CITY OF CAPE TOWN

WATER & SANITATION DEPARTMENT

ANNUAL REPORT 2012/13

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ABBREVIATIONS AND DEFINITIONS

WSDP ..... Water Services Development plan

WDM & S ..... Water Demand Management & Strategy

WSA ..... Water Service Authority

SDBIP ..... Service Delivery Business Implementation Plan

USPC ..... Utility Services Portfolio Committee Report

EAM ..... Engineering Asset Management

RPMS ..... Regulatory Performance Measurement System

CMA ..... Cape Metropolitan Area

MLC ..... Metropolitan Local Councils

CMC ..... Cape Metropolitan Council

QMS ..... Quality Management Systems

WSP ..... Water Service Provider

WWTW ..... Waste Water Treatment Works

1. EXECUTIVE SUMMARY

1.1 THE PURPOSE OF AN ANNUAL REPORT:

- to provide a record of the activities of the municipality during the financial year to which the report relates;
- to provide a report on performance against the budget and Integrated Development Plan (IDP) of the municipality for that financial year; and
- to promote accountability to the community for the decisions made during the year by the municipality.

1.2 METHODOLOGY FOLLOWED

The Branch Managers, within the department, were consulted for input covering their areas of responsibility namely:

- Reticulation
- Water Demand Management and Strategy (WDM&S)
- Scientific services
- Bulk water
- Wastewater Treatment
- Finance (Water and Sanitation)
- Engineering Asset Management (EAM)

Utility Services Portfolio Committee Report (USPC) and WSDP were used as a source of information for input and verification. Lastly the draft report was circulated for comment to Branch Managers and finally revised to incorporate comments.

1.3 WSA'S AREA OF JURISDICTION

The City (WSA/WSP) provides water and sanitation services to the City Metro and some local municipality. The WSA also supplies water to Stellenbosch and Drakenstein municipalities.

1.4 AVAILABILITY OF THE WATER SERVICES AUDIT REPORT

The audit report is made available on annually and is accessible on the City's website.

2. POLICY AND REGULATION

2.1 POLICY AND BY-LAWS

In the interest of encouraging compliance, an incentive-based provision was introduced in the Tariff policy, pertaining to rebates for dischargers who invest on infrastructure that serve to improve the quality of effluent discharged.

The Wastewater & Industrial effluent by-law is near finalisation/promulgation after a comprehensive amendment process. The amendment of the water by-law has been initiated, whilst the treated effluent by-law review has been put on hold until the promulgation of the Department of Water Affairs (DWA)'s general authorisations. National legislation changes and other challenges experienced on the ground have been the basis for the review of these by-laws.

2.2 REGULATION

The Water and Sanitation department continues to participate in the Department of Water Affairs' annual Regulatory Performance Management System audits. The key focus areas were financial sustainability, contract management and risk management. The City received an Appreciation Award for significant contribution to the enhancement of the Regulatory Performance Management System (RPMS). The results of the 2013 audit performance which took place from November 2012 and February 2013, confirmed that the municipality generally demonstrated strong financial sustainability and risk management, with minor improvements needed on contract management.

2.4 EDUCATION & AWARENESS

Awareness on water by-laws in the commercial/industrial sector is on-going, done on a daily basis as part of compliance monitoring. The approach used on the residential sector is in accordance to the Expanded Public Works Programme, wherein fieldworkers are sourced from the sub-councils, trained and employed to conduct door to door education and awareness on a specific subject matter. The sewer blockages awareness campaign continues to be rolled out in phases in other parts of the City of Cape Town. In the 2012/13 year, the areas included Gugulethu, Bonteheuwel, Macassar and Delft.

2.5 ENFORCEMENT

A total of 61 fines were issued in the 2012/13 year. Law enforcement training is on-going for all new inspectors followed by their appointments as Peace Officers. About R50 000 income was made from the resampling miscellaneous tariff and just over R19 million revenue on Industrial effluent treatment.

3. ANNUAL REPORT

3.1 PERFORMANCE MANAGEMENT SYSTEM

Performance management is developed around progress measurement and reporting regularly to different council committees. At the moment performance reporting is done monthly, quarterly and annually.

3.1.1 Performance statistics (SDBIP Statistics)

Table 1: Performance statistics (SDBIP Statistics) actuals

Additional Service points provided (YTD)						
Month	Water (Number of Taps)			Sanitation (Number of Toilets)		
	Informal Settlement	Backyarders	Total	Informal Settlement	Backyarders	Total
Dec 2012	80	67	147	183	67	250
Jan 2013	86	67	153	183	67	250
Feb 2013	114	67	181	477	67	544
March 2013	114	69	183	477	69	546
April 2013	210	69	279	629	69	698
May 2013	249	93	342	629*	93	722
June 2013	#	172	-	*	172	-
SDBIP TARGET June 2013			**1 000**			**3 000**

3.2 PERFORMANCE HIGHLIGHTS

Table 2 below indicates how well City of Cape Town compares to the rest of the country's Metros. The number of assessment categories dropped as from 2009 from 9 to 5 and the blue drop score is still 98.14 % which is quite fine.

Table 2: **Municipal Blue Drop Score**

YEAR OF ASSESSMENT	№ OF ASSESSMENT CATEGORIES	BD SCORE %	COMMENT
2009	9	100	One of only 3 municipalities to get 100%
2010	9	98.18	2nd in SA Top 10
2011	8	97.61	2nd in SA Top 10 Platinum Award for 3 successive BD Awards
2012	5	98.14	6th in SA Top 10 Platinum Award for 4 successive BD Awards

- SANS 241 certification for meeting or exceeding the national standard for drinking water

- The technical operations centre (TOC) is the first and only call centre in Africa to have received SANS 990 certification and is the first contact centre in Africa officially complying with the requirements of SANS 990-2.
- Laboratories have 17025 SANS 025 national accreditation.
- Bulk Water supply has ISO certification.
- In 2011 was chosen as best water demand manager of all the Southern African Development Community (SADC) countries by the Development Bank of Southern Africa.

- City of Cape Town was ranked amongst the top 10 municipalities in the country for the fourth consecutive year for drinking water quality. In addition, seven of the City's Wastewater Treatment Works received Certificates of Excellence from WISA.

- According to the last Green Drop report by DWA, the average Green Drop score – which is a measure of the City's wastewater treatment works (WWTWs) facilities – was 86.8%. Eleven of the WWTWs scored higher than 90%, including Gordon's Bay, Klipheuwel, Llandudno, Macassar, Melkbosstrand, Wesfleur, Wildevoëlvlei and Zandvliet WWTWs – thereby qualifying for Green Drop status. Athlone and Cape Flats WWTWs, however, struggled with compliance and therefore lost their Green Drop status. The results of the 2013 Green Drop report have not yet been released by DWA at the time this annual report has been compiled.

3.3 NATIONAL WATER SERVICES REGULATION STRATEGY

The City takes guidance from the National Water Services Regulation Strategy drafted on the Draft 8.1, May 2007.

The core of regulation is to protect the consumer and the public interest by ensuring the following:

- Compliance with minimum national norms and standards.
- Good performance and efficient use of resources.
- Good contracting practice.

The National Strategy calls for a developmental approach that has the following key components:

- Implementing priority programmes
- Building foundation for effective regulation
- Implement the full scope of regulation

The city endorses this approach and is committed to playing a lead role in implementing and maintaining the full scope of regulation taking into account the protection of the customer while ensuring the public interest.

4. DEMOGRAPHICS AND SOCIO–ECONOMIC

Demographics are the most recent statistical characteristics of a population. Commonly examined demographics include gender, race, age, disabilities, mobility, home ownership, employment status, and even location. Demographic trends describe the historical changes in demographics in a population over time (for example, the average age of a population may increase or decrease over time). Both distributions and trends of values within a demographic variable are of interest. Demographics are about the population of a region and the culture of the people there.

4.1 LOCATION

The City of Cape Town (CCT) is located in the Western Cape Province on the south-eastern corner of South Africa as indicated on Figure 1. The total area is approximately 2 461 km2 and its coastline is 294 km long (Annual Report).

Description of settlement types within the City of Cape Town:

- Urban – Formal towns within vicinity of urban cores
- Dense – Dense rural settlements with population > 5000
- Village – Rural village with population between 500 and 5000
- Scattered – Scattered rural village with population less than 500
- Farmlands – Farming.

Figure 1: Locality Map of CCT

4.1.1 Brief History

As the City's population increased, many surrounding suburbs and villages grew into municipalities. Fish Hoek was incorporated in 1940, and by 1945, the end of World War II, four new municipalities – Bellville, Durbanville, Goodwood and Parow – were formed. Pinelands became a municipality in 1948, and Milnerton one in 1955. Eventually, greater Cape Town had 39 local authorities and 19 administrations.

After the 1994 elections, municipal government underwent a complete overhaul. This was driven by the desire to do away with racially based entities, and also because many of the thousands of local authorities around the country were too small to be effective.

On the eve of the 1996 local government elections, the 58 entities that made up metropolitan Cape Town were combined into seven – the municipalities of Blaauwberg, Cape Town, Helderberg, Oostenberg, South Peninsula, Tygerberg and the umbrella Cape Metropolitan Council. The City of Cape Town itself came into being at midnight on 4 December 2000, when these seven entities were merged into the Cape Town 'Unicity'. At the same time across the country, 283 other municipal councils (another five metropolitan councils, 231 local councils and 47 district councils) were also established.

The new Unicity had more than 27 000 staff and a budget of R8,9 billion (a capital budget of R2,1 billion and an operating budget of R6,8 billion). At a practical level, there was the huge challenge of merging staff, functions, systems, infrastructure and equipment from the seven administrations into one entity. Just over a decade later, the City now has a staff complement of just over 25 000 employees, and a budget of R27, 1 billion (a capital budget of R5, 070 billion and an operating budget of R22, 1 billion).

4.1.2 Situation Assessment

Currently, the CCT carries both the constitutional responsibility for water services provision, as the Water Services Authority, and the operational responsibility, as the Water Services Provider, through the Water and Sanitation Services Department.

