



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Day Zero FAQs

(Last update: 5 April 2018)

Visit www.capetown.gov.za/thinkwater for all drought-related information.

Day Zero FAQs

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Disclaimer:

This document is subject to frequent updating and should be regarded as a living document which aims to provide clarity on Day Zero-related operations.

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Day Zero General

1. Where can I find a copy of the Water Disaster Plan?

Please see www.capetown.gov.za/thinkwater.

2. Why is there no longer a Day Zero in 2018? Was it all a myth to get people to save water?

It is false to claim that Day Zero is just some scare campaign. The water crisis is real. Just have a look at our dams to get the correct picture.

In addition, the crisis puts the City's water income into a deficit. We would not deliberately fail to sell water if we had more to sell, as that would provide more income than increasing tariffs.

The fact that projections for Day Zero have been progressively moving out is the combined result of:

- residents in Cape Town rallying in great numbers to the call to cut consumption
- the appropriate management of the water releases to agriculture by the national Department of Water and Sanitation
- the water donation from the farmers in the Palmiet River basin
- the implementation of pressure and tariff management measures by the City

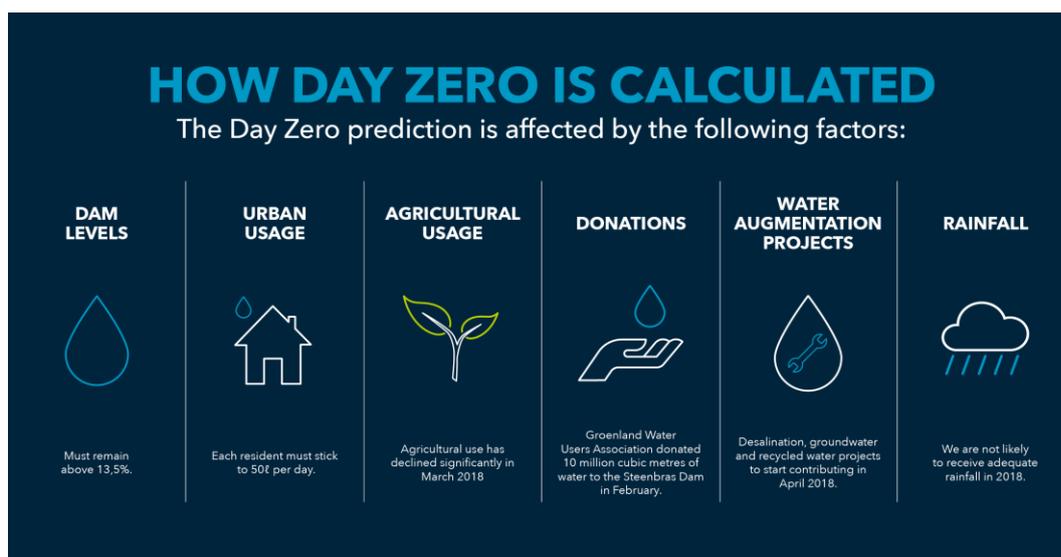
The City could not pre-emptively assume the effects of any of these interventions on Day Zero projections, but rather fed them into the Day Zero model as they materialised. The fact that Day Zero is moving out should therefore not be seen as a sign of deceit, but should be viewed as a reflection of our society's success and the conservative model used by the City to ensure that we act in a proactive manner to avoid such a day where we'd have to limit supply to our residents.

Day Zero has been calculated using a conservative approach, whereby the average dam decline over the previous three weeks was assumed to continue going forward. Using a conservative projection meant that the date could shift out under more favourable conditions. This methodology was deemed less of a risk than assuming a less conservative approach, and then having the date move closer if conditions were less favourable.

3. How does the City respond to allegations that the calculations used to project when Day Zero would arrive were unscientific?

Day Zero is calculated using a variety of factors and the City has been absolutely transparent with the public about Day Zero and the factors influencing it every step of the way.

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The National Department of Water and Sanitation stopped dispensing water to agricultural customers, and 8-10 million m³ was donated to the City by the Groenland Water Users' Association. These factors, together with reduced consumption by residents and advanced pressure management have resulted in the projected Day Zero date moving significantly beyond the start of the rainy season. Importantly, it is a temporary move and it may move forward again depending on the factors mentioned in the graphic ('How Day Zero is calculated'). Any rain we receive will further affect the occurrence of Day Zero.

Day Zero has been calculated using a conservative approach whereby the average dam decline over the previous three weeks was assumed to continue unchanged. Using a conservative projection meant that the Day Zero date could shift out if we received additional water, or consumption was reduced. This methodology was deemed less of a risk than assuming a less conservative approach, and then having the date move closer if conditions were less favourable.

4. How can Day Zero be avoided?

The only way we can avoid a time where the City proactive has to limit water supply in order to preserve remaining supplies is if all Capetonians join in the savings drive and immediately reduce their consumption to below 50 litres per person per day. This will bring our collective consumption to 450 million litres a day. If daily consumption continues to exceed this target, Day Zero will again be a reality this year. The City recently announced that we will not have to activate our disaster plan this year. However, it must be noted that we are all still legally obliged to reduce consumption to 450 million litres as per the directive of the National Department of Water and Sanitation. We must do this especially to help us through the next summer.

