



CITY OF CAPE TOWN
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CAPE TOWN WATER OUTLOOK

Edition 12

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Water and Sanitation Directorate

City of Cape Town

Making progress possible. Together.

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Queries and updates

Technical queries on the content of this document may be addressed to Water.Stakeholders@capetown.gov.za. Future updates of this publication will be published at the City's website, see: www.capetown.gov.za/thinkwater.

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1 Introduction

The City of Cape Town remains committed to enhancing water security, drawing on lessons from past droughts to prevent another 'Day Zero' scenario. Since adopting the Cape Town Water Strategy in 2019, the City has navigated significant economic and global uncertainties, substantially increasing infrastructure costs as well as emphasising the need for affordable services. Despite these challenges, the City is dedicated to ensuring water security for its residents.

The Water Outlook 2024 highlighted that any further delays in implementing the New Water Programme will increase the likelihood of imposing water restrictions and jeopardise the goal of delivering a nominal 300 mega-litres per day by 2030. As discussed in Section 4.3, the implementation timeline has been influenced by extensive internal and external regulatory approval processes, rigorous due diligence requirements for high-value investments, the pioneering nature of the work involved, and affordability considerations. The Water Strategy's Committed New Water Programme is now projected to be completed by December 2031.

The annual Water Outlook serves as a key communication tool, providing stakeholders with updates on the current water supply status and progress toward enhancing resilience while offering a forward-looking perspective on Cape Town's future water security. This edition of the Water Outlook delves into several critical areas and initiatives, including:

- Current status of the water supply system
- Risks to Cape Town's bulk water supply system
- Update on Committed Water Augmentation Programme
 - Groundwater and managed aquifer recharge
 - Advanced water treatment
 - Improved management of water resources
- Progress on the development of the 'Adaptable Programme'
- Cape Town's short, medium, and long-term water security outlook

2 The current status of Cape Town's water supply system

The Western Cape Water Supply System (WCWSS) remains the primary source of Cape Town's water supply. This will remain the case until the New Water Programme and subsequent Adaptable Programme diversify Cape Town's water resources. During the 2023/2024 hydrological year (ending 30 October 2024), the WCWSS once again spilled due to significant storm events, which resulted in flooding across the Western Cape and the activation of the Provincial Disaster Management Centre.

2.1 Seasonal forecast

Climate forecasting, particularly seasonal predictions, are inherently uncertain and require cautious interpretation as was evident over the last few years, where seasonal forecasts proved unreliable. For instance, initial long-term forecasts for the Western Cape predicted a dry winter (2022/23 and 2023/24), only to be revised to indicate a wet winter and the Western Cape experiencing extreme flood events leading to disaster declarations. As a result, the City of Cape Town applies a conservative approach, outlined in the Water Outlook 2023, to prioritise early interventions.

Figure 1 highlights that this hydrological year's rainfall has been below average at Wemmershoek Dam. While some sites have been above average, based on the latest available long-term forecasts, there is potential for a warmer and possibly drier season than usual. Given the uncertainty of the last three (3) years, the forecast will be updated and communicated via the Weekly Dashboard¹.

¹ [Click here](#) to access the weekly dashboard

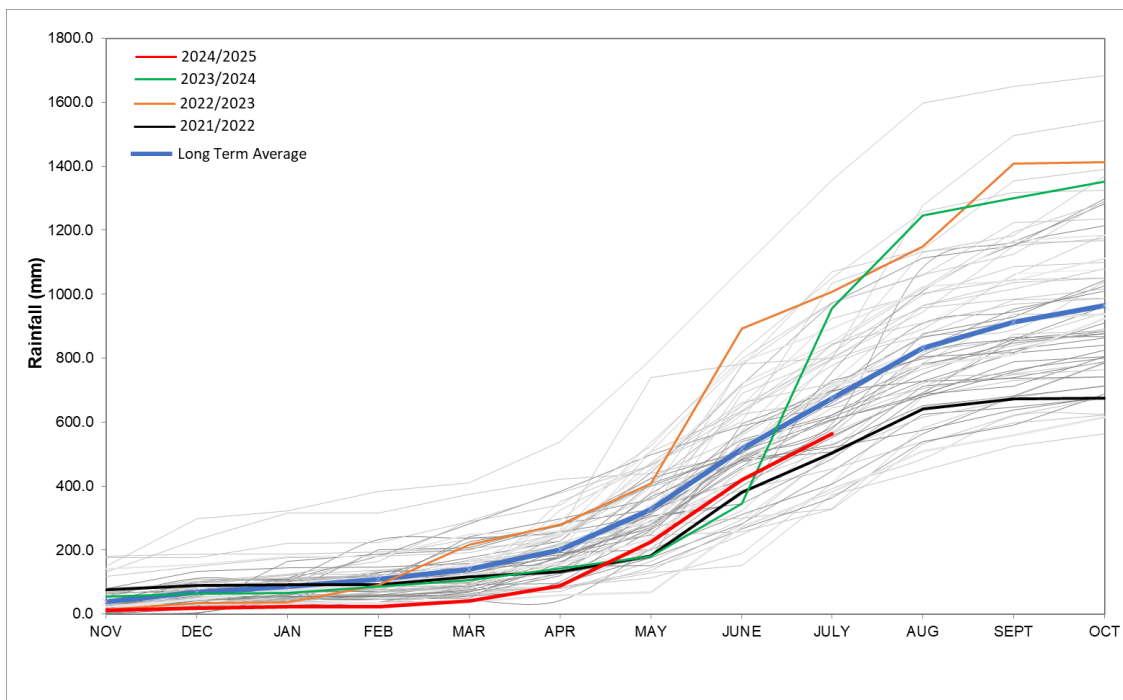


Figure 1: Rainfall at Wemmershoek dam

Following a review of the current storage in the Western Cape Water Supply System, and in line with the City's Drought Monitoring and Response Framework², City sees no immediate reason for concern. However, we continue to advocate for 'water-wise use' and encourage residents to use water as efficiently as possible.

2.2 Cape Town's current and future water demand

Although Cape Town's total water demand has continued to increase over the last year; however, it appears that the post-drought water demand "bounce back"/"rebound" has ended. Increase in demand is now considered reflective of population growth, which provides a degree of confidence in the water demand forecasts. The latest insights into water demand are highlighted in Figures 2 to 6

Figure 2 and 3, illustrate that the water demand rebound continued until the 2023/2024 Financial Year, at which point it appears to have inflected and followed the expected 2-2.5% growth rate.

² The Drought Management and Response Framework is available on page 7 here: [Click here](#)

This growth rate is consistent with the assumptions made in the Water Strategy (2019) and Bulk Water's Masterplan (2025).

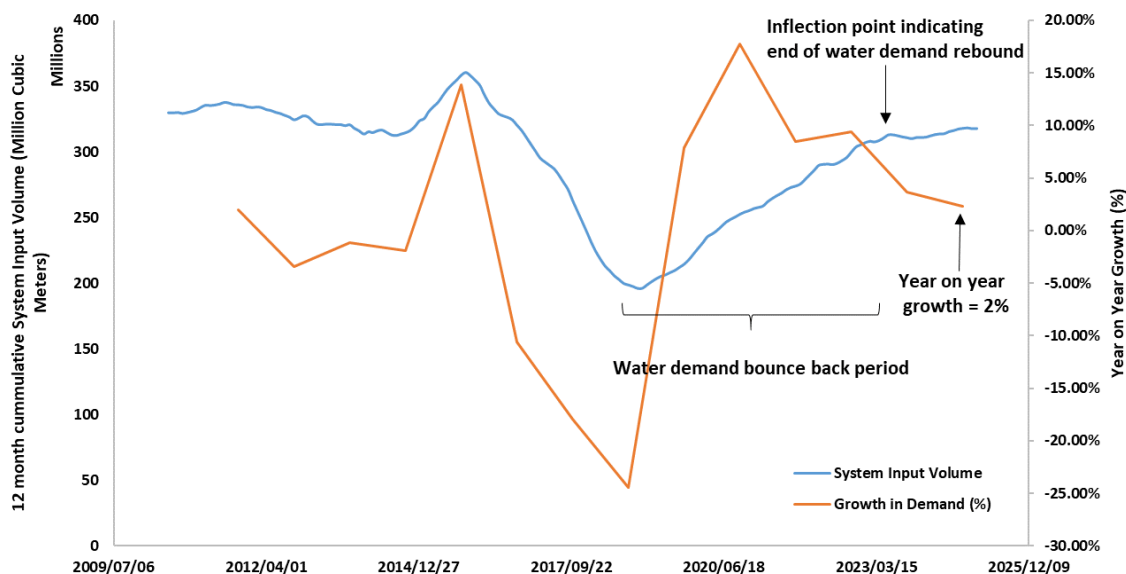


Figure 2 System Input Volume

The residents of Cape Town should be commended as it appears that growth in per capita water demand has settled at approximately ~160 l/c.d, much lower than the 200-225 l/c.d prior to the most recent drought. This implies certain efficiencies, such as reduced outdoor water use, have become embedded.

Figure 4 further reinforces the post-drought embedded efficiencies. Figure 4 illustrates the percentage of water each year estimated to be used outdoors or for discretionary uses. This is calculated as all water above the year's minimum winter month (i.e., a month when it is expected that water is only used indoors for basic needs, such as cleaning, cooking, etc.). Figure 4 demonstrates that pre-drought "discretionary demand" ranged between 15%-22% due to climate variability – with drier years having greater discretionary use. In 2016, as the drought began, the "discretionary demand" increased to 28%, which is to be expected due to the low rainfall and higher temperatures. After the drought, there has been a significant drop in "discretionary use" of 5% -10% due to the embedding of water-wise use practises from the drought. Given this trend, restricting water demand by more than 20% is expected to have significant impacts on households, while restricting above 30% is believed to be no longer possible.