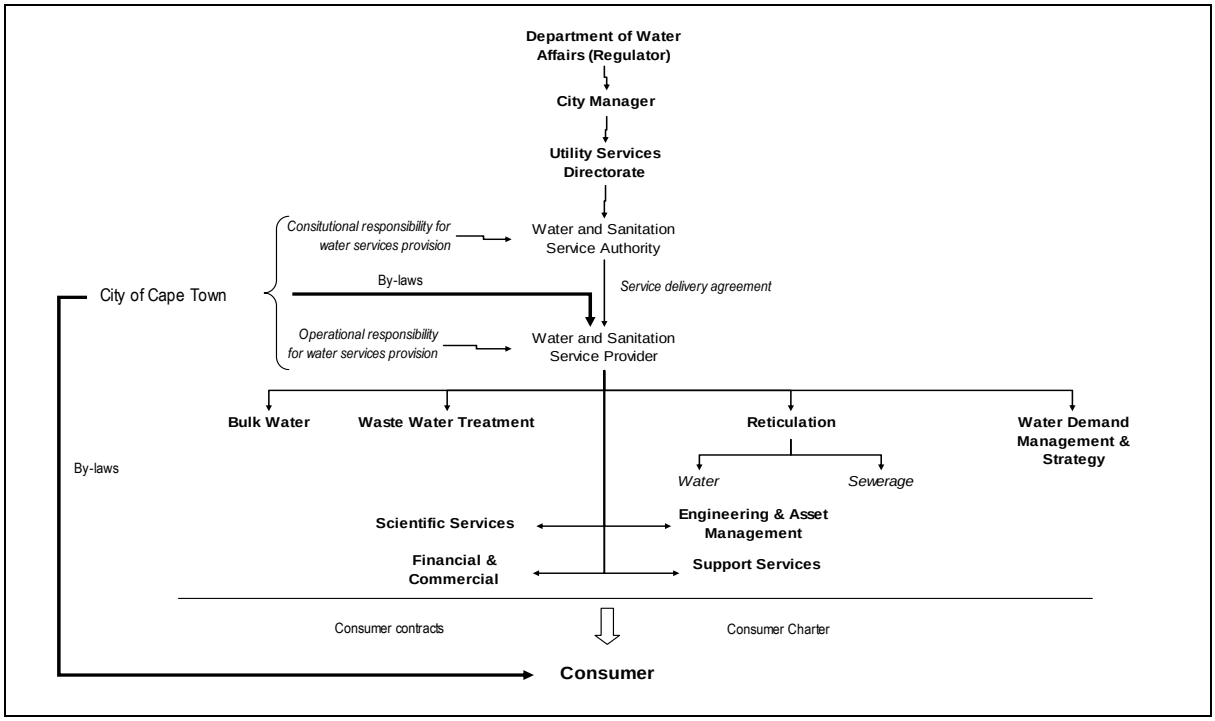

Figure 2: Structure of Water and Sanitation department

The Bulk Water Branch of the CCT operates the bulk water supply system. It supplies bulk water to the eight reticulation districts of the Reticulation Branch – the reticulation districts distribute the water to the end users. Please see figure 3 below of 8 reticulation districts:

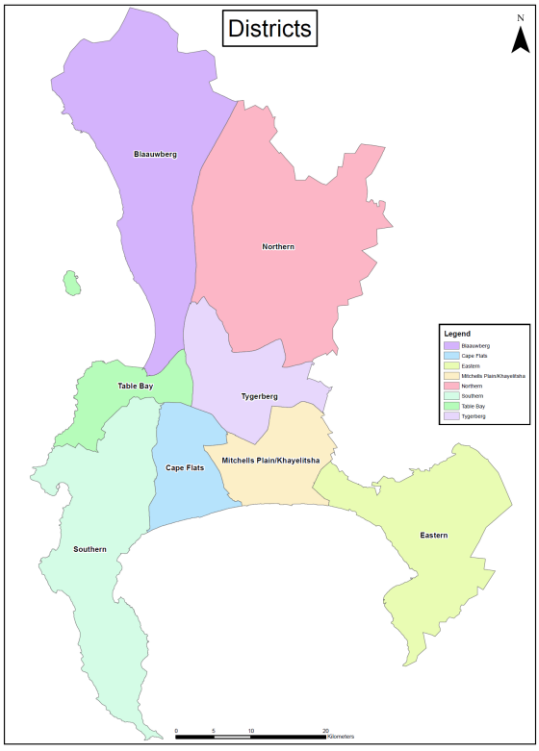

Figure 3: Reticulation Districts

From a value-chain perspective, catchment areas above the dams are managed, raw water is empounded in the dams then conveyed to and treated at water treatment plants.The bulk treated water is then strategically conveyed via a network of large diameter pipelines and bulk reservoirs to the bulk meters of the various districts of the City and the neighbouring Local Municipalities. The Bulk Water Branch allocates demand load to the various bulk supply sub-systems in order to maximise the yield of the dams of the Western Cape Water Supply System, which incorporates both City-owned and DWA-owned dams and the branch is responsible for the value chain to this point.

The districts of the Reticulation Branch, thereafter, distribute the water through the secondary distribution network to the end-users.

Wastewater collection and treatment is also carried out by the Water and Sanitation Department. The wastewater collection function falls under the Reticulation Branch, whereas treatment is undertaken by the Wastewater Treatment Branch.

4.1.3 Physical Perspective

Information on the physical attributes of the area, the history, main features and attractions are presented on the CCT's website (http://www.capetown.gov.za).

4.1.4 Topography

The area consists of varying topography which includes flat plains, hills and mountains. High mountains are located fairly close to the sea; e.g. Table Mountain which exceeds 1 000 m in elevation. Other high mountains on the perimeter include the Hottentots-Holland, Helderberg, Stellenbosch, Jonkershoek, Franschhoek, Wemmershoek, Du Toits, Paarl, Slanghoek, Limiet and Elandskloof mountains. These mountains form an eastern perimeter of mountains around the CCT, as shown on Figure 4.

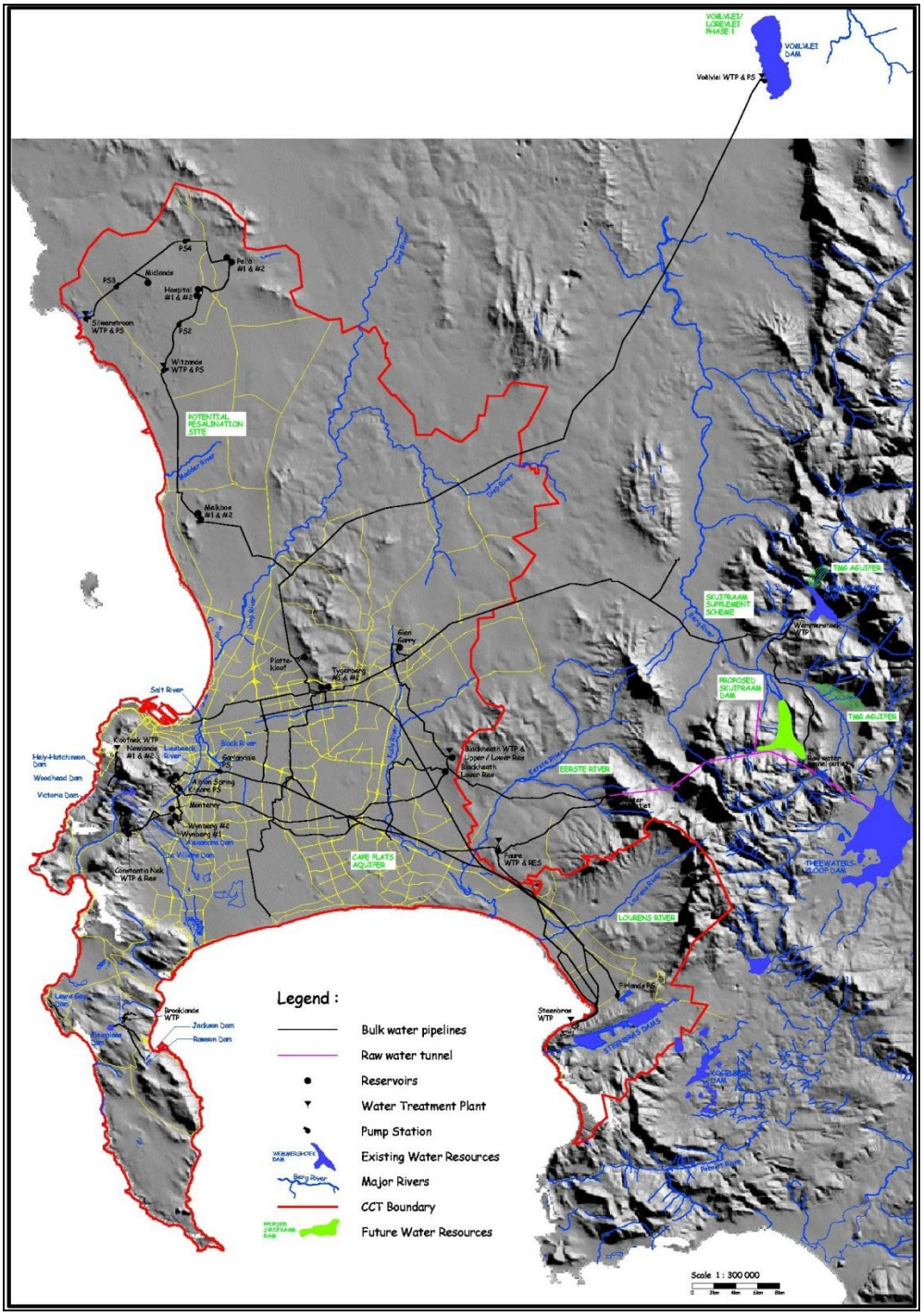

Figure 4: Topography

A major portion of the CCT consists of the area known as the Cape Flats, which has an elevation of between 20 and 45 m above sea level. This area is relatively low-lying and can be supplied via the bulk supply network from large reservoirs with top water levels at 110 m above sea level (ASL). The mountainside developments in Somerset-West, along Table Mountain and the Peninsula mountain range, as well as the hilly development in Durbanville, Brackenfell-north, and the Atlantis area are at elevations, which are too high to be supplied from the 110 m ASL reservoirs. Very few areas with water demand are located at elevations higher than 200 m ASL.