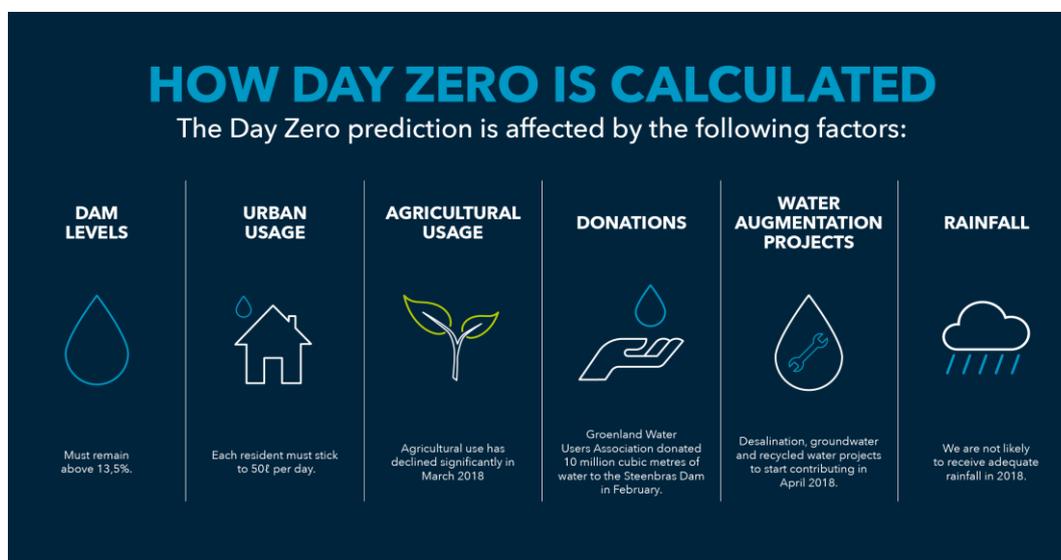
Consumption is monitored daily, and restrictions and the city-wide usage target could change at short notice. The City will lower the target to required levels, whichever these may be for the scenario faced at the time.

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5. Does Day Zero move?

Yes, Day Zero moves as it depends on the dam levels and urban and agricultural usage. Agricultural usage influences this as well as our city and agriculture uses from the same supply schemes.

(Visit www.capetown.gov.za/dayzerodashboard)



The dam levels depend on water usage, evaporation, how much water the agricultural sector uses and available water from the additional water supply projects.

The City is working tirelessly to do everything we can to avoid a Day Zero. We are pursuing all possibilities and have consulted experts in order to deliver on our plan to produce additional water from multiple sources, between Feb 2018 and 2020.

6. What would trigger Day Zero?

Day Zero will take effect when dam levels are at 13, 5%.

Any changes to this figure will be communicated in due course.

Day Zero is the day that the municipality takes control of the municipal water supply in a phased approach in order to stretch this supply, until the dams are at a sufficient level to allow water to be distributed via the reticulation system once again.

7. Who will stay connected?

We will prioritise some key areas to stay connected on Day Zero (the day when the taps are turned off to conserve remaining water). Densely populated informal settlements will stay connected, as many of them are already using standpipes to collect water. Critical infrastructure, population density and risk profile for disease outbreak are some of the factors that the City will take into account to decide which areas stay connected.

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Strategic commercial areas, high-density areas with significant risk of increased burden of disease, and critical services, such as hospitals and clinics, where possible, will continue to receive drinking water through the reticulation network.

Significant monitoring and enforcement will be put in place to ensure that water usage at these points is significantly reduced.

Our priority will be to keep strategic economic areas and industrial areas connected, in order for the economy to continue to function, to minimise the impact of this disaster on job losses, and ensure that people continue to get paid.

Despite this, the impact of Day Zero on the economy of Cape Town will be catastrophic - and avoiding Day Zero is crucial if we are to stave off massive job losses.

We are engaging with as many of these organisations as possible to work out what will be the best way to meet their water needs in a Day Zero scenario. The crisis that we face requires a whole of society approach. We will be discussing what strategies organisations such as this will employ to meet their water needs in the case of Day Zero – and how we can support these strategies in our planning and implementation of the Water Disaster Plan.

8. When did the water tariffs increase and where can I find the new tariffs?

Level 6B water restrictions and associated tariffs came into effect on 1 February 2018, to help finance water services and to reduce usage.

To cover the costs of water and sanitation provision, and to assist in driving down demand further, the water and sanitation tariffs have been increased. The tariffs remain based on usage. The more you use, the more you pay. High users will be hit especially hard. The City does not make a profit on income from the sale of water.

This is part of the City's efforts to avoid Day Zero and to create financial stability for the provision of water services. Although we have brought usage down from 1,1 billion litres per day to just under 600 million litres per day, we need to get to 450 million litres of collective usage per day.

The tariffs are available at www.capetown.gov.za/tariffs.

9. What key institutions and facilities will remain connected and receive water supply via the water reticulation system?