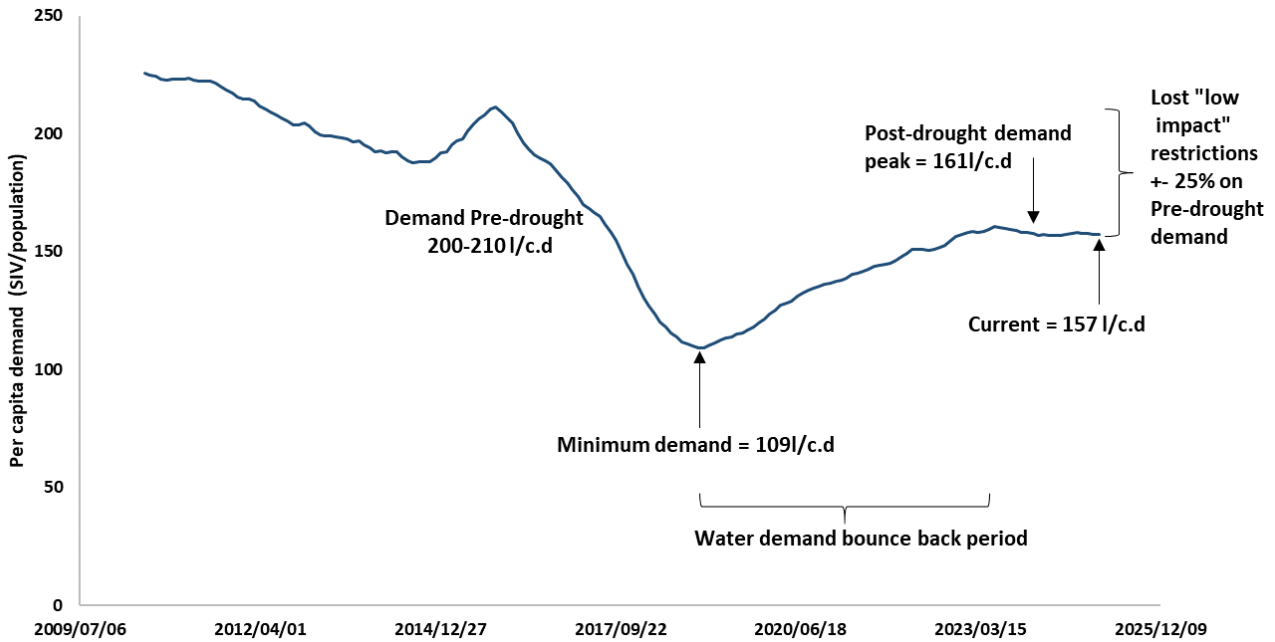


Figure 3 City of Cape Town per capita water demand (l/c.d)

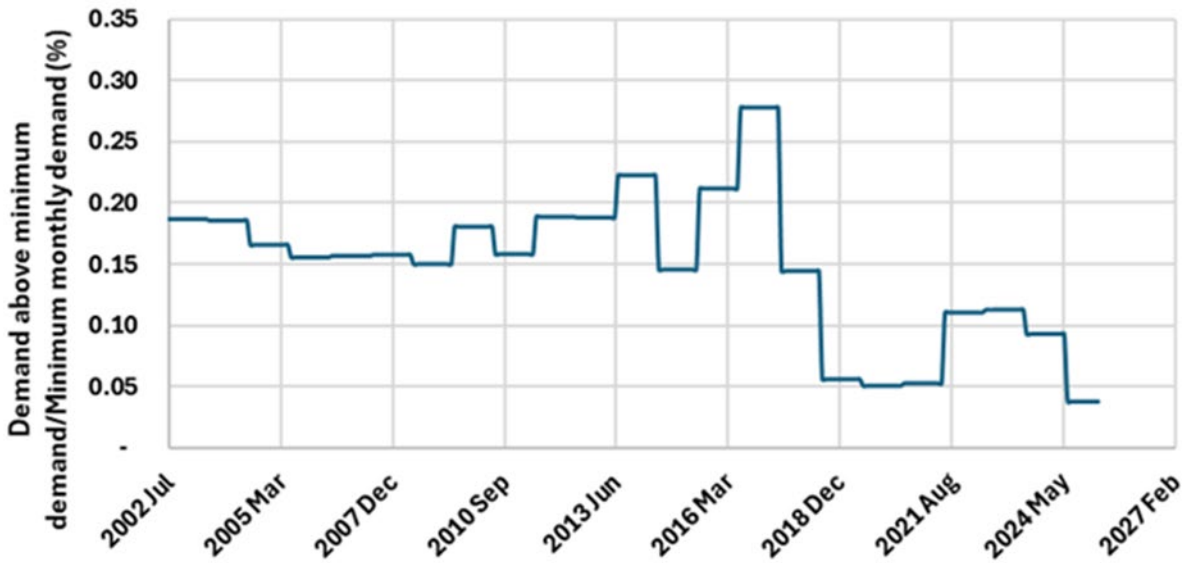


Figure 4 Percentage of discretionary use

Realistically, this requires the buy-in of all of society, and the reduction in water use to those levels may have socioeconomic and reputational impacts. Achieving a higher assurance is important to avoid the City imposing restrictions greater than 20% - 30% – which now will require significant

effort. Furthermore, from a water resource perspective, the Western Cape Water Supply system assumes a Level 2 restriction at 30% is fairly easily achievable. The City continues to engage the National Department of Water and Sanitation around the need for a higher Assurance of Supply. Figure 5, demonstrates the sensitivity of the City's water demand to periods of increased temperature and/or rainfall. However, Figure 5 also clearly demonstrates that winter demand continues to increase, but the summer peak demand has been relatively stable for the last 2 years and was lower this last year. The per capita water demand (Figure 3) and the trends in Figure 5) supports the notion that efficiencies at a per capita level are continuing.

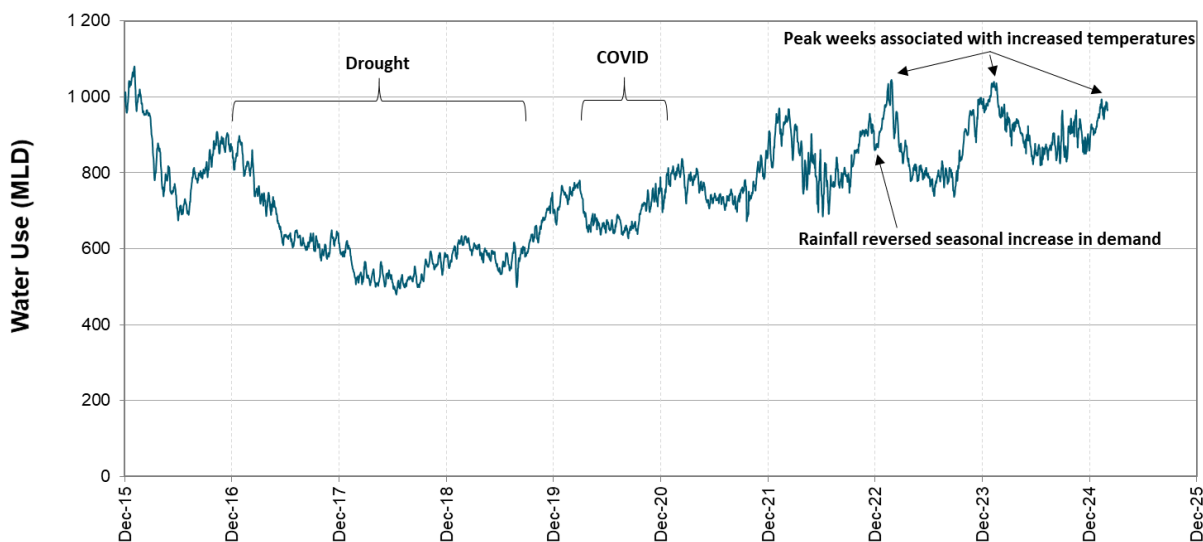


Figure 5 Average water demand (7-day moving average)

It is important to understand the changes in water demand and its sensitivity to rainfall and temperature. One significant change is the sectoral demands as a proportion of total water demand. Figure 6 illustrates the following:

- The proportion of water demand being utilised by houses has decreased by almost 10%. This is largely due to the reduced outdoor discretionary use – in part due to densification.
- At the same time, flats and housing complexes have seen an increase due to the increase in such developments
- The increase in the retail & offices category is a sign of economic growth in this sector, but none the less needs to be monitored to ensure ongoing efficiency.

Figure 6 supports the notion of embedded water demand efficiencies and likely ties the efficiencies to outdoor irrigation, which would have driven demand for houses.