The rivers in the CCT are relatively small. Some rivers worth mentioning are the Salt-, the Dieppe-, the Black-, the East-, Quills-, Moderate- and Lorenz rivers. The rivers which are utilised as water sources lie mostly outside of the CCT. These are the tributaries to the Berg River namely the Wolwekloof and Banhoek tributaries, Sonderend-, Palmiet-, Klein Berg- and Leeu rivers. Of these, the Berg River that flows in a northerly and later westerly direction is by far the largest.

4.1.5 Climate

Cape Town has a Mediterranean-type climate with well-defined seasons. Cape Town has a mean annual rainfall of 515mm/annum and an average temperature of 16.7ºC. The CMA is a winter rainfall area.

In the winter months, May through August, cold fronts sweep across the Atlantic and bombard Cape Town with rain and the north-west gales. The winters are cool with an average minimum temperature of about 7° C. Most of the rainfall occurs in winter, but due to the topography the rainfall varies quite dramatically. In the valleys and coastal plains it averages 500mm per year, while in the mountainous areas it can average as much as 1500mm a year.

The meteorological depressions that typically bring rain to this area during winter move past to the south of the area (and the land mass) during summer; resulting in long dry spells. It is during the dry summer, November through to February, that the water demands are highest, due to the higher temperatures and the fact that watering of gardens is the norm in almost all the residential areas. Summer temperatures average at maximum around 26°C.

The contrast between the winter and summer season complicates the management of a bulk water supply system, as sufficient run-off needs to be stored during winter in order to meet the increased water demand in the hot and dry summer months.

4.1.6 Natural Environment

Cape Town is one of the most beautiful and diverse cities in the world. The city is located in a highly sensitive and vulnerable ecosystem and is recognised as a global biodiversity hotspot, meaning that it is highly threatened. The City is also fortunate to have the Table Mountain National park within its boundary. The City's environment is one of its strongest assets - driving tourism and attracting people and investment into the city's economy. Finding the balance for sustainable development and improving quality of life remains a challenge. Growing resource consumption, pollution (air,

water, waste) and the protection of the city's biodiversity are key issues that must be addressed.

Cape Town is located within the Cape Floristic Region, which is geographically the smallest of the world's six floral kingdoms, but supports the highest density of plant species. Cape Town supports 2 500 indigenous plant species of which 190 are endemic (species that are found nowhere else in the world), thus within the Cape Floristic Region it is considered an area of particularly high floral diversity (or a local "hotspot" within a global "hotspot"). This floral diversity relates to the steep environmental gradients, including altitudinal, geological and rainfall gradients; that have combined to create a large number of different habitats. Six national vegetation types are found only within the City Of Cape Town's borders, and of these, five are classified as "Endangered" or "Critically Endangered". These vegetation types support species that are unique to Cape Town and many of these are under threat from extinction, due to habitat destruction and the impact of invasive alien species.

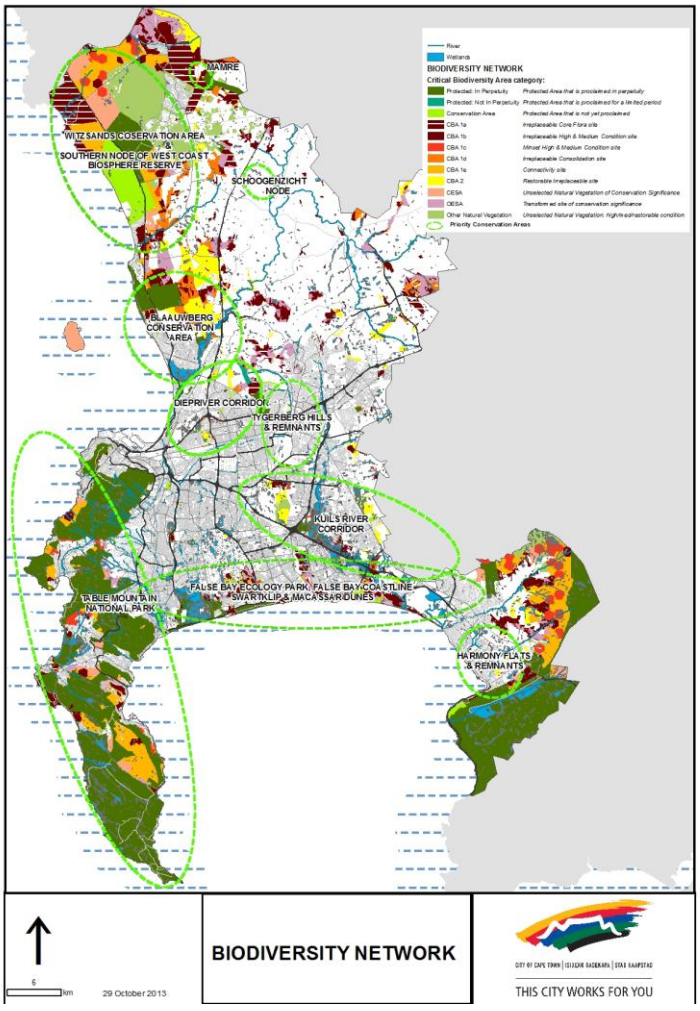

Figure 5: Biodiversity Network: Source: Cape Town Spatial Development Framework:

Since 1945, Cape Town grew dramatically in size. Compared to 1945, Cape Town is seven times larger and has almost doubled in size since 1977. As of September 2007, the extent of the City of Cape Town is calculated to be 38 408 Ha. Cape Town

is growing at a rate of 650 Ha per year. Refer to Figure 6 for location of Urban Growth (Expansion of Urban CT, 2009).

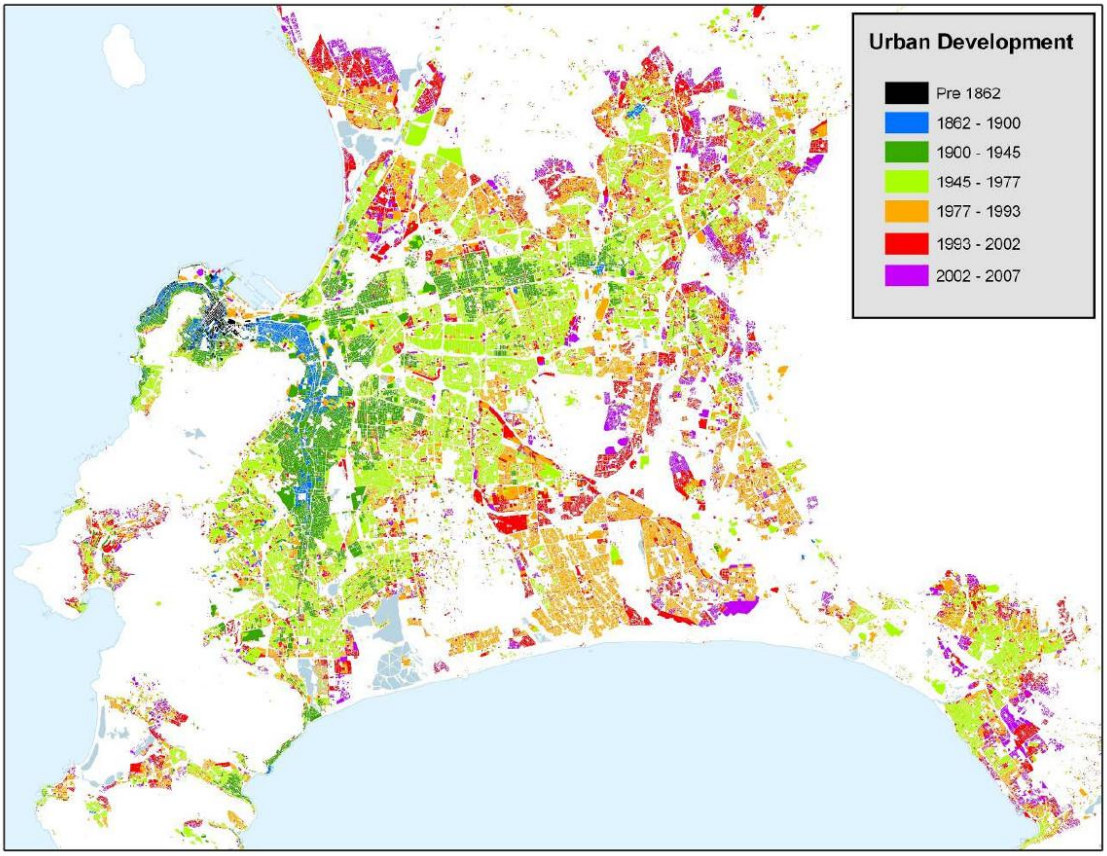

Figure 6: Location of Urban Growth (Source: Expansion of Urban CT, 2009)

Sprawl contributes to increasing commuting times as well as the loss of valuable agricultural land and areas with high biodiversity conservation potential (City of Cape Town, 2006). Much of the recent growth has contributed to sprawl with relatively low density suburban residential development driving this process, although higher density, higher income residential development in the CBD has accelerated in the past few years. Concentration of populations in urban areas greatly reduces the unit cost of piped water, sewers, drains and roads. The use of environmentally friendly energy sources and transport can reduce these costs even further.

The existing land use and potential future development areas are shown in Figure 7 and Figure 8 below.