Strategic commercial areas, high-density areas with significant risk of increased burden of disease, such as informal settlements, and critical services, such as hospitals, old age homes, prisons, hospitals, fire stations, police stations, clinics, children homes, where possible, will continue to receive

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drinking water through normal channels. Significant monitoring and enforcement will be put in place to ensure that water usage at these points is significantly reduced.

10. What will happen on a Day Zero?

Day Zero is the day when dam levels reach 13,5% and the taps will be turned off in a phased approach.

We will use the reticulation network to supply approximately 200 water collection sites with water. The public will be informed of the nearest collection site in advance before we reach Day Zero.

The City is looking at a number of ways to distribute water to residents once this happens. These include engaging with major food retailers to act as water distribution points. We will also deploy water tankers to deliver water to key institutions, which will be cut off from the supply of water through the reticulation network.

- The City will provide water to residents through the water collection points. Water tankers will be used to deliver water to vulnerable groups such as old age homes and care facilities. We are also engaging retailers and the bottled water association to ramp up their distribution networks to increase bottled water supply, so that those who do not want to use the water collection points can purchase water. The quantity of 25 litres per person per day is in line with the World Health Organisation's recommendation.
- Each Water Collection Site will supply water for approximately 20 000 people.
- The City's Water and Sanitation Department will monitor Day Zero's impact on sanitation services. We will launch an extensive public health communication campaign before Day Zero to ensure that all sanitation systems continue to function and limit the risk and spread of disease.
- The City is working with the South African Police Service (SAPS) and the National Defence Force (SANDF) to ensure the safety of residents and the collection sites. SAPS and SANDF will be present to maintain law and order. The City conducted a pilot of a water collection site in Maitland on 9 November 2017. We have trained teams to set up and roll out these water collection sites.

11. Will residents have to pay for this water?

No payment will be required at the collection points.

Once water collection points have been implemented, affected properties will be charged a flat rate of R104,88 per month to cover the cost of supplying water to collection points and to ensure that an income is available to maintain the service.

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Properties that maintain their water supply via normal channels after Day Zero will have Level 7 tariffs applied which will carry significantly increased costs to ensure consumption at these properties remains low.

12. Will the City engage the private sector, NGOs, community structures, and any other sector players for assistance?

The City has ongoing engagements with external stakeholders on how they can assist with managing this drought and mitigating its effects.

The City cannot get Cape Town through the drought on its own. Constructive partnerships are vital. All water users must support us and help to drive awareness to come up with solutions that will help Cape Town through this unprecedented crisis.

Managing this disaster will require us as local government to coordinate with civil society at a level that has never been seen before.

13. Will there be further water restrictions?

Yes. We assess the situation constantly. Decisions might be communicated at short notice due to the severity of the situation.

14. Will new developments and other economic activity be limited if the situation becomes worse?

We will take decisions that affect the City's economy and jobs with the utmost care if the need arises. We encourage the construction industry to save water and use treated effluent where possible that the City has made available. All economic sectors must adhere to the water restrictions imposed by the City and employ their own water storage and supply contingency measures where possible.

15. What are businesses going to do that rely on water e.g. all the restaurants etc.? If they are forced to close, the economic impact will be enormous.

Strategic commercial areas, high-density areas with significant risk of increased burden of disease, such as informal settlements, and critical services, such as hospitals, old age homes, prisons, hospitals, fire stations, police stations, clinics, children homes, where possible, will continue to receive drinking water through normal channels. Significant monitoring and enforcement will be put in place to ensure that water usage at these points is significantly reduced.

We are engaging with as many of these organisations as possible to work out what will be the best way to meet their water needs in a Day Zero scenario. The crisis that we face requires a whole of society approach. We will be discussing what strategies that organisations such as these will employ

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to meet their water needs in the case of Day Zero – and how we can support the strategies in our planning and implementation of the Water Disaster Plan.

16. What engagement does the City have with businesses to plan for Day Zero?

The City has been engaging with many different businesses both on an individual level and with associations and different sector bodies.

Our engagements have been about actions that they can take now to help avoid Day Zero and various practical steps that will need to be taken in order to prepare for it. In these engagements we have also drawn on the expertise of Green Cape who has been able to assist a number of businesses to make use of alternative water sources and implement practical measures to ensure business continuity.

Some examples of the sectors we have engaged with include the tourism sector, the film sector, the petroleum sector, the retail sector, restaurant groups, agro-processing companies, industrial area collectives and a host of many others.

17. What steps is the City taking to go to businesses and inform/discuss with them how to save water, and how to continue operating during Day Zero?

Business sector engagements have been taking place over the past few months and further engagements are ongoing. The City is also sending out information directly to these stakeholders in an effort to advise them of lowering consumption and preparing their operations if Day Zero is reached.

18. Which factors do you include when calculating Day Zero? Is agricultural use included in the calculation?

In calculating Day Zero, we have consistently taken a conservative approach (based on what we have experienced before, especially in relation to agricultural usage) to water management and demand.