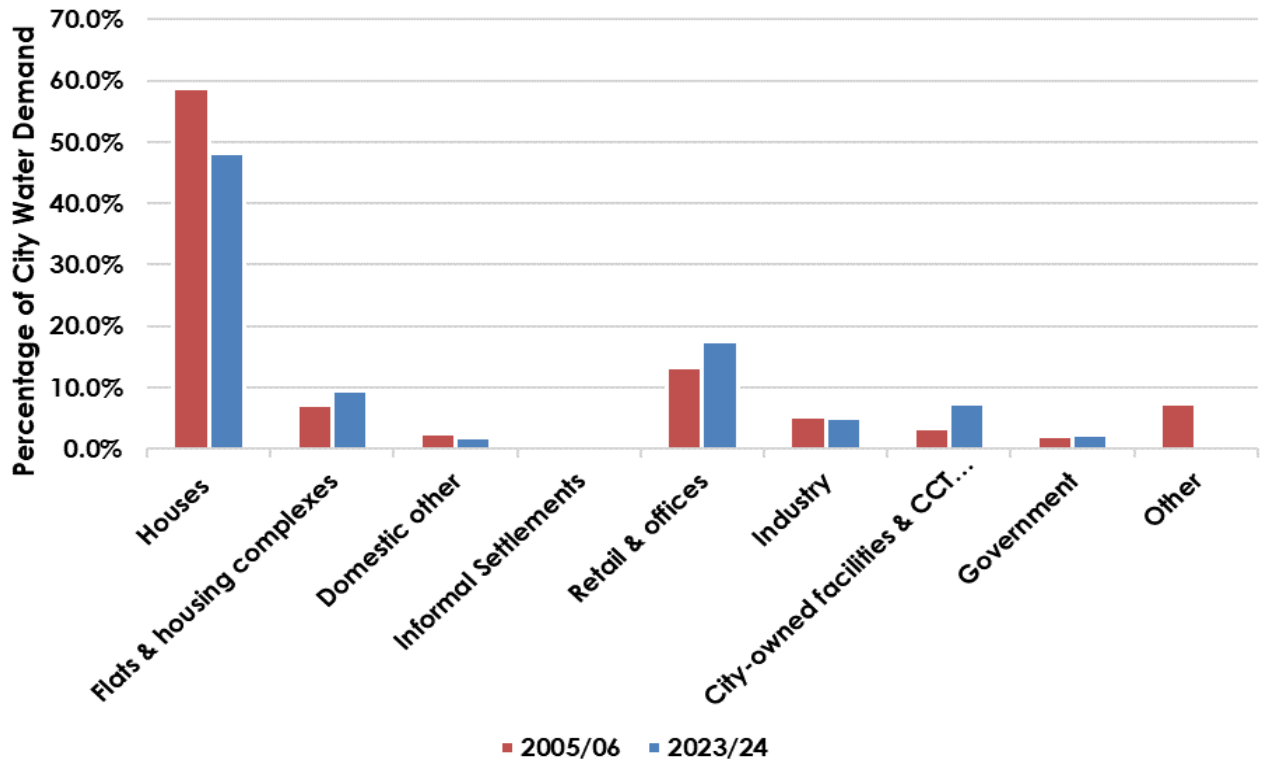


Figure 6 Proportion of Cape Town's water demand per sector

3 Current risks to Cape Town's water supply

The City is actively working to ensure a robust and reliable water supply system through a proactive approach that identifies and addresses vulnerabilities including those highlighted during the 2015/17 drought.

3.1 Affordability of Tariffs

The New Water Programme was predicated on the fact that future water would be considerably more expensive. The Council-approved Water Strategy (2019) states that: "The tariff related to the volume of water used will be set at the cost of providing new water supplies or wastewater treatment (including the related bulk infrastructure). In the long term, this tariff will be set at the cost of adding new water supply. Overall, the revenues will at least need to meet actual costs, including the cost of replacing aging infrastructure." This change in the tariff has not yet been fully realised, but as new schemes come online, the impact will be apparent in an increase in the tariff. However, the water strategy also recognised that "there is a trade-off between the reliability of water supply, and how much it costs. Rainfall is not reliable. In some years, it rains a lot; in other years, it only rains a little. When rainfall is low, water flow into the dams is not enough to meet Cape Town's needs. It is possible to increase the reliability of water from these dams by building more dam storage capacity and developing other water sources. Both options cost more money."

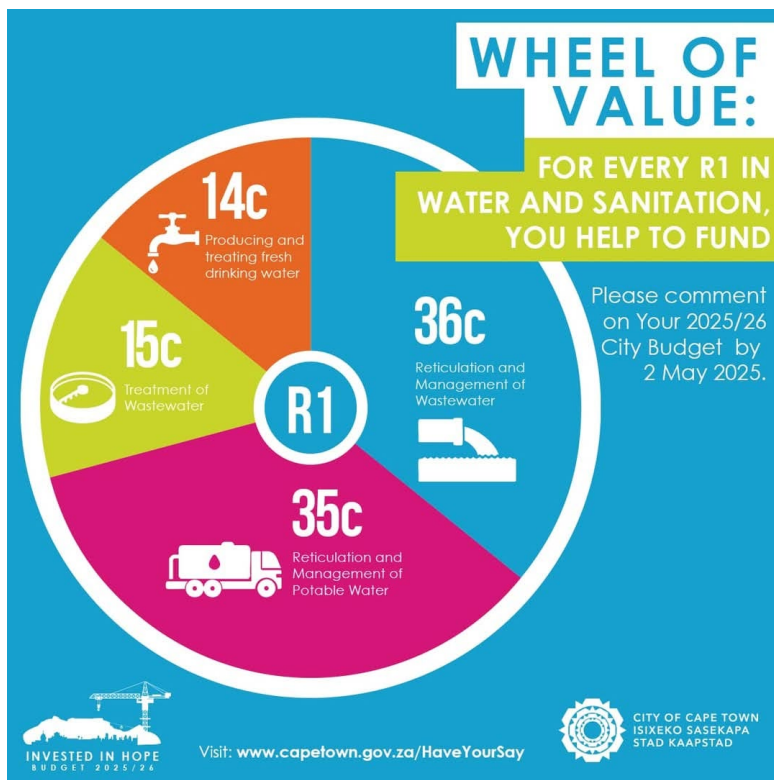


Figure 7 Proposed 2025/2026 budget summary

Figure 7 highlights that approximately 14c in every Rand charged for water and Sanitation tariffs is spent in providing and treating fresh drinking water. The Water Strategy indicated that proportionally this would increase with the implementation of the New Water Programme. Since the Water Strategy (2019) was adopted, there have been several global shocks, not least the COVID epidemic; the wars in Ukraine and Palestine; and the potential global trade war. These have had significant impacts on the projected costs. As such, new projects are facing significant

cost increases that are well above inflation, as shown by the change in Unit Reference Value (URV) for several schemes between 2019 and 2025. For example:

- Berg River Voelvlei Augmentation Scheme (Conventional surface water scheme) was estimated to be R5/m³ in 2019 and by 2028 this had increased to R7.2/m³.
- Desalination Phase 1 (advanced water treatment scheme) project saw a much larger jump, with its URV rising from R24/m³ in 2019 to a projected R50/m³ in 2025.
- Faure New Water Scheme (advanced water treatment scheme) had a URV of R12/m³ in 2019, which is projected to reach R30/m³ by 2025.

It is evident that the new advanced schemes, which are also Cape Town's future as surface water options are exhausted, have significantly increased in cost. As an indication, focusing only on the bulk water supply, the current cost of bulk water storage, purchase, purification and conveyance to the City's Bulk Reservoirs is R 7.38/m³³ - note this excludes distribution costs to residents and businesses. However, estimates based on the current cost of providing water from the New Water Programme, due by 2031, the cost (in 2025ZAR) would be in the order of +- R18. This is despite the City's supply still being largely dependent (75%) on "cheap" surface water schemes. While tariffs will be determined annually and subject to various local and global factors, to pay for the New Water Programme will require above inflation increases for the Bulk Water tariff for the foreseeable future.

The increase in the Bulk Water Tariff will have knock-on impacts to the final tariff paid by consumers, which would need to increase accordingly. It is important that this only relates to the currently accounts for 14% of consumer water cost (Figure 7). So while the increases in the bulk water tariffs are expected to be significant, it does not mean that the end-user will necessarily see the same increase in their tariff. However, balancing water security, affordability, and the phasing in of advanced water treatment sources is important.

Improving water efficiency in a system that relies on surface water sources is a "two-edged sword." While it helps reduce demand, it also makes the system more vulnerable to droughts, as there is less water available to draw from when supplies are low. As discussed in Section 2.2, Cape Town needs to increase its assurance of water supply due to the embedded efficiencies that mean that the Cape Town's ability to restrict demand without socio-economic consequences has been reduced.

³ See Bulk Tariff in the City Tariff Book: [Click here](#)

3.2 Infrastructure Stability Programme

The Water Outlook – 2024 highlighted that the City's existing Bulk Water infrastructure requires refurbishment and upgrading which pose capacity challenges and constraints in the short, medium and long term. In response, the Bulk Water Branch is implementing an Infrastructure Stability Programme to refurbish critical pipelines, water treatment plants, and reservoirs.

Over the last year, detailed condition assessments have been conducted at, amongst others, Faure Water Treatment Plant, Blackheath Water Treatment Plant's sludge management system, Wemmershoek Water Treatment Plant, and Molteno reservoir. These assessments, which also considered current best practices and trends, have assisted in scoping the work that needs to be undertaken. Thus far the following work has been completed:

- **Faure Water Treatment Plant** – The detailed condition assessment highlighted the potential for improvement in sedimentation tank design, the management of sludge, the design of the filters, and the need to review the chemical dosing regimen on site. Considering the plant has not had a major refurbishment since 1994, feasibility-level investigations into the improvements in each area are expected to conclude by the end of September 2025, after which the outcomes will be assessed, and the City will move to implementing the accepted recommendations to ensure the plant is ready to receive water from the Faure New Water Scheme.
- **Blackheath Water Treatment Plant** – In line with the Bulk Water Masterplan, all of Bulk Water's existing plants will need to be able to operate at peak capacity during the summer of every year. This poses a challenge for the existing sludge management system – sludge ponds. Currently, ponds need to be taken out of operation every couple of years and allowed to dry out over summer. The current feasibility investigation, due to conclude in September 2025, is investigating whether the plant alternative sludge management (e.g. mechanical dewatering) or combination of sludge management systems would be more appropriate or provide better operational resilience to meet the demands that will be placed onto the plant into the future. A change such as this will significantly increase the costs of treatment.
- **Wemmershoek Water Treatment Plant** – A detailed condition assessment of the whole water treatment plant was conducted in February 2025, and the outcome is being finalised. This assessment took utilised the AWWA (American Water Works Association) Capable Plant Model. The AWWA Capable Plant model is a framework for assessing and optimising the performance of water treatment plants. It emphasises that a plant's capability to produce high-quality water relies on the integrated performance of administration, design,

maintenance, and operation. This approach ensures that the long-term success of the plant is ensured through ensuring that these four components work together effectively to ensure consistent production of high-quality treated water.