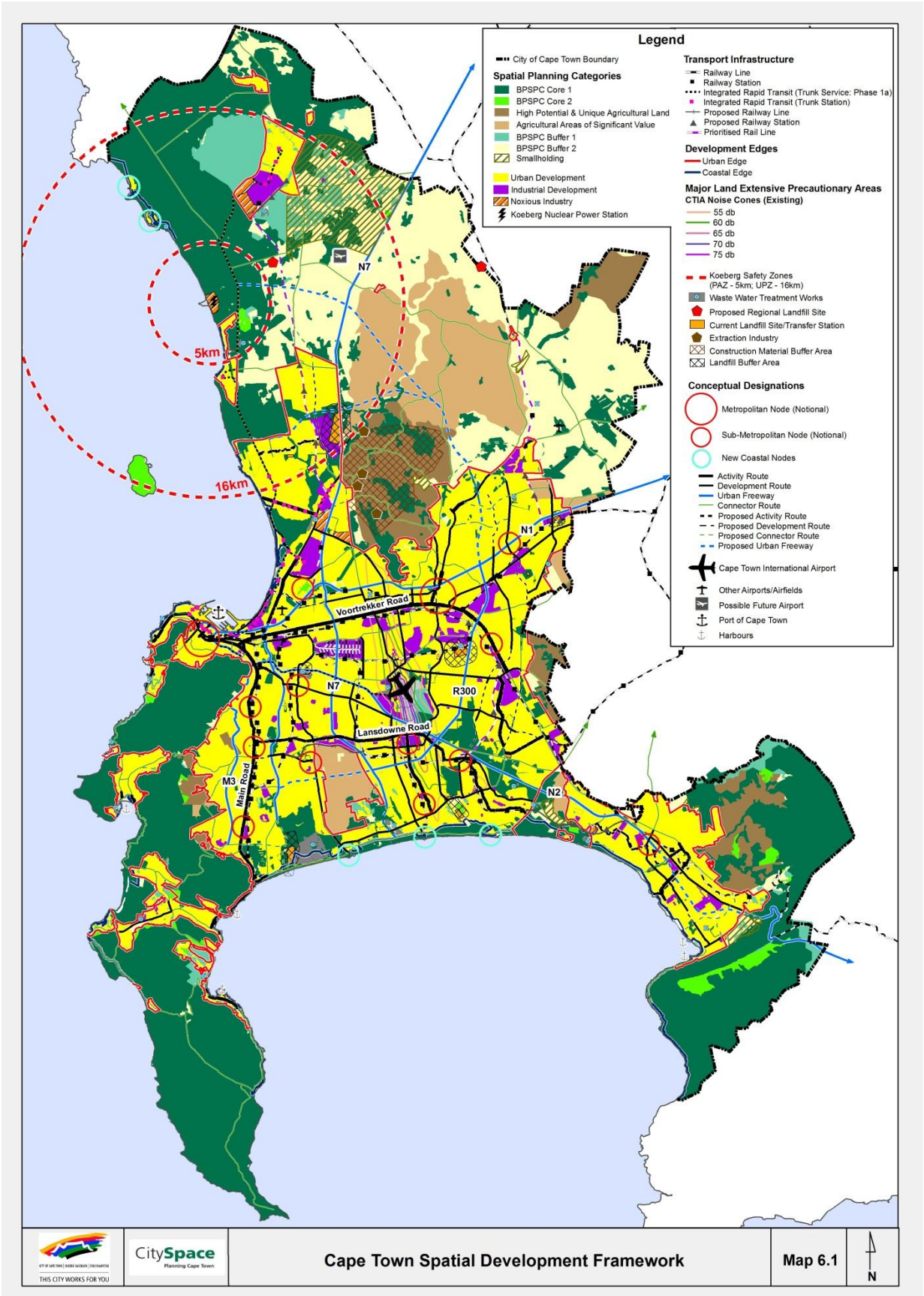

Figure 7: Existing Land Use and Potential Future Development Areas (Source: Cape Town Spatial Development Framework: Technical Report 2012)

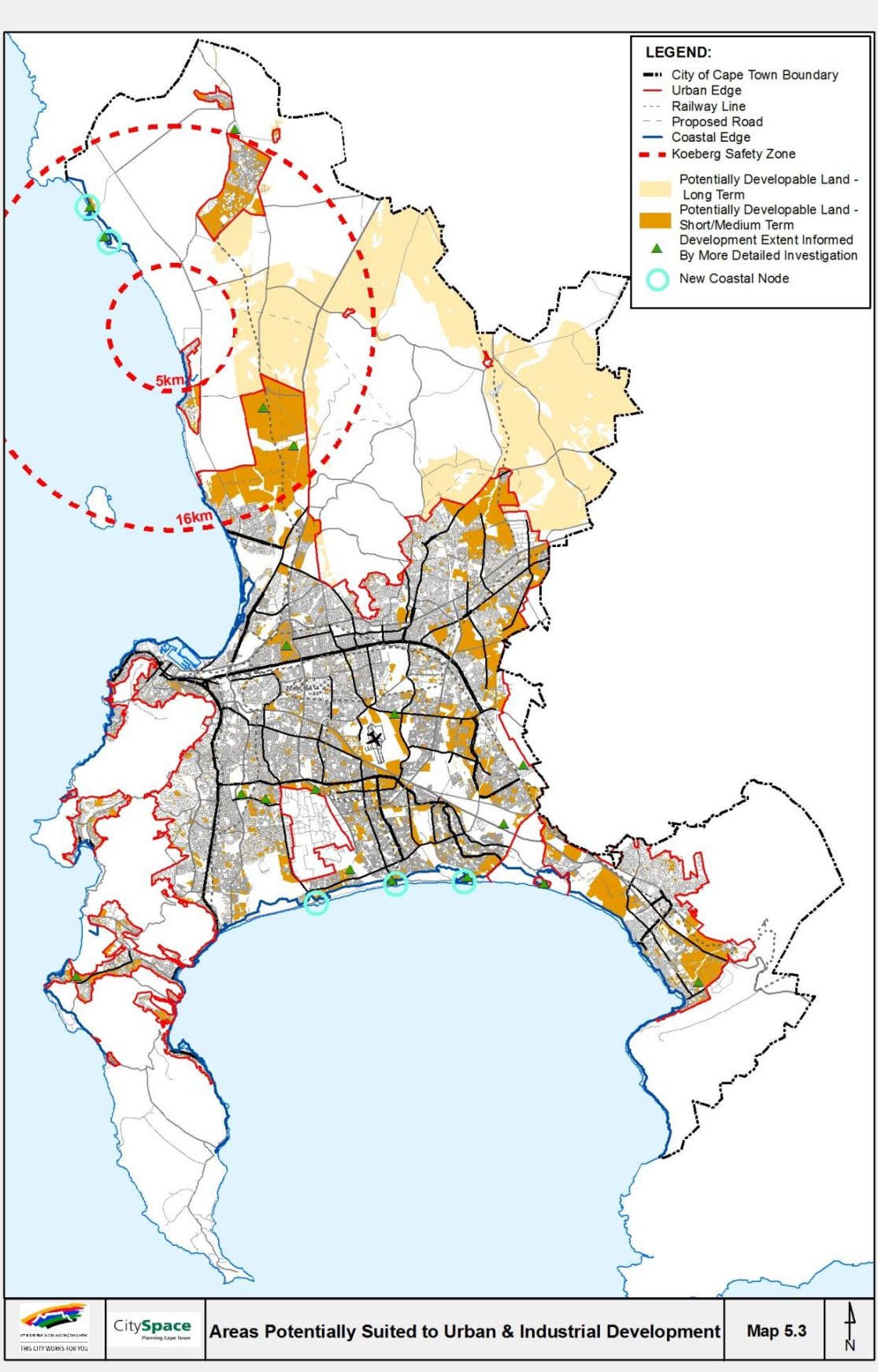

Figure 8: Areas Potentially Suited to Urban and Industrial Development (Source: Cape Town Spatial Development Framework: Technical Report 2012)

The major dams from which the CCT is supplied are situated outside (except for the Steenbras Upper and the Steenbras Lower Dams) the mountainous eastern perimeter of the area:

- The Theewaterskloof dam near Villiersdorp is the major water source of the COCT and forms part of a large inter-basin water transfer scheme that regulates the flow from the Sonderend-, Berg- and Eerste rivers.
- The Voëlvlei dam is the furthest north near Gouda and relies on diversion works in the Klein Berg, Leeu and 24 Rivers for its water supply.
- The Wemmershoek dam is situated in the mountains near Franschhoek and is supplied from various small rivers in the Wemmershoek Mountains (e.g. Tierkloof- and Olifants rivers).
- The Steenbras Upper dam and Steenbras Lower dam are situated in the Hottentots-Holland mountain range near Gordon's Bay, and serve a dual purpose of providing an upper reservoir for the Steenbras Pumped Storage Scheme and for supplying water for domestic/industrial use to the CMA.
- The Berg River Dam is located in the upper reaches of the Berg River near Franschhoek.
- Other smaller dams include the dams on Table Mountain (Woodhead, Hely Hutchinson, De Villiers, Victoria and Alexandra) which are used to supply water to the southern suburbs and the Peninsula, and the dams at Simons Town (Kleinplaats and Lewis Gay) which provide water to the Peninsula.

4.1.7 Economics

During the past decade, Cape Town has remained the second largest metro contributor to South Africa's Gross Domestic Product (GDP). In line with the national trend of comparatively faster economic growth in metro versus non-metro areas, Cape Town's contribution to national GDP rose from 10.7% in 2002 to 11.3% in 2012. (Global Insight, 2013) Cape Town's economy grew at an average annual rate of 3.9%, 0.4% higher than the country as a whole in this period. (Global Insight, 2013) Growth peaked at 6.0% in 2007, but then dropped to -1.3% in the global recession in 2009. Post-recession economic growth for the city has tended to be more subdued than pre-recession growth.

While Cape Town has retained its position as the second largest metro economy in South Africa, it still remains some distance behind the City of Johannesburg which contributed 16.6% of the nation's GDP in 2012. EThekwini follows closely behind Cape Town with a contribution of 10.8% and recorded the same (3.9%) annual growth rate as Cape Town. However, strong annual growth rates for Tshwane (4.5%) and Ekhurhuleni (4.0%) as a result of their location in the Gauteng economic hub alongside City of Johannesburg, could threaten Cape Town's position as South Africa's second most economically powerful metro area in the future.

A city's ability to transform economic growth into benefits for its residents is normally measured in the number of jobs that are created. In this respect, the number of employed individuals in Cape Town increased by 169,525 between [2008 and 2012]. (StatsSA,2013) Unfortunately, this level of employment creation has not been able to absorb all the new entrants to the labour market during this period resulting in the city's unemployment rate rising from 19.7% in 2008 to 25.4% in 2012. The

insufficient growth in employment must, however, be seen in the context of a recessionary global economic environment in 2009, and large employment losses in South Africa as a whole during this period.

GDP per capita, by weighting economic output by the number of residents, provides a reflection of the relative prosperity of a city's residents. Cape Town's GDP per capita, at R58 845 is significantly higher than South Africa's (R37 404). (Global Insight, 2013) It does, however, lag a long way behind Johannesburg which has a GDP per capita of R72 437.

The City's EPWP continues to contribute to the reduction of poverty and unemployment and generated 5206 temporary jobs, within Water and Sanitation, for Cape Town citizens and residents.

