project would have or will receive a WMD with a setting of 350 litres per day. This will go hand-in-hand with the offer or benefit of the Water Leaks Project and will be given consideration in terms of the debt write-off process.
- All customers against whom debt action has been taken and where a WMD is at the property will have a setting of 200 litres per day in line with the basic allocations.
- The daily allocation is set to activate at 04:00. Regardless of what time you might deplete your daily allocation, the next day's allocation will only come through at 04:00 the following day.
- You must keep all taps closed overnight as you will start using your allocation and wasting water when the water supply returns at 04:00.
- If you do not use your whole daily allocation, the remainder will be carried over to the next day until the last day in the calendar month.
- If you would like to motivate for an increase in the daily allocation, please go to your nearest cash office immediately or find the application form on www.capetown.gov.za/thinkwater.

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APPENDIX AE: ALTERNATIVE WATER USE

The City put together a guideline to inform people about the ins and outs of installing alternative water systems:

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SUMMARY OF GUIDELINES FOR INSTALLATION OF ALTERNATIVE WATER SYSTEMS IN CAPE TOWN

NOVEMBER 2017

Water and Sanitation Department

See City of Cape Town website for the full version and for the final publication in early 2018, and future updates.

For queries: sarah.rushmere@capetown.gov.za

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