- **Molteno Reservoir** – The condition assessment led to a feasibility investigation, which has since been concluded. This included the options for refurbishing the lining, improving drainage, replacing pipework, and possibly converting the reservoir from an open reservoir to a closed reservoir. The outcome of this investigation is currently being assessed.

These projects will all be taken forward towards implementation over the next year, along with the initiation of several further projects to address identified backlogs, capacity challenges and constraints. These new initiatives include:

- Condition assessments of the Steenbras (>100 years old) and Voëlvrlei pipelines (> 50 years old) to recover the full conveyance capacity of these currently constrained pipelines.
- Condition assessments of all bulk water pump stations will include reviews of the levels of redundancy from both an electrical and pumping capacity, considering the requirements for these pump stations over the next 20 years.
- Feasibility studies for refurbishing Cape Town's smallest and oldest plants – Constantia Nek and Kloof Nek.

Where condition assessments indicate that refurbishment of the existing infrastructure does not require new design – i.e., it can be upgraded in a like-for-like manner – the work is being initiated. This includes refurbishing electrical, instrumentation, SCADA systems, and civil infrastructure. One significant project that has been completed is refurbishing the Wemmershoek filters, which helped reinstate 30% of the plant's capacity.

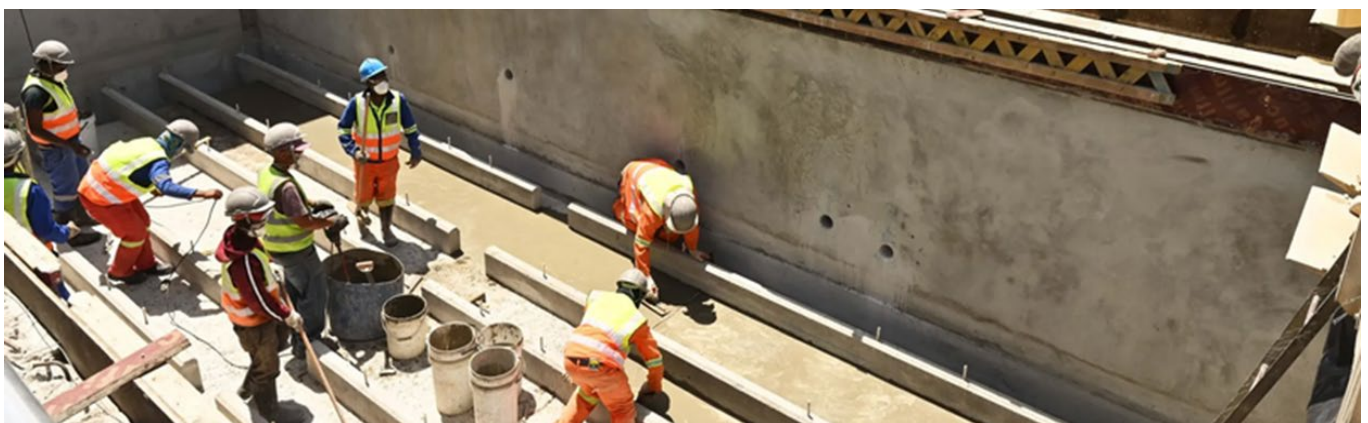


Figure 8 Refurbishment of the Wemmershoek Filtration Plant 2024

4 Update on Committed Water Augmentation Programme

Cape Town receives water from the Western Cape Water Supply System (WCWSS). This regional scheme is managed by the National Department of Water and Sanitation (DWS) in partnership with the municipalities and agriculture. Considering the projected drier future emanating from various climate change studies, the City has committed to diversifying and augmenting Cape Town's water supply and increasing water security through investment in new water programmes.

4.1 Surface Water

While the foundation of the Water Strategy is to diversify Cape Town's water supply sources and decrease the reliance on surface water, surface water is and will remain a cheap water source. The City has therefore signed an agreement with the National Department of Water and Sanitation (DWS) to purchase water from the Berg River – Voelvlei Augmentation Scheme (BRVAS). DWS have recently revised the anticipated delivery date to June 2029 – five (6) years later than planned in the City's Water Strategy (2019).

4.2 Sustainable Groundwater Management

4.2.1 Groundwater Management Framework

Groundwater remains a critical component of the City's Strategy to diversify its water resources, contributing to the development of drought resilience, and transitioning into a Water Sensitive City. As part of the focus on groundwater, a process has been initiated to identify the optimal regulatory framework for groundwater protection, catchment management, and ensuring the sustainability of ecosystem services. This involved a comprehensive review of literature, legislation, and international best practices, culminating in a policy brief to guide actions over the next year.

Groundwater regulation in South Africa is complex, involving multiple pieces of legislation at various governance levels. While municipalities like Cape Town manage groundwater in relation to municipal infrastructure protection under the Water Services Act (108 of 1997), resource management – including quality monitoring and sustainable use – falls under the National Department of Water and Sanitation (DWS) as per the National Water Act (36 of 1998). Despite limited direct responsibilities, the City can support other government entities in fulfilling their mandates.

Key focus areas identified during this process included, amongst others, the following: management of groundwater development, protection of aquifer recharge zones,

management of data (and data sharing), and addressing polluting land uses. To address these will require improved regulatory oversight, intergovernmental coordination, and institutional capacity. The City therefore aims (as per Commitment 4 of the Water Strategy) to collaborate with stakeholders across sectors to enhance groundwater management holistically—from spatial planning to resource conservation. Progress on this initiative will be reported on in the next Water Outlook.

4.2.2 Scheme Specific Updates

Over the last year, the City has continued with the development and commissioning of all three (3) groundwater schemes, namely Table Mountain Group Aquifer (TMG), Cape Flats Aquifer (CFA) and Atlantis Aquifer. These developments include, amongst others, the following:

- **Cape Flats Aquifer**

- The 6MI/day Strandfontein West WTP is in the commissioning stage, with performance testing of key equipment and control systems at an advanced stage, in spite of contracting setbacks associated with construction of the administration building.
- The construction of the Hanover Park/Philippi Water Treatment works is in progress
- The construction of the advanced water reclamation plant is still underway which will further treat effluent from the Cape Flats Waste Water Treatment Works and provide a high quality water for injection into the aquifer.
- The drilling and development of additional monitoring, production and managed aquifer recharge boreholes has been completed.
- Testing of the individual abstraction boreholes has been completed with the wellfield testing and optimisation in progress.

- **Atlantis Aquifer**

- The drilling of production and additional monitoring boreholes has been completed.
- Production boreholes are currently being equipped with the necessary infrastructure (mechanical and electrical) for abstraction and conveyance.
- Testing of the individual boreholes has been completed and wellfield optimisation and testing is to commence soon
- The further refurbishment of the Witzands Water Treatment Works is ongoing with the construction of the raw water tanks nearing completion
- The refurbishment of the managed aquifer recharge infrastructure (conditioning and stormwater ponds Ponds 6 and 9) is still ongoing and progressing steadily

- **Table Mountain Group Aquifer**

- The drilling of a further two (2) production boreholes has been completed with the construction of the pumphouses and installation of pumps (and associated infrastructure) underway
- Exploration boreholes drilled in the Groenlandberg area has been completed
- The drilling of core boreholes has been complete with rehabilitation work completed as well. The CCT is still finalising the downhole geophysics at both boreholes

4.2.3 Stakeholder Engagements

The City continues to facilitate the Cape Flats Aquifer and Table Mountain Group Aquifers Monitoring Committees (MonComs) with meetings held every four (4) months. These MonComs focus on the groundwater and environmental monitoring programmes that have been established in compliance to the various water use licences issued by the National Department of Water and Sanitation. The MonComs are independently chaired, while the City provides the secretariat.

A new Water Use License has been issued for the 45 year old Atlantis Water Resource Management Scheme. As part of this license a new Monitoring Committee for the Atlantis Water Resource Management Scheme is being constituted and will provide the same oversight of the City's compliance to the license conditions for this scheme

The most recent Moncoms continue to highlight the interest from stakeholders, particularly in the academic sector, in gaining access to the City's monitoring data, which has been collected by the City and is crucial for understanding our water resources and supporting sustainable development. We are actively working to make groundwater data more accessible to the public. This involves processing and consolidating our groundwater data to ensure it is accurate, comprehensive, and user-friendly. This data will soon be available via the WaterDSS (Discussed further in Section 4.4.3) following a research approval process and will allow stakeholders to explore and utilise it for research and planning.

4.3 Advanced Water Treatment

Advanced Water Treatment comprises both direct and indirect reuse, as well as desalination. Advanced water treatment schemes typically offer a higher assurance of supply, but are also significantly more expensive and complex to operate. In this regard, alternative implementation

mechanisms, such a Public Private Partnership (PPP) are being considered to ensure effective implementation of these high value pioneering programmes which are key to our water security.