As at 2011, the population of Cape Town was estimated at 3 740 000 people. HIV and Aids also influence population growth, and current trends indicate a lower mortality rate than that originally predicted. In the period 2001 – 2011, the population of Cape Town has increased by 29% and in the 15 year period 1996 – 2011 by 46%.

The overall trend is that Cape Town's population will continue to grow each year although at a slower rate than previous years. The number of people living in informal settlements has been growing at an increasing rate and the current housing backlog is estimated at approximately 363 000 units (Housing Information Branch, Strategy Support and Co-ordination, as at June 2012).

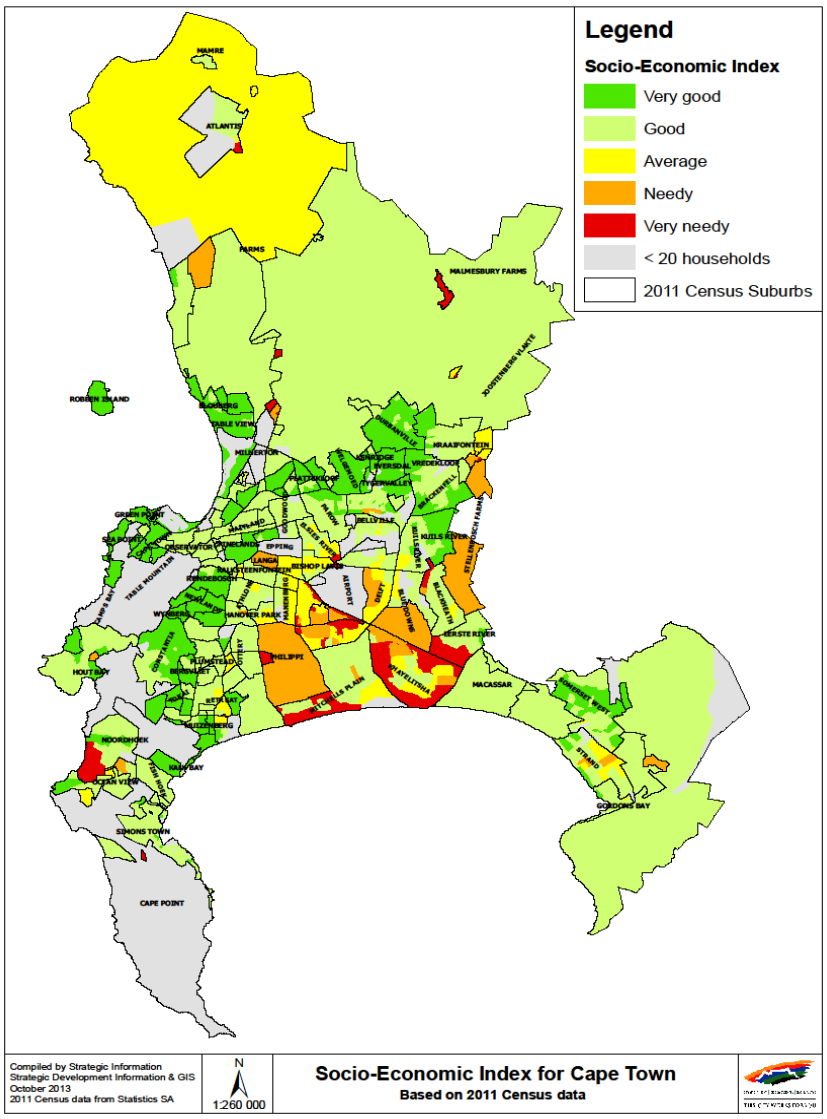

Figure 9: Socio-Economic Index for Cape Town – Census Suburbs (based on 2011 Census data)

The map indicates the areas in Cape Town which are very needy, needy and average. The index which can be used as a broad proxy for poverty uses a weighted index of household information as follows:

- Household Services (energy for lighting,water , refuse toilet facilities) 30%;
- Education (literacy, no schooling, adults with less than Grade 12 or no tertiary education) 20%;
- Housing (Dwelling type and room density) 20%;
- Economic (employment, income and economic dependency) 30%.

4.2 SOCIAL ECONOMIC PROFILE

4.2.1 Dwellings

A formal dwelling is defined as a structure built according to approved plans, i.e. house on a separate stand, flat or apartment, townhouse, room in backyard, rooms or flat-let elsewhere. An informal dwelling is defined as a makeshift structure not

erected according to approved architectural plans, for example shacks or shanties in informal settlements or in backyards.

Table 3: Estimated households living in dwelling types for 2011 Census

Cape Town Type of Dwelling	Black African		Coloured		Asian		White		Other		Total	
	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%
Formal Dwelling	250 762	56.4%	327 383	91.3%	13 852	97.1%	230 575	99.0%	14 961	82.8%	837 533	78.4%
Informal dwelling / shack in backyard	54 500	12.3%	18 082	5.0%	150	1.1%	337	0.1%	1 889	10.5%	74 958	7.0%
Informal dwelling / shack NOT in backyard	134 914	30.3%	7 531	2.1%	141	1.0%	387	0.2%	850	4.7%	143 823	13.5%
Other	4 607	1.0%	5 634	1.6%	123	0.9%	1 528	0.7%	369	2.0%	12 261	1.1%
Total	444 783	100.0 %	358 630	100.0 %	14 266	100.0 %	232 827	100.0 %	18 069	100.0 %	1 068 575	100.0 %

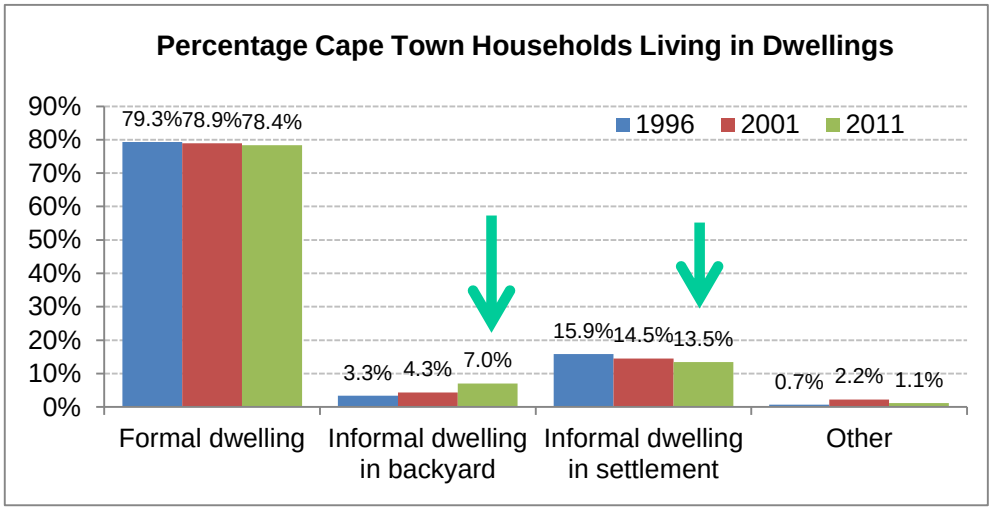

Figure 10: Compiled by Strategic Development Information and GIS Department, City of Cape Town1996, 2001 and 2011 Census data supplied by Statistics South Africa (Based on Census 2011 information available at the time of compilation, as released by Statistics South Africa)

In the period 2001 – 2011 (10 years):

- The percentage of households in Cape Town in formal, informal and other types of dwellings has largely remained the same.
- In 2011, 78% of households in Cape Town live in formal dwellings (similar to 2001 79%); 14% of households (144 000 households) live in informal dwellings in informal settlements (15% in 2001).
- However there has been a large growth in the number of households living in informal dwellings in backyards, with 7% of households (75 000 households) in 2011, an increase of more than 3% from 4.3% in 2001.
- In 2011, 43% of Black African households in Cape Town were living in informal settlements and informal dwellings in backyards. This is a decrease from 2001 where the percentage was 52% of Black African households.
- Both in 2001 and 2011, 87% of households living in either informal settlements or informal dwellings in backyards are Black African.

- In 2011, 25 613 (7%) Coloured households in Cape Town are living in informal settlements and informal dwellings in backyards, an increase from 2001 with 17 083 (5.5%) Coloured households.

Table 4: Informal Dwelling per District (informal settlements) as December 2012

DISTRICT	Informal Settlements: No. Dwellings
D1 – South Peninsula	7 992
D2 - Tygerberg	4 105
D3 – Khayelitsha	38 700
D4 - Helderberg	12 371
D5 – Mitchells Plain	26 019
D6A – North East	3 645
D6B – Blaauberg	10 108
Total	**102 940**

There are many areas that are characterised by severe social and economic conditions, high levels of poverty, unemployment, illiteracy, alcoholism, low health status and other deviant behaviour such as crime and delinquency. The health status of residents in informal settlements is low; this is partly due to poor living conditions.

There exists a need for Water and Sanitation to intervene by providing suitable access to suitable sanitation facilities.