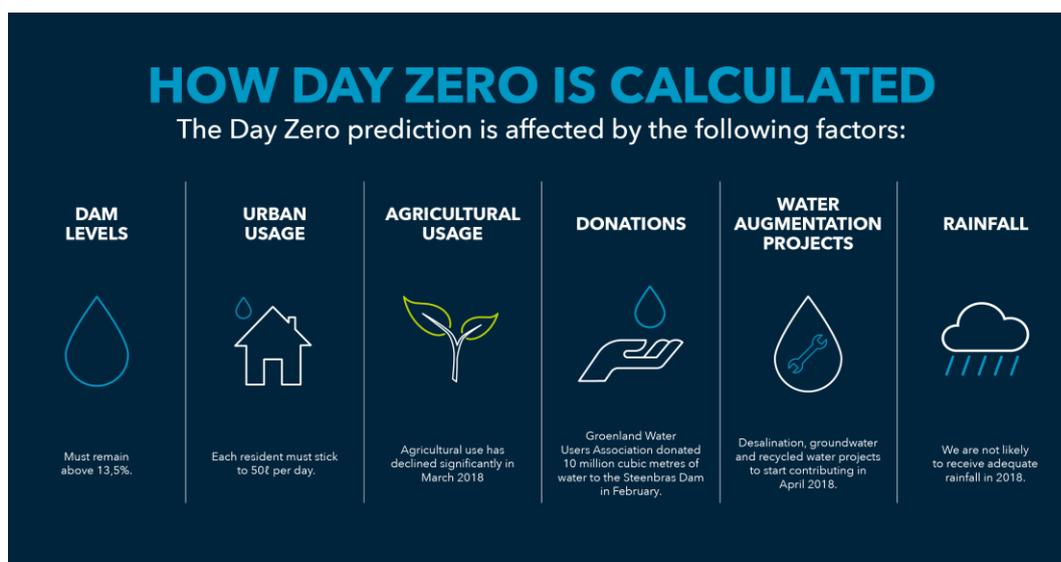
We've taken into account:

- Evaporation: The model assumes maximum calculated evaporation rates, based on historic calculations adjusted for increases in temperature and wind.
- Agricultural releases: The City extrapolated the National Department of Water and Sanitation's (NDWS) unverified release data as read from the NDWS hydrology website. In the previous season, agriculture exceeded its unrestricted allocation by a small percentage. The City thus had no historical evidence base to assume that agriculture would remain within their allocation. However, the national department has now shut off supply to two irrigation boards that utilised their full allocation by the end of January 2018. The City therefore feels more confident that

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agriculture will stay within their allocation this year, as opposed to the previous year. Had agricultural releases not slowed down, the threat of Day Zero would have moved closer.

- Urban usage: While the City has worked tirelessly to fix pipe bursts and leaks, install water management devices and implement advanced pressure management to drive down consumption and minimise leaks and bursts, urban demand is very much reliant on the behaviour of water users. For this reason, the model assumes that consumption will remain at the previous weeks' average usage levels.



19. How long do you expect this high level of water restrictions to be in place?

It would depend on how the situation unfolds. It depends on adequate rainfall and the determination by the National Department of Water and Sanitation. How is the City preventing people from selling water?

The sale of **unmodified** municipal water is unlawful in terms of our by-laws. It is, however, not unlawful to sell 'prepared water' (i.e. water that has been modified with added flavours, bubbles, or otherwise).

We can enforce our by-law, but the supply of bottled water is a supplier-consumer issue with which we cannot interfere.

In general, (note this response does not apply to a particular company) it depends on the source of the water. If water is being taken from the municipal supply it will constitute the resale of water which is prohibited in terms of section 31 of the City of Cape Town's Water By-law, 2010. They will then be liable to a fine or imprisonment in terms of section 64 of the Water By-law, 2010.

If a company is abstracting water from an alternative source (other than from the municipal supply), for example from boreholes or springs, then a formal application must be sent to the National Department of Water and Sanitation. The latter is not within the City's mandate to oversee.

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Note, it is the responsibility of consumers to do their homework and to find out where the water comes from (municipal supply or not) or whether approval has been granted by the National Government for such use. Consumers must ensure that what they purchase is not unlawful. Demand proof of the source of the water and whether it has been legitimately extracted.

Furthermore, the City can only guarantee that the water that we provide via the municipal supply is of drinking-water quality. For all alternative sources of water, such as greywater or borehole water, or water from springs and other sources, the City advises residents to only use it for flushing toilets.

Report all cases via 107 or 112 from a cell phone or 021 480 7700 or send a Whatsapp message to 063 407 3699 to report. Please note, always try to submit as much evidence as possible.

20. What will happen to the sewer system if people can't flush?

The City will provide residents with guidelines on managing sanitation within households to ensure that impacts on the sewerage system are minimised. Additional actions will be taken by the City to manage any sewerage build up and use alternative water to flush the system at strategic points. Where residents have grey water, rain water and boreholes, this water should be prioritised for flushing, to help keep the sewage system functioning.