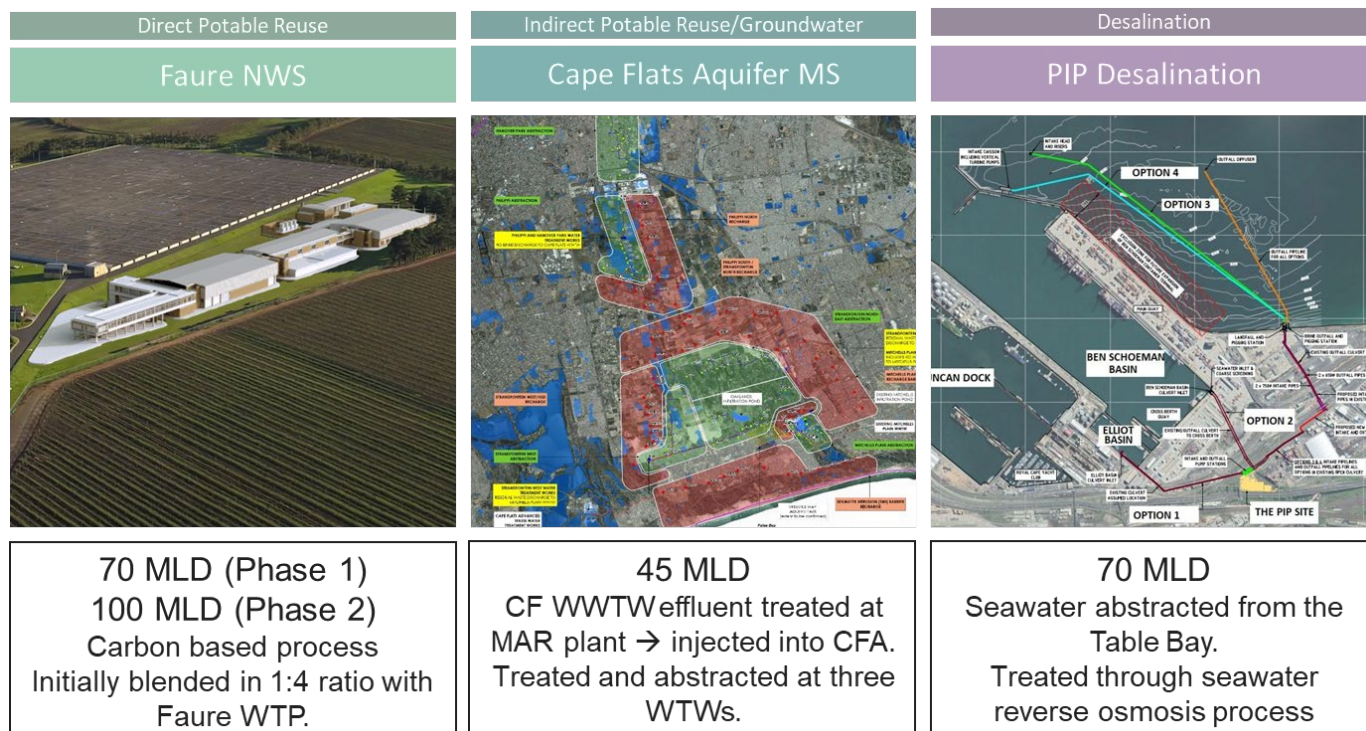


Figure 9 Cape Town's planned Advanced water treatment schemes

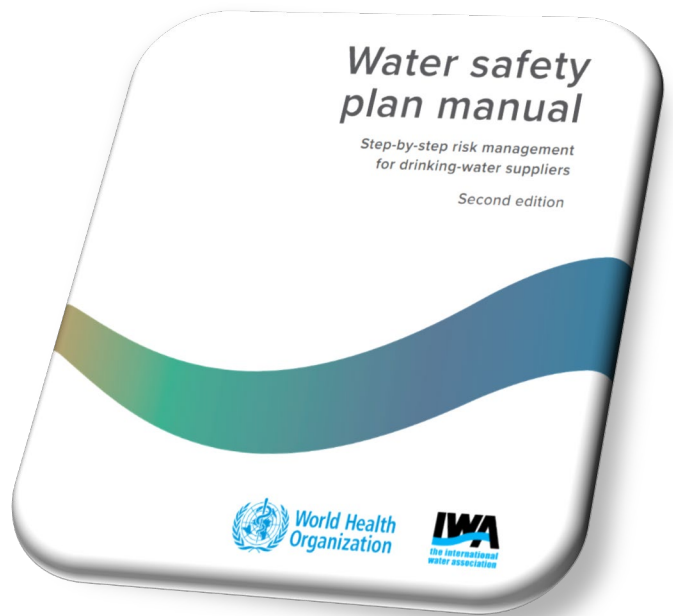
4.3.1 Independent Advisory Panels (IAP)

The City has benefitted from the input provided by the IAP under Phase 1, which concluded on 30 June 2024 (Discussed in the 2022,2023, 2024 Water Outlooks). To maintain this valuable expert input, a further phase is now being considered to establish a further IAP to assist the City in operationalising the proposed projects.

Expertise secured will continue to include engineering, public health, and environmental science, ensuring that the plant aligns with global best practices. Success on a project this large depends on strong expertise in public health and environmental science. This independent oversight and input aim to give residents confidence in the new schemes as they are brought online.

4.3.2 Water Safety Planning for Advanced Water Treatment Schemes

Safe drinking water is a top priority for the City of Cape Town. To ensure the highest standards are maintained the City has developed and maintains water safety plans for all components of its water supply systems. Water Safety Planning (WSP) is a comprehensive risk assessment and management approach designed to ensure the safety of drinking water supplies. It involves identifying hazards and assessing risks throughout the water supply chain, from catchment to consumer, emphasising continuous monitoring and improvement. The Water Safety Plan Manual, Second Edition 4, developed by the World Health Organization (WHO) and the International Water Association (IWA), is currently the



best practice and is being utilised by the City to guide the continuous improvement of its water safety plans. The provision of safe drinking water is multi-faceted and is achieved through a combination of design, operation, maintenance, implementation of policies, enforcement of by-laws, online monitoring, and laboratory analyses; the efforts of which will be documented and monitored through the respective schemes Water Safety Plans.

All new schemes, including desalination and water reuse, will have water safety plans, which will be developed before their implementation. To have these plans in place, and ensure adequate design, water quality risks at our advanced water treatment schemes are being investigated, planned and managed in a manner that extends beyond the typical regulatory requirements.

Throughout the development of these plans, the City of Cape Town has diligently followed the standard requirements as published in SANS 241. SANS 241:2015, the current national drinking water standard, prescribes limits for a set of parameters that provide the minimum assurance necessary that water is safe for lifetime consumption. SANS241:2015 is currently under review and will incorporate requirements for additional monitoring, including, where appropriate, for Contaminants of Emerging Concern (CEC). The City is considering the new SANS241 in its planning and operations

⁴ <https://iwa-network.org/publications/water-safety-plan-manual-2nd-ed/>

In addition to monitoring for the risk parameters listed in the SANS241, the City also performs comprehensive water quality risk analysis, including:

- seasonal changes in the raw water quality;
- anthropogenic, industrial, agricultural, mining or geological contamination sources in the catchment area;
- wastewater treatment plants in the catchment area;
- effluent from industries discharged in the catchment area;
- treatment processes used;
- possibility of parameters formed as part of the water treatment process; and
- parameters that can enter the distribution network

To this end, the City is currently conducting water quality testing for over 700 contaminants in the wastewater, inland and coastal water, which may impact the various advanced water treatment schemes to assess public health risks. Contaminants in the analyses include pathogens, nutrients, heavy metals, herbicides and pesticides, pharmaceuticals, personal care products, radionuclides, PFAS, disinfection by-products and other emerging contaminants. Local and international laboratories are being used to undertake a broad range of analyses at the low detection limits required to assess health risks.

Implementing Water Safety Plans for these plants will fully account for the current SANS241:2015, future revisions, and a comprehensive risk management approach utilising the data from the extensive testing. This ensures safe drinking water covering the entire system from catchment to consumer. The Water Safety Plan will include implementing an enhanced catchment management programme as a preventative measure of protecting the water treatment process and therefore public health – including the initiatives mentioned in Section 4.4.3 being developed as part of the Water Decision Support System.

4.3.3 Communication: Awareness, Education, and Public Engagement

Over the last year, the City has progressively been increasing its communications around the implementation of the Water Strategy, through various media releases and interactive information sessions with key stakeholders including academics, faith groups and water-related regulatory bodies in the Western Cape. One of the most exciting and potentially impactful initiatives from the last year was the Water & Sanitation Directorate's visit to the Cape Town Science Centre to share insights on its Water Strategy and implementation of the New Water

Programme with the STEM Clubs Network. The network comprises of primary and high school STEM Clubs across the Western Cape, inspiring young learners to excel in science, technology, engineering and mathematics.

This is the latest in a series of stakeholder interactions aimed at raising awareness among different community groups about the City's New Water Programme's objectives: a key initiative to diversify water supply sources for more sustainability.



The initiative also serves as an opportunity to inspire the next generation of professionals who may one day manage Cape Town's water treatment facilities. Direct interactions between engineering experts and educators allow for addressing concerns regarding the safety and efficacy of advanced water purification technologies. Such engagements aim to build public confidence in these solutions while nurturing interest in STEM careers among learners.

Engaging and involving, all stakeholder to ensure the New Water Programme is embraced is the focus of the Communications Strategy. To this end, the City's support and involvement in the 2025 IWA Water Reuse and Reclamation Conference, hosted in Cape Town, provided another platform to engage with both local and international professionals.

Over the next year, communications and engagement regarding the implementation of the New Water Programme will continue with both general and focused education and capacity-building efforts amongst both adults and schoolchildren.

4.3.4 Section 78

Section 78 of the Municipal Systems Act (Act 32 of 2000) outlines the mandatory process a municipality must follow when it needs to make a decision about how to provide a municipal service. This is particularly relevant when an existing service is being significantly upgraded, extended, improved, or the operational model changed. The process is designed to be a transparent and equitable framework for decision-making. The Section 78 process is associated with significant governance, which is appropriate when contracts of this magnitude (R1-2Billion a year for 20 years) are being considered. Figure 10 provides an overview of the stages and key decisions of the Section 78 process.