4.2.2. Poverty

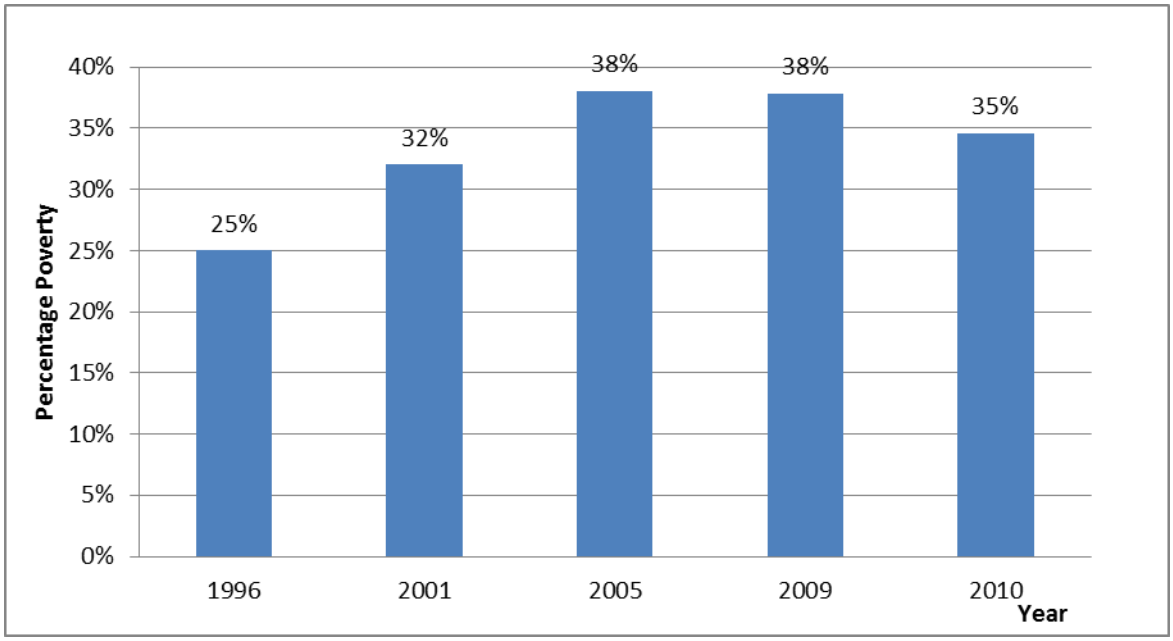

Figure 11: Households earning below Household Subsistence Level (household income below R3500) Source: Statistics South Africa, 1996, 2001, and 2005 and Strategic Development information and GIS

4.2.3. Health Status: HIV/AIDS

The antenatal prevalence of HIV in Cape Town has increased slightly over the last number of years; from 18.2% in 2006 to 20.9% in 2011 (the latest released data from the annual survey). This is higher than that for the Western Cape which was at 18.4% in 2011 but significantly lower than that for South Africa which has plateaued at about 30% over the last number of years.

However, some areas within Cape Town have an antenatal HIV seroprevalence as high as, or higher than, the National average, including Khayelitsha at 37.1% in 2011. It is not clear what effect longevity of clients on antiretroviral treatment (ART) is having on prevalence, but it is probably a contributing factor, meaning that the increased prevalence is not necessarily all bad news.

The number of people with HIV registered for ART in Cape Town has increased to 101,820 in June 2013. The number of facilities dispensing ART has increased to 65: of these, most are at primary health care level. These figures do not include treatment at private facilities.

4.2.4. Regional Perspective

The City of Cape Town is the major economic hub of the Western Cape contributing 76% of the province's GDP. It is bordered by the West Coast DM to the north, the Cape Winelands District Council to the North East and Overberg DM to the South East.

Cities do not function in isolation, but form part of particular regions with a range of different stakeholders that influence their management. The key challenges for developing successful city-regions include securing balanced economic growth, appropriate governance systems to ensure effective cooperative decision-making, an entrepreneurial approach to facilitating investment, and the avoidance of competition between the cities and towns in the city-region system. This acknowledges that major development projects have to be coordinated effectively for the benefit of the city-region as a whole. An important aspect of this is 'spatial coalitions', which are meaningful partnerships with business, civil society and spheres of government, as valuable assets in fostering a competitive regionalism (South African Cities Network, 2006).

Two key strategies impact on the broader Cape Town context; namely, the National Accelerated and Shared Growth Initiative for South Africa (ASGISA), and the Western Cape Growth and Development Strategy (PGDS). ASGISA is a national framework to support a range of key policy thrusts, including macro-economic policy refinement, strategic infrastructure provision, sector investment strategy, labour market skills, small business and governance. Provincially, the PGDS is a strategy for the Province to achieve shared growth and integrated development. It is the core alignment mechanism for the province and a coordination and implementation strategy driven by the Provincial Government Western Cape. The objectives of the PGDS are:

- Identify appropriate levers to shift developmental path

- Identify location of regional development motors of shared growth
- Commit the Provincial Government to strengthen its contribution to shared growth and development
- Design institutional architecture and reforms necessary for achieving shared growth and development
- Focus, align and harmonise the Provincial Government planning, budgeting and implementation
- Provide a framework for improved collaboration and coordination of all stakeholders in the Province around a shared growth and the development agenda.

Strategies at a metropolitan level should take cognisance of and be aligned to these higher level strategies such as ASGISA and the PGDS, whilst focusing on the particular local challenges (City of Cape Town, 2006).

4.3. TOTAL POPULATION

3 740 000 people in Cape Town; 29.3 % increase since Census 2001 (10 years); 46% increase in 15 years (1996- 2011).

Cape Town's population has grown and will continue to grow, both from natural births (although at a slower rate, with fertility levels declining) as well as in-migration. Average household sizes have been slowly decreasing from 3.92 in 1996 to 3.72 in 2001, with the 2011 average 3.50 likely to continue to decline into the future.

The population is starting to show aging trends – especially the White population group. There is a need to analyse the impact of aging population on affordability of rates and services. Large cohort in the 15-64 year age group – "window of opportunity."

The following demographical analysis is the most recent available and reflects information and estimates as at 2011"

In 10 year period 2001 – 2011:

- number of households in Cape Town increased 38% (Population increase 29%)
- number of Black African households increased 77% (Population increase 58%)
- number of Coloured households increased **16%** (Population increase 14%).

In 15 year period 1996 – 2011:

- number of households in Cape Town increased 64% (Population increase 46%)
- number of Black African households increased 165% (Population increase 124%)
- number of Coloured households increased **38%** (Population increase 28%).

Table 5: Cape Town 2011 household and population growth

	Households			Population		
	1996 to 2001 % change 5 years	2001 to 2011 % change 10 years	1996 to 2011 % change 15 years	1996 to 2001 % change 5 years	2001 to 2011 % change 10 years	1996 to 2011 % change 15 years
Black African	49.5%	77.1%	164.8%	42.3%	57.6%	**124.3%**
Coloured	19.4%	15.5%	37.9%	12.3%	13.8%	**27.9%**
Asian	15.1%	41.7%	63.2%	9.6%	24.7%	**36.7%**
White	5.5%	13.2%	19.4%	-0.2%	8.0%	**7.8%**
Total	**19.0%**	**37.5%**	**63.6%**	**12.9%**	**29.3%**	**45.9%**

4.4. TOTAL NUMBER OF HOUSEHOLDS AND AVERAGE HOUSEHOLD SIZE

The estimated number of households in Cape Town in 2012 was 1 106 000, having risen from 1 144 700 in 2013. The number of households is expected to increase to about 1.45 million by 2019 (Demographic and Socio-economic Characteristics of Cape Town report of April 2011).

4.5. CAPE TOWN CENSUS

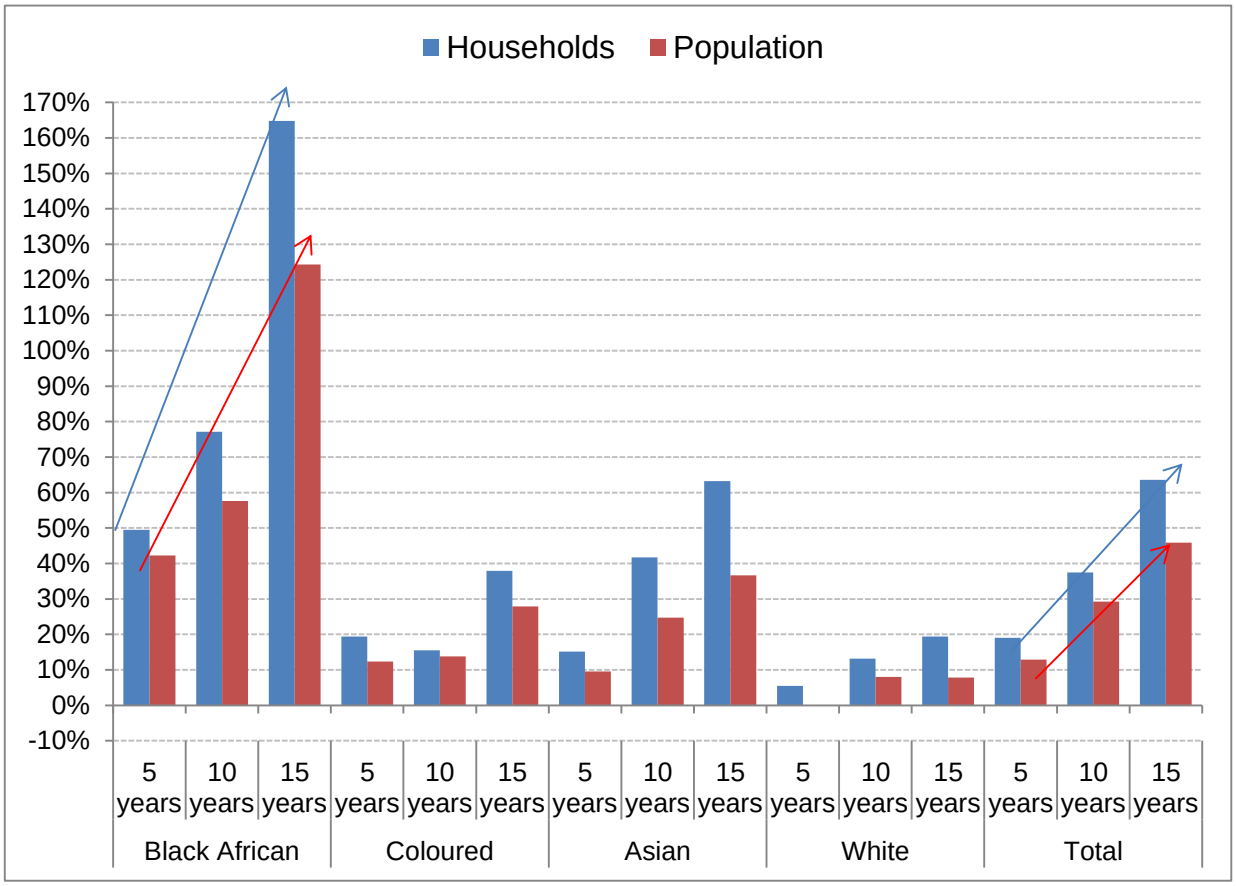

Figure 12: Household vs population growth

4.6. AGE AND GENDER PROFILE

- 57% of Cape Town's population is over 25 years
- 2011 Median age (when data available) will be over 26 years
- Trend of reducing overall proportion in 5 - 24 years age groups
- Population is starting to age, in particular White population group