Where non-drinking water is kept for flushing, this should not be stored for longer than three days. Mark the containers clearly "FOR FLUSHING ONLY". Alternative resources include:

- Borehole water
- Spring water
- From rivers/wetlands – best to use gloves when collecting non-drinking water and any household disinfectant can be used. If in doubt contact your nearest Environmental Health Office.
- Use less toilet paper or single-ply toilet paper as this requires less water to flush
- Wet wipes and sanitary pads are not to be flushed down toilets as this causes blockages –wrap and place in a dustbin.
- Don't flush in a rush 'if it's yellow, let it mellow'.

21. What will happen to other essential services if City officials are deployed at collection sites?

This matter is still under discussion with the Disaster Coordinating Committee (DCC). Basic and essential services, such as clinics, are to continue.

22. Will residents be able to use seawater for some residential needs, such as flushing the toilet? Is gathering seawater restricted?

In general, the City does not encourage the large-scale household-level flushing of toilets with seawater. It could corrode parts of the reticulation infrastructure and our wastewater treatment

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facilities are not designed to handle high salinity. As far as possible, residents are encouraged to use appropriate greywater and alternative sources, such as from boreholes, to flush toilets.

As alternative resources could diminish due to usage limits, the City will flush the sewerage system at appropriate points. This forms part of the comprehensive operational plan that the City is developing. Highly experienced and qualified engineers are working hard at putting measures in place that will ensure the system continues functioning as far as possible in the event of Day Zero occurring, to safeguard both public health and the infrastructure.

We all have to reassess our relationship with water, and the City supports the move by residents to explore more sustainable water-wise technologies such as composting/waterless toilets.

23. What is the cost of this drought?

The City is continuously monitoring the impact of the drought on the City's economy. All actions taken terms of the Disaster Plan are based on minimising the economic impact of the drought on the City and its residents. The cost to the economy is constantly weighed against the risk of water supply, with the safety of residents being paramount.

24. Those with boreholes and wellpoints – what are the dos and don'ts with that type of water?

Please see link to Level 6 and Level 6B water restrictions. (Visit www.capetown.gov.za/thinkwater)

Firstly, the City does not regulate borehole usage. The custodian of water resources is the National Department of Water and Sanitation. But the City has, in the implementation of previous water restrictions, encouraged conservative usage of borehole water. We have recommended limited usage in accordance with water restrictions for municipally-supplied drinking water.

Our Level 6b restrictions make further recommendations for the use of boreholes. It is not in the City's mandate to regulate the usage of groundwater sources, but we have tried as far as possible to drive the message home that unlimited usage of boreholes is not sustainable.

The main consideration here is that private boreholes are not recharged. Private users do not replace the underground water that is used. This is in contrast to the City's aquifer programme, where aquifer recharge will be a non-negotiable aspect of abstraction.

Our goal is not only to survive the drought and to thrive despite it, but to change our relationship with water.

We advocate for the sustainable use of borehole water for indoor purposes but we do not support the use of borehole water for outdoor purposes, such as gardening.

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25. During the Day Zero period, how will businesses be monitored in terms of their water use?

As some key commercial areas will receive water via normal channels, businesses in these areas will have their water use monitored via oversight of their accounts. We appeal in the most serious manner that those with access to nodes that are still supplied, to not abuse this access and continue to treat the existing water supply as severely scarce.

26. Must I switch off my geyser as there will be no water in the pipes?

Residents are advised to switch off their geysers to avoid any damage that may be caused by water suspension when the water comes back online again. Check your home insurance cover. The City is not liable for any damages.

Switch off all plumbing that could result in leaks or water damage when the water comes back on.

Residents are advised to start adjusting their water stop-cocks now to reduce water usage, as pressure reduction over the coming months before Day Zero could cause temporary interruption of supply. If the water flow is reduced, any damage will be minimised once the water comes back on.

27. Will it be business as usual (work and school etc.) should Day Zero happen?

It will largely be left up to relevant role players in these sectors to determine suitable contingency plans and concessions for employees and students.

In terms of educational facilities, this would be for schools, governing bodies and the relevant government departments to collectively decide on.

Residents should be aware that the Day Zero phase is an extreme disaster scenario, and significant disruption of daily life is to be expected.

28. Why has the City not (substantially) reduced pressure on water? Would this result in some areas being cut off? But then can't special provisions be made for these areas in the meanwhile?

The City has in fact been substantially reducing water pressure since March 2017. Our engineers have been reducing water pressure in the bulk pipes at our reservoirs as well as in the reticulation network that feeds our households. Much of this work has been an engineering-first.

The City continues to roll out automated pressure zones for the implementation of pressure management. This technology reduces the flow of water and thus helps to reduce water usage. To install an automated zone, the City needs to test the integrity of the local reticulation network.

We have recently successfully tested areas including the Cape Town CBD, Green Point, Paarden Eiland, Woodstock, Salt River, Epping, Delft, Brooklyn and Dunoon. Testing is happening across the metro.

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The pressure management programme started in 2004. There are more than 115 automated zones across the city which are being prioritised based on their leak and burst rates. Areas with high water pressure typically experience more leaks and bursts.

At least 25 other areas across the city have been identified that could benefit from this technology and will be informed of necessary supply disruptions related to this work in due course.