Section 78 Process

All matters relating to insource vs outsource options (including combinations thereof) fall into the scope of a Section 78 (3) Study

This includes contracting, cost benefit analysis, affordability, long term sustainability, skills transfer and development, labour relations, operational risk management

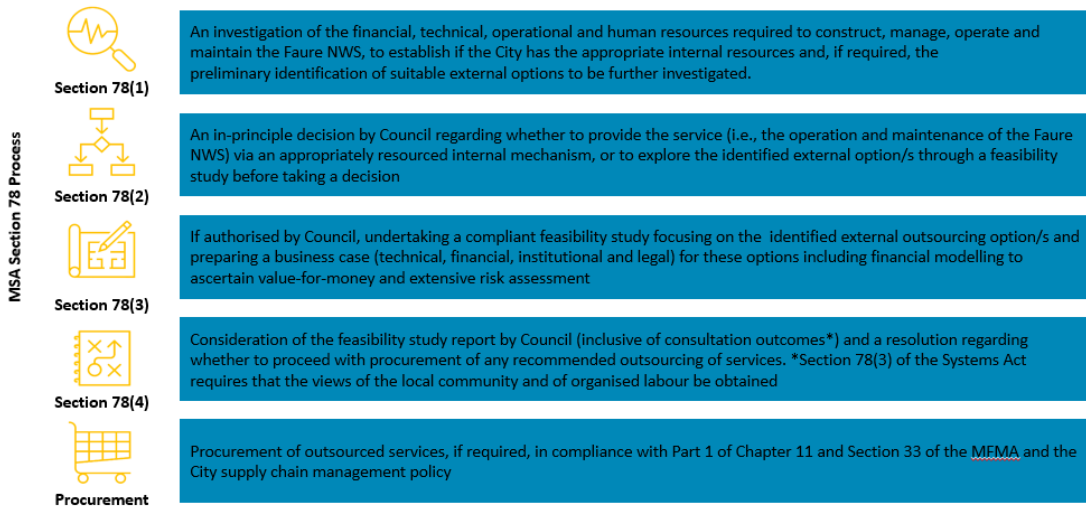


Figure 10 Summary of the Section 78 process

4.3.5 Faure New Water Scheme – Scheme update

In January 2024, the Executive Mayor, in collaboration with the Mayoral Committee (MAYCO), authorised the inclusion of various financing, implementation, and operational options within the ongoing Section 78 (of the Municipal Systems Act (MSA)) process for the project. This ensures a comprehensive evaluation of all potential delivery models for the FNWS.

In June 2024, Council granted a Section 78(2) decision of the MSA to proceed with a detailed feasibility study (in compliance with Section 78(3) of the MSA and Section 120(4) of the Municipal Finance Management Act, 56 of 2003) of alternative options for the procurement, financing, construction and operation of the proposed Faure New Water Scheme.

The Section 78(3) feasibility study investigates three service delivery options; Option 1: internal mechanism whereby City constructs (through conventional procurement) and operates the scheme, Option 2: Public-private partnership and Option 3: City constructs (through conventional procurement) and appoints an external operator to operate the scheme through a management contract. Under all of the options, the City will retain ownership of the asset.

The Section 78 processes require views and comments from the local community, labour unions, the National Treasury, and the Provincial Treasury. The first phase of the Section 78(3) public

participation took place in March 2025, where the three service delivery options were presented to the public for comment in line with Section 78 (3)(b) of the MSA.

The feasibility study has been completed and circulated to National Treasury, Provincial Treasury, Department of Water & Sanitation and to the public for comment in line with Section 120 of the MFMA. A section 78(4) council decision is targeted for December 2025 for a decision on the best service delivery option for the scheme. Depending on the decision of Section 78(4) on whether the scheme is implemented via a PPP, the first water is now anticipated in the mid 2031.

4.3.6 Desalination – Scheme update

The findings of the Section 78(1) assessment were shared with Council in March 2024, and Council granted approval in terms of Section 78(2) of the MSA to proceed with a detailed feasibility study of alternative options for the implementation and operation of the City's first Permanent Desalination Plant (in compliance with Section 78(3) of the MSA). The Feasibility Study (including the Due Diligence Assessment, Value Assessment and Economic Analysis and Procurement Plan) have been completed and circulated for public comment in line with Section 120 of the MFMA. The Council Meeting in December 2025 is targeted for the Section 78(4) decision (in terms of MSA) with regards to the appropriate delivery mechanism to be pursued.

The environmental impact assessment process has been initiated, and additional investigative studies have been identified and initiated. The Procurement Plan, completed as part of the Feasibility Study, are dovetailed with the City of Cape Town's internal governance processes. It is anticipated that the benefits of taking a steady approach with multiple governance steps will mean the completion date is shifted to the end of 2031.

4.4 Improved management of the water supply system

The Water Strategy committed the City to investing in several initiatives that would improve resilience, improve decision-making, ensure water quality, and ensure a new relationship with water is realised. This section provides brief updates on a selection of these initiatives.

4.4.1 Alien Invasive Plants

Clearing alien invasive plants remains a cost-effective and sustainable method for building resilience and improving Cape Town's water security. Figure 11 highlights the hectares cleared since April 2019 (until December 2024), for all implementers falling under the Greater Cape Town Water Fund (GCTWF). Hectares cleared are captured monthly in the GCTWF Decision Support System (DSS)⁵ and progress can be tracked.

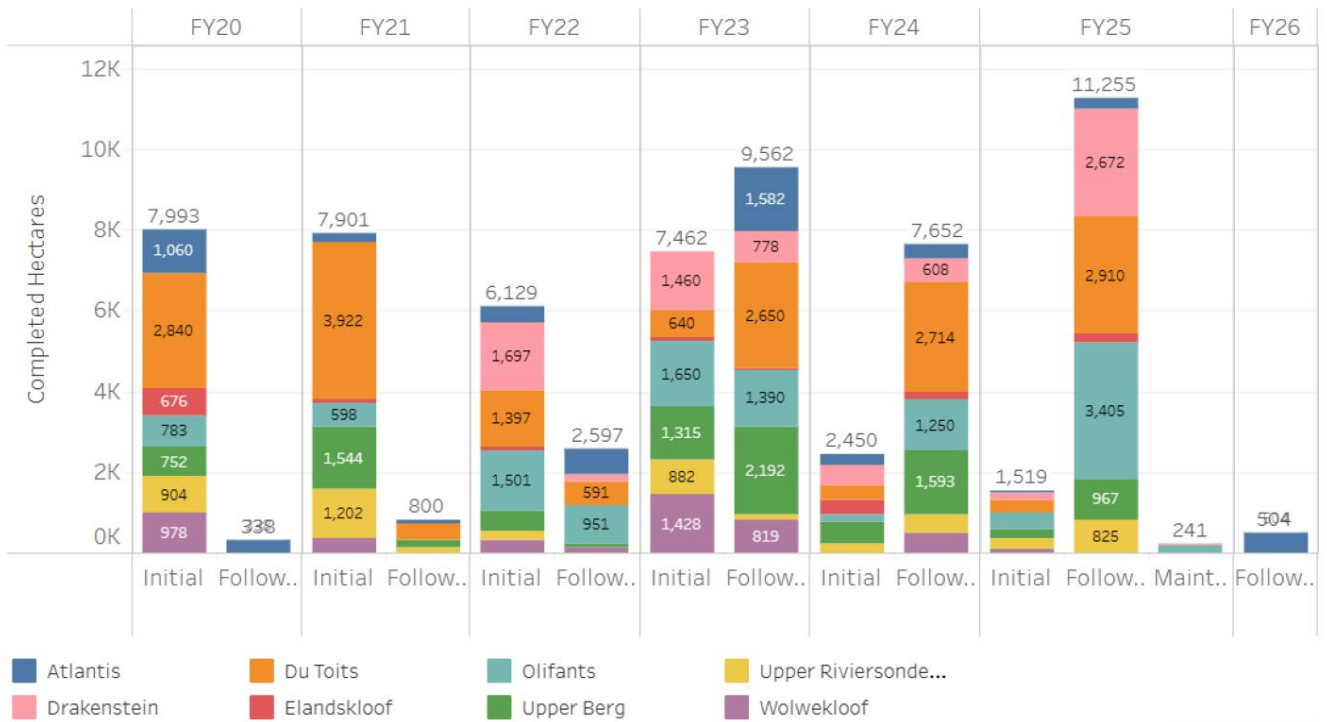


Figure 11: hectares cleared since April 2019 (until June 2025)

⁵ The GCTWF DSS is available [Click Here](#)

Through the City's commitment of R125 million towards the GCTWF over five years (2022 - 2026), the GCTWF has been able to secure an equal investment from private funders, towards addressing the challenge Alien Invasive Plants present to water security in the WCWSS.

Long-term there is a need for a sustainable funding model for clearing and ensuring the catchments remain clear of alien invasive plants. To this end, the City continues to advocate for a ringfenced catchment management tariff applicable to all water users in the WCWSS that provides adequate funding for the clearance and ongoing maintenance

4.4.2 Regional resilience

Commitment 4 of the Water Strategy committed the City to working with key stakeholders and partners, including other urban and agricultural water users and other spheres of government, to make the most of the opportunities to optimise the economic, social and ecological benefits of regional water resources, and to reduce the risks.

The City has been delivering on this through participation in an independently and neutrally facilitated platform, the WCWSS Water User Platform, that constructively addresses issues affecting various stakeholders. Thus far the platform has discussed and begun addressing:

- Coordination with key institutions in the region, and oversee processes related to integrating the City's New Water Programme with the regional WCWSS, to build regional water resilience and complement that provided by the Economic Development Programme, as needed.
- The platform has brought stakeholders together and highlighted, and facilitated the potential for improving coordination of the work being done by various users.

The WCWSS Water User Platform has strengthened over the last year and plans to engage and provide a way forward on several key issues over the next year. These include: Water quality, River health, Flooding and dam water releases, operation and maintenance of infrastructure serving users.