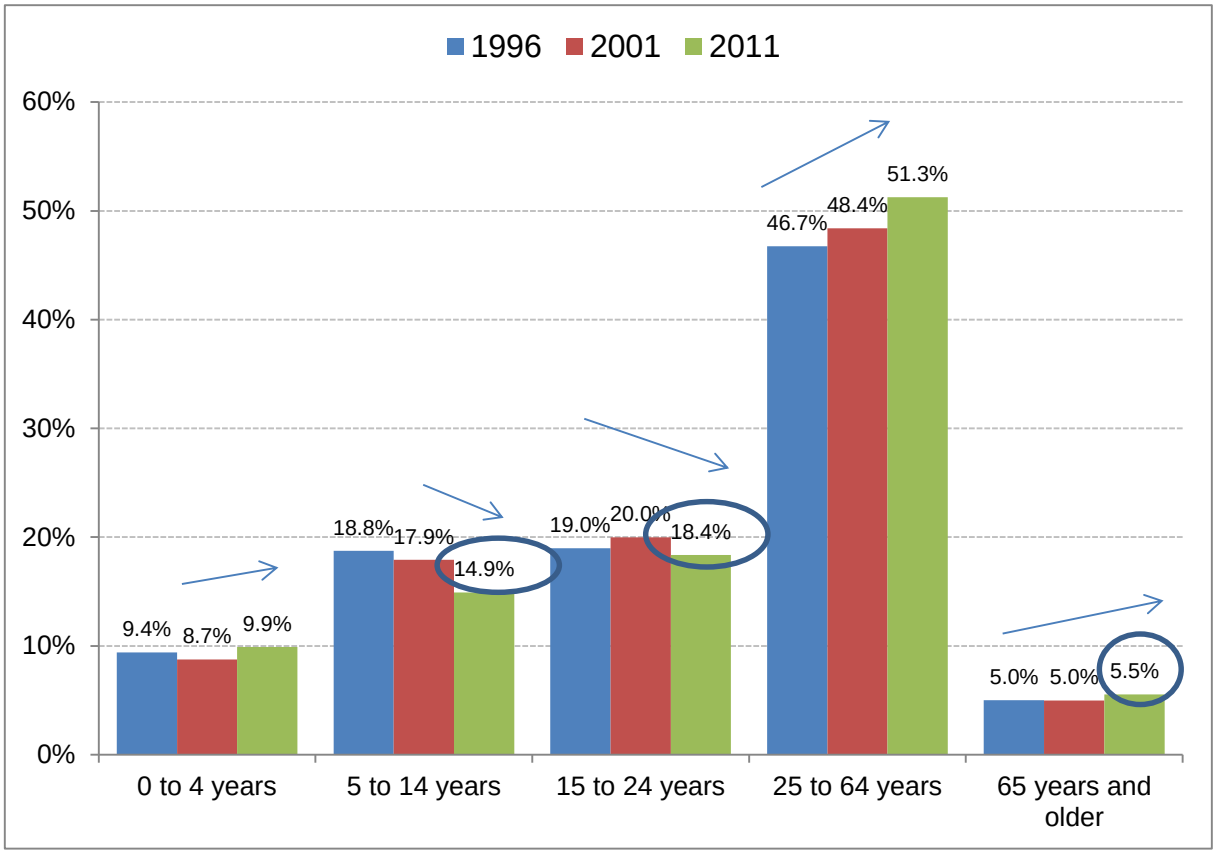

Figure 13: Cape Town Census 2011 categorise by age.

5. SERVICE LEVELS

Having an understanding of the current situation allows the most important aspect of the plan to be addressed, which are the service level targets. This section sets out what services will be provided to consumers, both in terms of level of service and quality of service.

The concept of service levels relates to the options which consumers can be given with regard to the convenience of the service and hence the amount of water which they will consume and the associated wastewater they will generate. There are a range of different service types which can be provided. These are clarified below according to the types reported in the tables.

5.1.1. None or inadequate

This refers to the number of consumer units (or households) that do not have access to basic water supply or sanitation.

5.1.2. Basic water supply comprises

The Strategic Framework for Water Services (2003), Basic Water Supply is defined as follows:

- a minimum quantity of potable water of 25 litres per person per day;
- at a minimum flow rate of not less than 10 litres per minutes (in the case of communal water points)
- within 200 metres of a household, and
- 6 000 litres of potable water supplied per formal connection per month (in the case of yard or house connections).

The City of Cape Town added the following minimum standards for communal taps/standpipes:

- within 100 metres of a household;
- at a ratio of not more than 25 households per tap (based on 25 litres per person per day at a flow rate of 10 litres per minute).

5.1.3. Basic sanitation comprises

The Strategic Framework further defines basic Sanitation Facilities as follows:

- to provide a sanitation facility which is safe, reliable, private, protected from the weather and ventilated, keeps smells to the minimum, is easy to keep clean, minimises the risk of the spread of sanitation-related diseases by facilitating the appropriate control of disease carrying flies and pests;
- enables safe and appropriate treatment and/or removal of human waste and wastewater in an environmentally sound manner.

The City of Cape Town added the following minimum standards for the number of toilets per household:

- the provision of a shared toilet (at a ratio of not more than 5 families per toilet) which is safe, reliable, environmentally sound, easy to keep clean, provides privacy and protection against the weather, well ventilated, keeps smells to a minimum;
- to prevent the entry and exit of flies and other disease-carrying pests.

The City of Cape Town's Basic Service Level Targets which included the National Norms and Standard and the City's additional minimum standards as described above is summarized in Table 6 below:

Table 6:National minimum basic service standards

Service	National Standard (1)
Sanitation	Easy access to a safe, reliable, private toilet facility which is protected from the weather, ventilated, low smell, hygienic, minimises the risk of spreading diseases and enables safe treatment and/or removal of human waste and wastewater in an environmentally sound manner including communicating hygiene.
Water	A basic water supply facility within 200m of dwelling, delivering at least 25 l/ person/ day at a minimum flow of 10 l/min in the case of communal water points, or 6 000 litres of water per month in the case of yard or house connections.

5.1.4. Water Service Levels

- **Communal water supply**
  See 'basic water supply' explained above.

- **Controlled volume supply**
  E.g. Yard Tanks
  Each house is provided with a tank which holds about 200 litres. The tank gets filled up once a day. This type of service is often referred to as an intermediate level of supply.

5.1.5. Uncontrolled volume supply

There are generally two types: either the tap stands outside the house on its own or on the wall of an outside toilet (yard tap) or water is piped into the house to take water to taps in the kitchen, bathroom, toilet, etc.

5.2. SERVICE LEVEL PROFILE OF CCT

The latest June 2013 City estimates a total of 143 823 households in informal settlements as per the table shown below:

Table 7: Service Level Profile (as at June 2013)

Description	Total at end 12/13 year	Total at end of month
Water		
Number of taps on standpipes	8 114	8 140
Sanitation		
Est total number of sanitation points*	40 296	40 500

Including meters still to be identified and captured on SAP
Including all sanitation technologies, e.g. chemical toilets

5.2.1. Residential consumer units

5.2.1.1. Situation assessment (residential consumer units)

The total number of formal and informal households are given below:

Table 8: Residential consumer units as at September (Formal & Informal)

	2011/12
Population	3 848 500
Households	1 106 000
Household categories	
Formal	887 219
Informal	143 823
Total	1 031 042
Backyard dweller	74 958

Source: Water Services and Sanitation; Strategic Information

Table 9: Categorization of Services Standards

Cat.	Land Type	Bulk Infrastructure	Distributed space available within settlement	Recommended Level of Service
A1	Government land, occupation permitted	Available within economical distance	Adequate	1
			Inadequate	2
		Not available within economical distance	Adequate	3
			Inadequate	4
				5
A2	Private land, occupation permitted	Not applicable (no capital investment on private land)	Adequate	3
			Inadequate	4
				5
B	Adverse physical conditions, occupation permitted	Not applicable	Adequate	3
			Inadequate	4
				5
C	Occupation prohibited	Not applicable	Adequate	3
			Inadequate	4
				5

5.2.2. Residential consumer units for water

Service levels of existing formal developed and informal areas (excluding rural areas) generally meet the minimum standards as required by the Water Services Act 108 of 1997.

Formal households have either a metered water connection to the house or to a yard toilet with water tap (uncontrolled volume supply). The first 6 kilolitres per month are supplied at no charge (free basic). Informal areas have communal standpipes and water is provided free.

Table 10: Water: Profile of consumers as at June 2013

	Consumers with:	2012/13 (as at June 2013)
1	None or inadequate (Target)	0
2	Communal water supply	143 823
3	Controlled volume supply	-
4	Uncontrolled volume supply	924 752
5	Total served (2+3+4)	1 068 575
6	Total (1+5)	1 068 575

Source: Water and Sanitation Services 2011 census figures

5.2.3. Residential consumer units for sanitation

The general percentage distribution of households with inadequate sanitation services correlate to a large extent with the location of informal settlements as determined through aerial and on-site surveys and depicted in Figure 14.