How water pressure works:

Water flows to a property because of the action of water pressure. For the water to reach different areas, pressure must be managed. This is done by controlling the flow of water to every area in the city. Some areas in the city are located at lower points, while others are located higher up. Water, like everything else, is bound by the laws of gravity. So, it will either flow downwards or it will remain at the same level. If we want it to get to higher-lying areas, or properties located on high ground or into tall buildings, we need to use valves and pumps to get it to those areas.

To get through this drought, there are water restrictions and water usage limits in place. We then provide the allowable water to an area. If everyone stays within their daily usage limit, households should not be affected by rationing. But if people in a lower-lying area do not stick to this allocation, people in higher-lying areas are affected. Even with reduced pressure, lower-lying areas will have water as it flows easier because of gravity. But, if the flow is reduced, the water does not have sufficient pressure to flow to higher-lying areas or buildings.

That is why tall buildings and higher-lying areas will often be affected by pressure management. Some areas will not have water.

The City's water reticulation network provides water at pressures between 2.4 and 9 bar.

Operational staff have lowered the pressures across the City but the intention is to keep the system pressurised (keep water flowing). This is because a lot of damage could be done if we switch off this pressure system entirely.

High-rise buildings and dwellings located 10 m or higher than road level will be impacted indefinitely but theoretically everyone living at ground level should have water supply at their metered connection. However, when many users draw water at once, a peak in the demand is created. This happens when, for example, people tend to do laundry in the morning or shower at more or less the same time during the day. This peak (typically between 05:00 and 09:00 and between 17:00 and 21:00) will draw down the system creating a temporary outage. In this case the system should recover once the demand decreases, i.e. after the washing is on the line. Residents on higher-lying areas within pressure zones are vulnerable and their water supply is dependent on their lower-lying neighbours.

From our reservoirs, we have allocated the precise amount of water that could be required for essential usage while protecting the resources that we have left. Nothing more is given than what is required. It is therefore up to all of us to ensure that we stick to our daily limits. When pressure

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management is introduced, it remains active in an area all the time. No outages are planned as they are solely dependent on the behaviour of users. Because we cannot physically control the behaviour of users, we cannot guess how long it will take for an area to get its water usage down to what is required.

Further advanced pressure management is being rolled out, with some areas at 0,5 bars and lower. But, adjustments may be made on an hourly basis if required.

That is why the City has been advising since March to keep some water for non-essential use but not to store excessive municipal water.

Bringing down the demand through pressure management and communication to promote water reduction among our users has been a vital intervention in helping to buy us time and to stretch our water supplies further.

29. Has the City considered water “load shedding” in the same way they did with electricity.

The City’s position is that “water shedding” or turning off water supply to an area for a few hours each day, should be avoided if at all possible, as it can lead to air entering the pipework which greatly increases the likelihood of leaks and bursts, and associated water wastage. Further to this, water shedding has not been proven to result in net savings as it can lead to residents stockpiling water.

The City’s is rather adjusting our system so that as many people as possible are supplied at as low a pressure as possible. The City has been progressively lowering pressure for some time now, and will continue to intensify these efforts over the coming weeks in order to try push out Day Zero even further.

We have sent out media releases advising that residents may notice supply interruptions due to these efforts, especially in higher-lying areas, but that water supply should return to normal once demand within the area subsides. Furthermore, residents have been advised to keep an emergency store of between 5 to 10 l of water for drinking and basic hygiene at all times going forward.

We started intensifying our pressure management efforts in March last year and this is now being rolled out further as part of the efforts to avoid Day Zero.

30. Is it legal for the City to fit a Water Management Device on my property?

Water Management Devices (WMDs) are legal. They were introduced to restrict excessive water usage. These devices are installed at your own cost and are set to a daily limit on properties where the excessive use has not been justified.

This only applies to excessive users who have failed to reduce usage to acceptable levels of 6 000 kl per month (for a household of four) as per level 6B restrictions.

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If you have been identified as an excessive user, you will receive a warning letter notifying you before we install a South African Bureau of Standards (SABS) approved WMD.

You will have a month to either reduce, or justify your water usage. If you fail to reduce your water usage or you cannot reasonably explain the need for the excessive use, we will restrict the daily water allocation to your property. Considering the current extreme drought crisis and the successful water saving by many Capetonians, this measure is fair.

WMDs provide 350 litres of water to your property per day. You will not reach that limit if you adhere to your daily restriction of 50 litres per person. If you use your allocated 350 litres in a day, you will only be able to access more water the following morning.

31. Can people refuse to allow the installation of WMDs?

No

32. What happens if someone refuses the device?

The mandate to install devices is contained in the Water By-law. The City reserves the right to take legal action against a customer as exceeding the specified water restrictions is a punishable offence.

Residents are reminded that the meters are installed on City property, and that the meters belong to the City not to the customer.

33. Is it true that the City installs and sets these devices without warning?

No. Restriction levels have been well publicised and communication tools on all aspects of water and accounts have been developed. Prior notification takes place via a warning letter in the monthly bill. From that point on the customer has a month to reduce usage to within restriction levels or make representation to the City as to why they cannot. Should they for some reason argue they have not received; the customer still receives monthly accounts reflecting the consumption. The customer would therefore knowingly be performing a punishable offence.