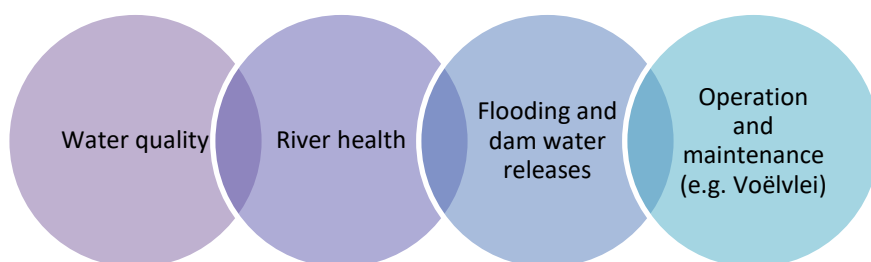


Figure 12 Focuses areas for the next 12 months

4.4.3 Data Management and Decision Support

Since the Water Decision Support System (DSS) was first reported in the Water Outlook 2022, significant developments have taken place. The DSS has been developed as a suite of applications designed to collate, store, analyse and make easily accessible institutional knowledge, with a particular focus on operational data. The DSS combines manually captured (e.g. laboratory results) and automatic (E.g. SCADA flows) data managed to extract key insights for system optimisation and reporting to various stakeholders within the City of Cape Town's Water Supply System. The DSS has intentionally been designed, as far as possible, to be based on an open architecture that is adaptable and scalable. This will ensure the DSS remains aligned with evolving business needs, technological advancements and data security and governance principles. Over the last three years, some of the significant milestones in the DSS's development include:

- **Accessibility** – To improve accessibility for operational purposes, the DSS has been made available online, ensuring operational managers and their teams have access at any time.
- **Treatment Process Auditing and Water Safety Plan** – While the data in the DSS has, since its inception, supported both the annual process audits and water safety plan's a focus over the last 12 months has been to align the reporting of "alerts" to the various critical control points and provide informative reporting to various management.
- **Pressure Managed Zone data** – The DSS's open architecture ensures it can handle data from diverse sources, including 3rd Party systems. Through this integration, the DSS consolidates data from the City's various service providers to log data from the Pressure Managed Zones. This data is then available for integration into the 'Digital twin' and as part of an inter-directorate collaboration been shared with Data Science for analysing non-revenue which is assisting in focusing attention to specific regions
- **Inland Water Quality Open Data Portal** – In another inter-departmental collaboration the DSS has been utilised as a central database for the City of Cape Town Inland Water Quality Open Data portal. This The City of Cape Town makes available data that has been approved for use in the **Open Data Policy**.
- **Groundwater Data** – Over the last 18 months, the Bulk Water team has invested significant effort in incorporating vast amounts of groundwater data into the DSS, including laboratory data, groundwater levels, environmental monitoring, seismic monitoring, etc. This requires converting historical data into a database format and quality control; thus, it will take significant time. As part of this process, various tools have been developed and

implemented to automate analyses and interpret the data. While this process is unfolding, this data will be available via the DSS following a research approval process to enable stakeholders to explore and utilise it for research and planning. In due course, consideration will be given to utilising the DSS to provide some of the smaller datasets directly to the Open Data Portal as it is doing for Inland water quality.

- **Efficiency and data accuracy** – Various other tools have been developed to improve the efficiency of the Bulk Water business, including, amongst others, meter readings, and infrastructure inspections.

Inspired by the Jefferson Project⁶, the latest initiative is to begin developing Real-time Catchment Intelligence. While the Jefferson Project is focused on a natural catchment, the City aims to improve catchment intelligence in both natural (WCWSS catchments) and urban catchments (e.g. Atlantis, Cape Flats, Zandvliet), which provide, or will soon provide potable water to the City. This real-time monitoring will help ensure that the various water treatment plants can respond in advance to changes in water quality and thereby support ongoing compliance with water quality standards and informed decision-making.

⁶ “The Jefferson Project is an unprecedented collaboration of scientists, engineers and technologists from IBM Global Research and Rensselaer Polytechnic Institute, combined with the advocates and program managers at the Lake George Association (LGA). The Jefferson Project team works to understand, anticipate and respond to the pressures of climate change, road salt, invasive species and nutrient loading and runoff as it impacts Lake George water quality.” (<https://jeffersonproject.live/>)

5 Update on the Adaptable Water Augmentation Programme

The Council Approved Water Strategy (2019)⁷ committed the Water and Sanitation Department to developing a nominal 300 mega-litres a day of new capacity from diverse water resources before 2030. However, planning has begun for the next phase of infrastructure – the Adaptable Programme – which will further diversify the City's water resources and enhance its resilience to future droughts. This is being achieved through various key studies of the feasibility of specific schemes (to ascertain whether they are viable) as well as the review of the Bulk Water Master Plan, which focuses on integrating the individual schemes with the bulk water distribution and storage system.

The Bulk Water Masterplan seeks to identify the most cost-effective strategy for the future development of the City of Cape Town's bulk water supply system. This study has a planning horizon extending up to 2050 and incorporates the existing Committed and future adaptable New Water Programme while also taking account of bulk potable storage and conveyance requirements.

The Masterplan has been based on water demand projections which indicate that the bulk water system capacity must increase by between 94 MLD/a. and 185 MLD/a. every five years to accommodate peak week demands. In line with the accepted practice, and the approach taken in the Water Strategy (2019), the Bulk Water Masterplan has proposed that to account for the future uncertainties it is important that the City implements certain schemes, and for other schemes planning needs to continue so that these schemes are "ready to implement". In order to take the masterplan forward the following investigations have been initiated:

- The Revised Berg Water Augmentation Scheme (the City's original plan to link directly to the Berg river dam) study is in progress
- A "South-Eastern Area Infrastructure" Scheme study is in progress with an initial cost projection of R1.2 Billion.
- Voëlvlei Pipeline Condition Assessment. The study has been initiated and is critical to the long term water security of Cape Town. Significant progress is anticipated over the next year, and will be reported on in the next Water Outlook
- West Coast Desalination pre-feasibility studies are in progress.
- South Coast Desalination studies is still to be initiated but is not urgent due to the later implementation date.

⁷ The 2019 Water Strategy is available online: [Click here](#)

- Blackheath Upper Reservoir Enlargement study is funded and to be initiated in the 2025/26 FY.

The Bulk Water Masterplan has also assessed the requirements for other municipalities to integrate into the Cape Town Bulk Supply network, as well as any storage requirements that fall outside of the Bulk Water network, for example there is a need to develop a reservoir within the vicinity of Muizenberg to ensure sufficient pressure in the southern Area is still to be initiated. The outcomes of this component of the work has been communicated both internally and externally.

6 Cape Town Water Outlook

6.1 Update of Water Strategy

The City of Cape Town annually reviews the long-term water balance between available supply and projected water demand. The Water Outlook 2024 noted that any further delays in implementing the New Water Programme will increase the probability of imposing water restrictions, and the City will not deliver 300 mega litres a day by 2030. Table 1 provides the latest timing of the schemes forming part of the Committed Programme. Three (3) notable changes in that BRVAS, Faure NWS and Desalination Phase 1 have all been delayed by approximately one (1) year. Furthermore, further phases of the development of TMG have been postponed to 2040 and will form part of the Adaptable programme. This is to provide adequate time to monitor the impact of the existing Phase of the TMG scheme to ensure that future phases do not impact the resource and environment. Table 1 further presents the estimated "Annual Production Volume", which is the volume that each scheme will produce over the course of the year. This accounts for operational rules, planned maintenance, unplanned maintenance and unforeseen shutdowns. This highlights the significant volume that the New Water Programme is adding, at a high assurance of supply that is being added – the equivalent of 101 billion liters of water. The plant capacity is the maximum capacity at any given moment.

Table 1: City of Cape Town New Water Programme

Description	Completion/first water date			
	Revision 6 (Feb 2025)	Revision 6 Peak Production (Ml/d)	Estimated Annual production (million cubic meters)	Comment
Clearing Invasive Alien Plants	Jun-26	30	11	Need to engage with DWS to ensure ongoing funding mechanism
Table Mountain Steenbras P 1	Jun-23	25	5	
CFA Strandfontein West	Jun-24	6	2	
CFA Phillipi & Hanover Park	Jun-26	10	3	
CFA Strandfontein N & E & Mitchells Plain	Jun-30	38	11	
Atlantis Aquifer	Jun-26	16	6	
Berg River Voelvlei Augmentation Scheme (BRVAS)	Jun-28	40	15	Delayed by 1 year, Now Jun-28
Faure New Water Scheme Phase 1 (including verification)	Mar-31	70	24	Busy with Section 78(3). Timeline to be reviewed
Desalination Phase 1	Dec-31	70	24	
Implementation of the NWP	Dec-2031	305	101	

There have been some changes in the planned timing of schemes, including the Berg-River Voelvlei Augmentation Scheme (BRVAS), the Faure New Water Scheme, and Desalination. Adjusting for these delays, means that the City will no longer be able to deliver the following planning assumptions outlined in the Water Strategy:

- Planning for both an increase in the assurance of supply to a 1:200-yr RI and the "full impact" (95th-percentile) of climate change forecasts.
- Bringing schemes online five(5) years before they are required.
- Implementing a nominal 300 mega-litres of new water supplies by 2030.
- Preparing for a potential step change in climate

Realistically, this means that the City's amended planning assumptions have been adjusted to:

- Adopt the 50th percentile of climate change forecasts. While anecdotal evidence of shifts in climate – particularly concerning intensity and seasonality – have been noted, the initial assumptions in the Water Strategy were demonstrably conservative. With no evidence yet of the realization of a "step change", the slight relaxation in this planning assumption is considered reasonable
- Maintain the 1:200-year assurance of supply for the reasons mentioned in Section 2 (limited ability to restrict demand without socio economic impact).
- Bringing schemes online as they are required, provided Water Conservation and Water Demand Management can achieve the proposed objectives of reducing the rate of growth in water demand (The next Water Outlook will provide more detail on the WC/WDM Strategy)
- The current committed New Water Programme will be implemented by the end of 2031.

Figure 13 shows the low demand curve just above the available supply when plotted against the planning assumptions in the Council-approved Water Strategy. Figure 13 further demonstrates (see circles in purple) that for two periods, should demand exceed the low demand curve, there may be a shortfall in supply.