34. Why is the water a different colour when the water is turned off and on again? Is it safe to use?

Discolouration is likely caused by planned or unplanned work to the water supply network, which has caused sediment in the pipes to shift. In cases where residents are worried about the quality of the water, we encourage them to report the matter to the call centre on 0860 103 089 to arrange for a sample to be taken.

The City fully supports and complies with strict water quality checks as prescribed by the National Department of Water and Sanitation (DWS). This rigorous process means that water quality is closely monitored via a large number of water samples analysed according to the stringent South African National Standards (SANS 241:2015) requirements.

To ensure the excellent quality of our water, our laboratory tests over 5 700 samples of water each year. We draw water from sampling points throughout the water system, and we test these samples on a weekly or bi-weekly basis.

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Our water samples are taken from:

- raw water (from dams and boreholes);
- water after it has been treated at the treatment plants;
- water from reservoirs; and
- water from pipework (taken from designated sampling points around Cape Town).

Water quality is also controlled at the treatment plants by the process controllers who perform tests on an hourly basis in the on-site labs in order to make the necessary adjustments.

35. Has the City considered tapping into the water running in the tunnels underneath the city?

These tunnels historically carried spring water from Table Mountain, but have since in many cases been incorporated into the stormwater network.

The City is working to maximise the use of spring water, and has extensively studied the springs on Table Mountain in terms of whether they can be used to augment drinking water supply.

The City currently produces 2,8 million litres of drinking water per day from the Albion Spring in Newlands, and has recently commissioned a new project to produce approximately 2 million litres of drinking water per day from the Oranjezicht Main Springs Chamber.

In the case of other springs, it has been found that the amount of water these would provide would not justify the cost of the infrastructure required to redirect the water into the City's reticulation network and treat it to drinking standards. Procuring greater volumes of water could be done more economically, for instance, via aquifer abstraction or the treatment of wastewater, and the City is rather pursuing these options.

In other cases, the City is exploring whether unused spring water could be used for non-drinking purposes such as industry and irrigation, and has applied to the National Department of Water and Sanitation to authorise the City to use the water in this way. This would also take pressure off drinking water reserves somewhat.

36. Just about every shop in Cape Town is selling more bottled water. Does the City have any suggestions to residents on what to do with the excess plastic bottles they are buying? Are plans being made to collect the excess plastic that will result from the huge increase in bottled water sales?

Shop smartly: First, residents should shop smartly for their bottled water – clear, uncoloured plastic bottles are recycled easier than those with printing directly on the bottle, metal caps/lids, paper labels or shrink wrap labels.

Re-use: According to the Polyethylene Terephthalate Recycling Company (PETCO), the PET (clear and uncoloured) bottles that the bottled water is bought in, are safe and convenient for further storage of water, but need to be rinsed (or washed if dirty) before reuse, as with any other container.

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Donate: Many residents in the City aren't able to afford bottled water or containers. Rather than throwing away your empty (5 litre or similar) water bottles, consider donating them to fellow residents who may need containers for their water. Alternatively, contact your local charity to see if they are in need of additional water containers.

Recycle: The City's Think Twice programme collects recyclables (including plastic bottled water bottles) from households in certain areas. Visit the waste recyclers app to see if you qualify, or to find private or community recycling companies, at <http://web1.capetown.gov.za/web1/wasterec/map>

The City's drop-off facilities also accept recyclable materials. To find your closest drop-off facility, visit www.capetown.gov.za.

The City's drop-off facilities will be key. We have diverted more than 50% of our waste from landfills already, and we expect this practice to continue.

37. Is the City talking to retailers about possibly collecting bottles back from residents to ensure recycling?

The City has engaged with PETCO, who agrees that the above-mentioned drop-off or recycling sites are the best place to take your water bottles. The sites are already connected to recycling companies, who provide jobs through recycling the PET bottles.

38. There is a lot of talk of 70 water springs in the city. Is this true? Are all these locations known?

The City has explored in detail whether 69 identified springs on Table Mountain could be incorporated into the drinking water system. The City does currently produce 2,8 million litres of drinking water per day from the Albion Spring in Newlands, and has recently commissioned a new project to produce approximately 2 million litres drinking water per day from the Oranjezicht Main Springs Chamber. This has been done under existing water licences.

However, in the case of other springs it has been found that flow is too small to justify the cost of staff and infrastructure required to treat the water to drinking standards. In the interests of ratepayers, the City must ensure that augmentation schemes offer value for money. Procuring greater volumes of water could be done more economically, for instance via aquifer abstraction or wastewater treatment, and the City is pursuing these options. Please note that even if all water from the springs could be incorporated into the drinking water system they would only be able to service a tiny fraction of the City's water requirements. Residents and businesses saving as much as possible remains the key factor in avoiding Day Zero.

In terms of the unused spring water, the City is exploring whether this water could be used for non-potable purposes such as irrigation, as this does not carry the same associated infrastructure costs,

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and would also take pressure off potable water reserves. The City has applied to the National Department of Water and Sanitation to authorise us to use the water in this way.

39. Should spring water be treated?

The City is advising that water collected directly from springs is boiled before use, as this is water is not quality-controlled, and could be contaminated.

40. Why is my January 2018 water bill very different to my November and December 2017 bills?

As of 1 January 2018, the City moved from a third party electronic platform to an in-house electronic interface system for the uploading of monthly water meter readings. Since this move, there have been technical challenges with uploading meter readings to the new system. As a result, some customers will receive estimated bills although their meter was read. Customers across the City will be affected.

Where residents receive estimated bills, the City recommends that they settle the account as they would normally. If the estimate is higher than the actual usage then their account will be adjusted appropriately the next time the actual meter reading is captured. In cases where estimated consumption far exceeds actual consumption, and residents are unable to afford the bill, they can approach the City's call centre or their closest walk-in centre to request an investigation. Debt management will be suspended until the investigation is resolved.

Please note that estimated bills are currently based on consumption for the same period in the previous year. For example, a meter estimate for January 2018 is based on the actual usage of January 2017. This method is used to account for seasonal variation in water consumption. The City is however working to adapt the estimation method to account for changing consumption patterns due to the current water shortage. From 1 March 2018, estimated accounts will be based on average consumption at the property for the previous three months.

41. How will estimated readings affect my green dot status on the water map?

Estimated readings could affect your green dot status on the City's Water Map. Residents who have had their consumption estimated will rather be given a grey dot reflecting that no data exists for consumption on the property. Whilst this will cause some disappointment, it is important that we all continue to do our best to save water. See the water map here:

<https://citymaps.capetown.gov.za/waterviewer/>

42. Is anybody allowed to sell unmodified Municipal water?

The resale of unmodified municipal water without prior permission from the City of Cape Town's Director: Water and Waste Services is prohibited and no permission for applications will be granted during this drought period. The use and selling of modified municipal water whether through filtration, ozone, carbonation and related methods, bottled or not, where the end product remains water, is hereby also prohibited during this period.

It should be noted that this prohibition excludes sodas and flavoured water (with additives), ice teas and related drinks but the Level 6B reduction in consumption of 45% for all non-residential use still applies. This restriction does not apply to water from alternative sources, e.g. springs.

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43. What does the regulation state regarding sale of ground water?

All users of groundwater and surface water must comply with the National Water Act and its regulations. With regard to the regulations around springs; boreholes; well points; rivers; streams and vleis water, we would like to emphasise that residents must obtain permission from the National Department of Water and Sanitation (NDWS) in order to take water from a resource, i.e. ground or surface water. The City would like to remind residents that the National Department of Water and Sanitation has emphasised that water from private boreholes is not meant for sale and that commercial and industrial entities must still seek the necessary authorisation from the department to sell surface and groundwater. Businesses that are selling groundwater and/or surface water must declare the source and display proof of authorisation from NDWS on any vehicle/transportation mode and retail outlet dispensing such water.

44. Was the fear and anxiety associated with Day Zero used by the City to justify tenders and the subsequent rollout of water saving devices as well as to rationalise high water tariffs and large-scale desalination?

No. Augmentation of the existing water supply is critical in the short, medium and long term and tenders associated with ensuring water security through augmentation have been critical in this regard. In terms of the award of tenders for augmentation schemes, all tenders comply with the prescriptions of the Municipal Finance Management Act.

With regard to tariffs, these have been adjusted to cover the cost of providing water services in a time of reduced sales. The City does not make any profit from the tariffs. The cost of operating and maintaining pipes and infrastructure does not go up or down according to how much residents use, so if Capetonians are buying less water the lack of associated revenue will jeopardize key projects unless tariffs are adjusted. If these key projects are not undertaken it could set us up to experience serious infrastructure problems and loss of water through leaks and bursts further down the line.

It should be noted that the price of municipally supplied water has historically always been low, and is now simply no longer sustainable. To place the price of water into perspective, the City charges 3c per litre, while a litre of soda costs R12. The City has reached a point where it can no longer afford to supply water at tariffs that are unsustainable. Vulnerable households will, however, still receive the same level of protection through subsidisation or exemption, whether it be for tariffs or rates.

With regard to the roll-out of water management devices (WMDs): although Day Zero is unlikely to happen this year, it is still a possibility for next year unless residents continue to meet consumption targets, which are currently set at 50 litres per person per day. The City will continue to install these devices for residents who use too much water and place the rest of us in jeopardy.

45. Were the tender processes for the water saving devices and desalination plants all done above board by the City or was the process rushed because of the current drought?

All tenders comply with the prescriptions of the Municipal Finance Management Act. WMDs have been installed for many years preceding the drought.

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46. How does the City respond to calls for an independent investigation and even criminal probes into the tenders? And the calls for the City to be charged criminally for the money already spent in preparation for Day Zero that may never occur?

Augmentation projects will be key to avoiding Day Zero before winter 2019, especially if we experience another winter of poor rainfall. They will also play a key role in accommodating the growth of the city going forward as well as helping us become a more resilient city in the years to come (see attached media release for a clearer picture of the projected water outlook). As a resilient city we need to diversify our water supply to be less dependent on surface water alone. This is why the City's augmentation projects incorporate desalination, groundwater abstraction and water re-use.