Figure 14, illustrates a scenario predicated on realistic planning assumptions: specifically, a 1:200-year assurance of supply and a 50th-percentile projection of climate change impact. This analysis suggests that the system is operating in a state of approximate equilibrium with the "low" demand curve, which the City is currently tracking.

The significant change in Figure 14 compared with Figure 13 is the reduction in the severity of climate change being planned for. The adjustment to the 50th-percentile aligns our planning methodology more closely with that adopted by other spheres of government.

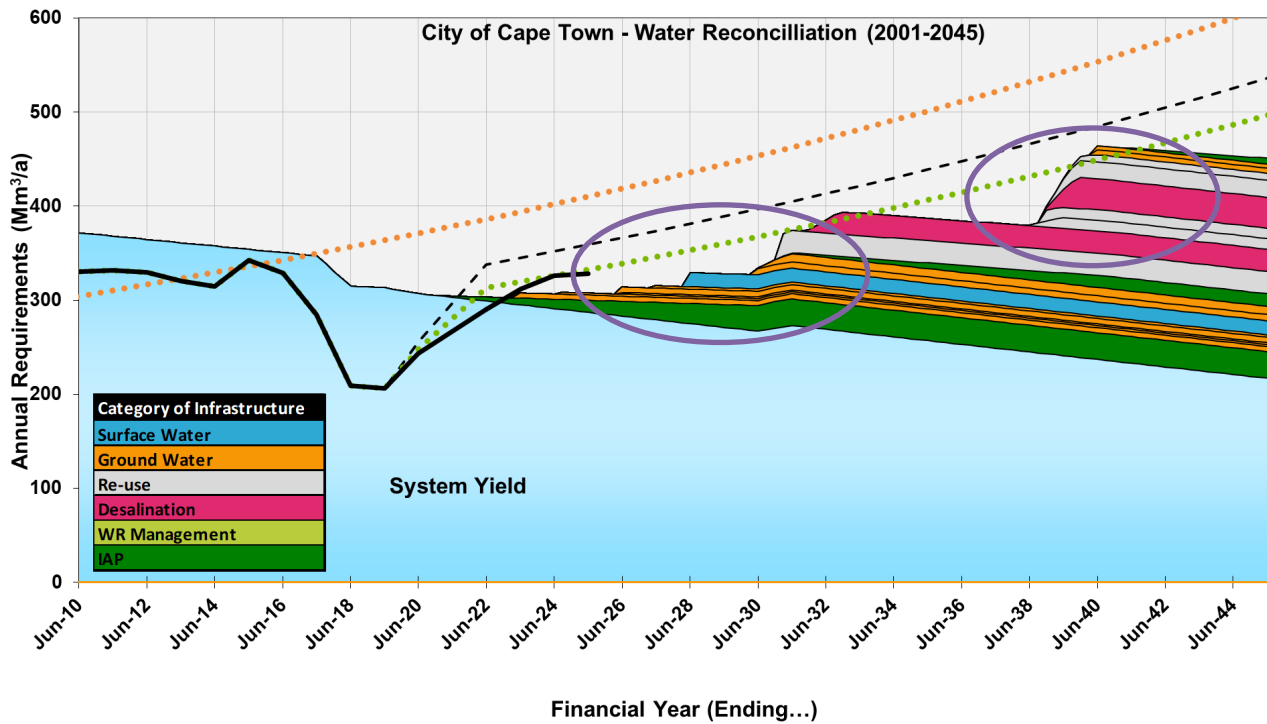


Figure 13: City of Cape Town water balance, including the New Water Programme (as per the Water Strategy with a 1 in 200 year assurance of supply and 90-percentile impact of climate change)

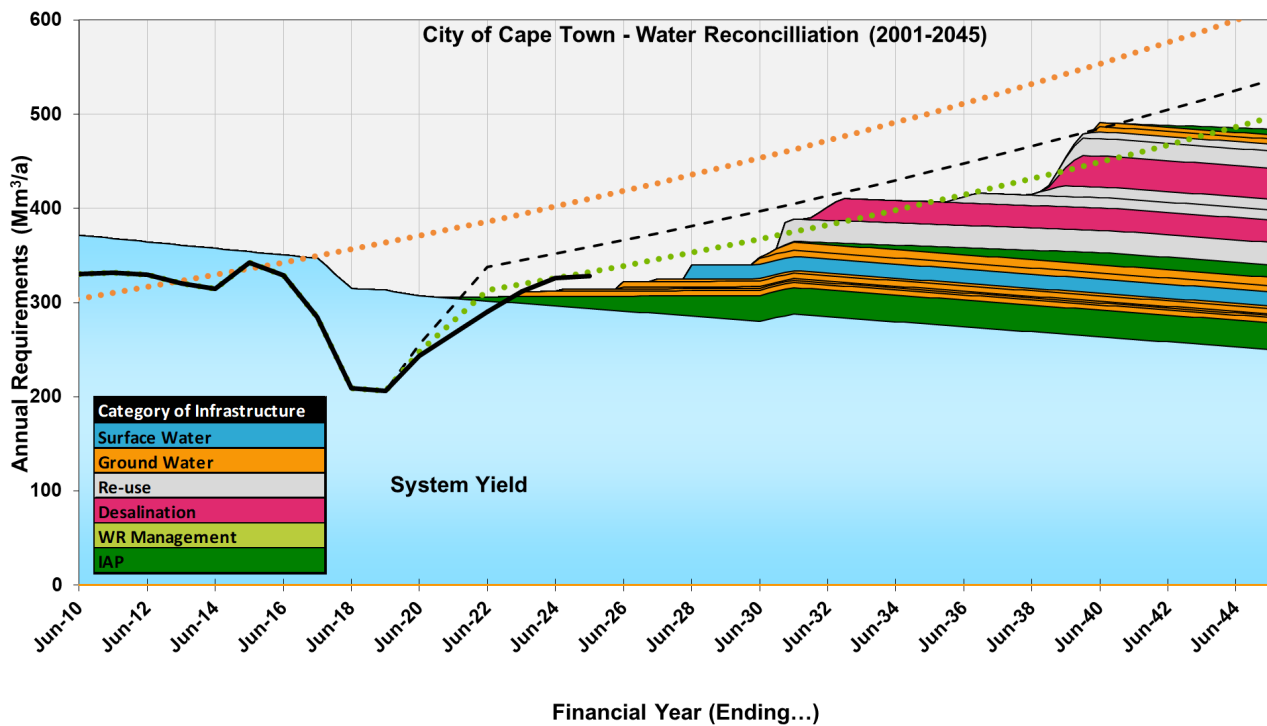


Figure 14: City of Cape Town water balance, including the New Water Programme (with a 1 in 200 year assurance of supply and 50-percentile impact of climate change)

Figure 13 and Figure 14 highlight the delicate balance that needs to be struck between the planning assumptions, ambitious commitments that were made in the Water Strategy, drought resilience, and affordability constraints. It also highlights the importance of Cape Town's focus on reducing water losses (e.g., leaks) to ensure that demand is not artificially high. To this end a Water Conservation / Water Demand Management Strategy will be presented to Council in late 2025. The WC/WDM Strategy is critical to ensuring that water demand does not grow faster than what the City can afford to deliver from new more expensive sources and seeks, as one of its objectives, to limit the growth in water demand over the next ten (10) years.

In assessing these risks the City will continue to consider the economic costs that water stress will have on the City. As new schemes are delayed, there is an increased risk of imposing low-level restrictions earlier and more frequently to avoid the risks of more severe restrictions.

6.2 Risk of Imposing Water Restrictions

From a water resource perspective, there is no immediate risk of restriction, and the City of Cape Town will remain vigilant regarding any potential developing risk of water restrictions due to either low rainfall (as forecast) or infrastructure challenges. In light of the amended planning assumptions (Section 6.1) and the expected gradual impacts of climate change, it will be necessary to mitigate the severity of future droughts through the early implementation of low level restrictions. Delays in implementing restrictions early will risk increasing the severity of restrictions should a drought continue. Over the next year the current Drought Monitoring and Response Framework⁸ will be reviewed to ensure it remains appropriate for the next 10-years.

Within the next three (3) years the City will likely need to enforce a period of restrictions due to maintenance that the National Department of Water and Sanitation is planning for the Riviersonderend Tunnel system. The Riviersonderend Tunnel conveys water from Theewaterskloof and Berg River Dam to the City and typically accounts for between ~50% of the City's supply. While the City will be able to mitigate this through other sources there will still be an impact. Once further details and timelines are provided, detailed planning will commence. An update will be provided in the next Water Outlook.

⁸ The Drought Management and Response Framework is available on page 7 here: [Click here](#)

As highlighted in the Water Outlook 2024, unforeseen events such as plant malfunctions or declining raw water quality may necessitate short-term restrictions, and while mitigation strategies are underway, these will take several years to yield tangible benefits.

6.3 Conclusions

Based on the current analysis, the following conclusions are drawn:

- The City is forecasting the completion of the committed phase of the New Water programme by December 2031.
- Further project implementation delays in implementing the New Water Programme will increase the probability of imposing water restrictions.
- The implementation of the National Department of Water and Sanitation's Berg River Voëlvlei Augmentation Scheme by no later than 2029 is critical for Cape Town's water security.
- The City must implement its Water Conservation and Demand Management strategy as approved by Council and aim to ensure that growth in water demand over the next ten (10) years is limited through a strong focus on water conservation and demand management.
- In the short to medium term, the likelihood of restrictions exists due to concerns surrounding ageing infrastructure and possible changes in raw water quality. This risk, being addressed through the Bulk Water Infrastructure Stability Programme, will take several years to address.
- Balancing water security and consumer affordability requires careful management.
- Communication and transparency around the implementation of the New Water Programme, tariffs, and risks will increasingly become important as the cost of water will increase substantially over the next few years, as outlined in the Water Strategy (2019).