Table 11: Basic Sanitation Technologies Installed and Households Serviced (June 2013)

Type	No of toilets	% of Total	Service Ration (HH)	HH Serviced
Chemical	5 129	12.73%	5	25 645
Container	4 223	10.48%	5	21 115
Bucket	958	2.38%	1	958
Portapotti	17 834	44.26%	1	17 834
Pitliner	312	0.77%	5	1 560
Dry Sanitation	187	0.46%	5	935
Conservancy tanks	370	0.92%	5	1 850
Dehydration (Enviroloo)	165	0.41%	4	660
Dehydration (Afrisan)	450	1.12%	1	450
Anaerobic	48	0.12%	2	96
Full Flush	10 620	26.35%	5	53 100
TOTAL	**40 296**			**124 203**

Source: Water and Sanitation Services (informal Settlements – as at June 2013)

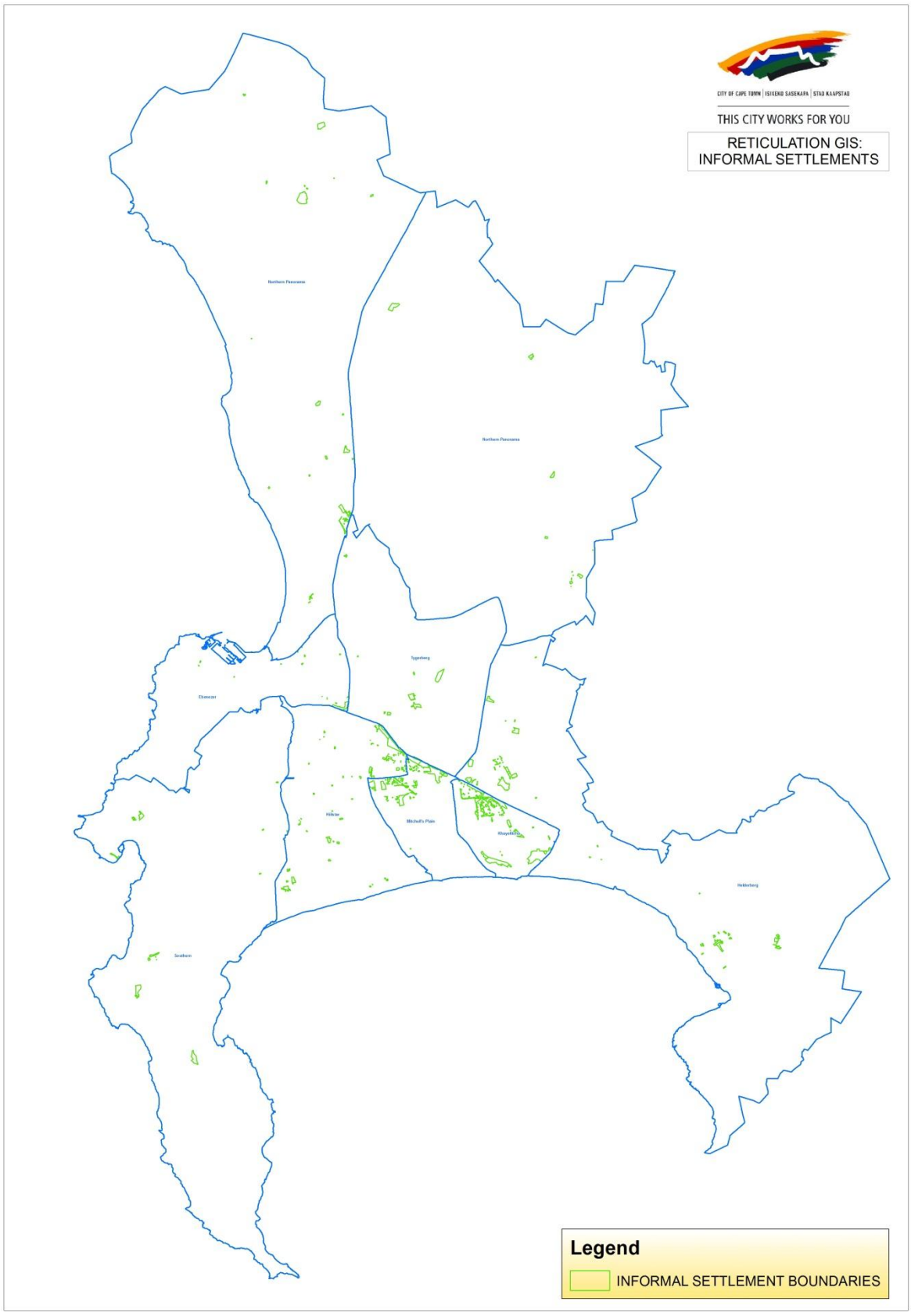

Figure 14: Location of Informal Areas within the City

Formal households generally have water-borne sewer connections with the first 4.2 kilolitres of sewerage conveyed at no charge (free basic). Water and Sanitation Services aim to provide an affordable service to poor households.

A free basic service is provided, in the form of the first 6 kℓ/month water supply and the first 4.2kℓ of sewerage conveyance and treatment free of charge to all consumers per month. The City is providing an indigent grant of R67.42/month during 2013/14 financial year and R42 during 2011/12 financial year to cover an additional water consumption of 4.5kl/month and the corresponding sewage treatment, taking the form of an account reduction to qualifying ratepayers.

5.2.4. Backyard Dwellers

City has embarked on a pilot project of providing water and sanitation services to shack dwellers living in backyards of City owned rental properties. The service is provided to the property in the form of a concrete structure housing a flush toilet on the inside, and a tap and water through on the outside. The service is provided free of charge and to the maximum of the allowable free portion of water (6 kilolitres per month) and the free portion of sewage disposal (4.2 kilolitres per month) to each backyard shack. The water allocation is controlled by a tag enabled dispensing device. The 1st pilot was completed in Factreton in November 2012 and a project in Hanover Park is currently in progress.

Related to these two pilot projects, are the Backyarder Standpipe pilot projects implemented in Samora Machel, Fisantekraal and Ravensmead over the past few years.

According to Indigent Policy 350l (free) water is provided to each indigent property per day. This however does not take into account the number of people on the property, which in most cases entails two to five backyarder dwellings on each property (each with about two to four family members). The allocated 350l water is thus in most cases insufficient to provide free basic water to the existing household (home owner) plus the additional backyarders. The result is that the water supply often runs out. Frustrated home owners then call the City's TOC with "no water complaints". Standby crews are assigned to resolve the problem which costs the City many thousands of Rands every month in overtime and standby.

Through these Standpipe pilot projects, tag operated standpipes are installed on the road edge approximately 50 meters of all serviced backyarders. Programmed tags are allocated to only the backyard dwellers. The tag allows 200l of water to each backyard dwelling per day on the basis of use it or lose it. The positive effect of this is the following:

- There is less pressure on the 350l/day allocation to the home owner and therefore the household can effectively manage their consumption and stay within their allocation.
- Households of home owners do not run out of water. With fewer calls to TOC with "no water complaints", the City saves on money spent on overtime and standby to these areas, freeing personnel to attend to other requests.

- The cost of water in one of these areas serviced by the standpipes is approximately R1200 per month - a fraction of the costs incurred by the City addressing “no water complaints” in the same area.
- City is building a relationship with its citizens, creating a sense of trust and caring.

There is an outcry from neighbouring areas of the Standpipe pilot projects to implement similar projects as the benefits to residents are becoming clearer. A survey has recently been conducted to measure the real success of these Standpipe pilot projects to determine future roll-out possibilities.

5.2.5. Grey Water Management

Space constraints, geological conditions and the lack of a gravity sewer connection points are major limiting factors for consistently reducing grey water problems within informal settlements.

5.2.6. Residential consumer units for water and sanitation

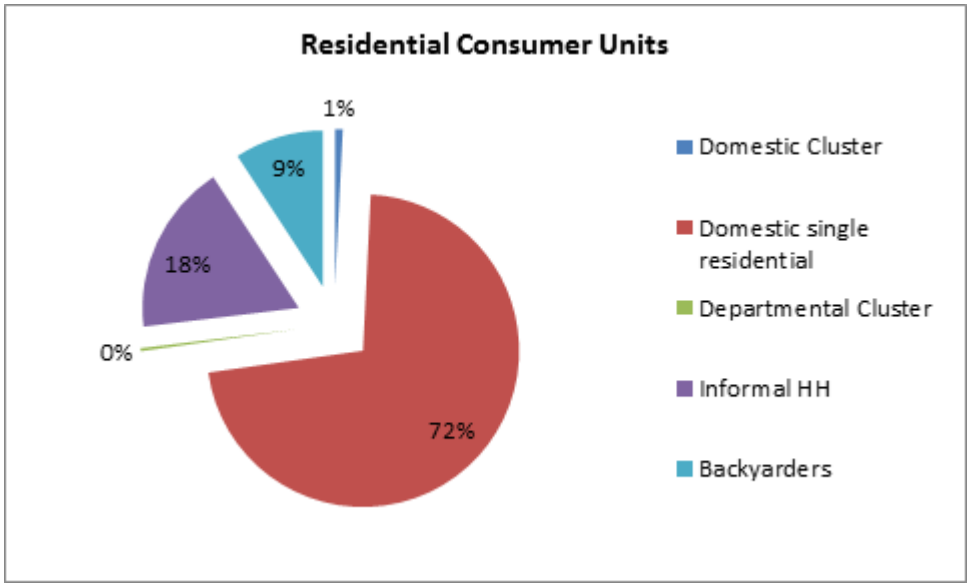

Figure 15: Breakdown of residential consumer units as at end of June 2013

This break down in residential consumers emphasises the need to focus on improved water and sanitation services onto informal household consumers and backyarders. The break down includes the back yarders.

5.2.7 Pit emptying and sludge disposal

Pit emptying is not applicable, while the disposal of container toilets is taken into the waste stream.

5.2.8. Types of sanitation technology options

Refer to Table 11.

5.2.9. Informal Settlements Targeted Eradication

To eradicate the sanitation service target and service the influx of people in informal settlements, the Water and Sanitation department is implementing a service provision programme that is integral to the 10-year Housing Plan.

The replacement of buckets (an estimated additional R58 million) is not included within these projections, due a lack of basic sanitation norms and standards from National level to specifically cater for the unique sandy conditions and high water table within the City of Cape Town. The medium term goal will therefore be to target eradication and to maintain the cleaning service quality of all the existing buckets in use.

The City's Housing programme is funded through National grants. Servicing of the informal settlements is funded by the Water and Sanitation department with partial recovery of cost from the national Equitable Share. Depending on the speed of implementing this programme, as for in-situ upgrading or the "decanting" of such settlements to developed formal areas, the informal settlement programme needs to adapt.

6. INFRASTRUCTURE

The City has undertaken an accelerated programme to improve the replacement of water distribution network mains, especially in areas that experience a high incidence of bursts, such as the Tygerberg district. More importantly, Water and Sanitation Services is implementing an Asset Management Programme (AMP).

- West Coast / Parklands development corridor
- De Grendel / N7 development node
- Northern development/Fisantekraal corridor
- Bottelary development corridor
- Fast-track housing projects (e.g. N2 Gateway)
- Maccassar / AECI development node

The timing of the development of the required bulk water infrastructure is dependent on the growth in water demand compared to the effectiveness of the Water Demand Management (WDM) Strategy. To ensure security of supply, the City of Cape Town, in consultation with the Department of Water Affairs (DWA), is exploring the next water resource scheme to be developed by 2019. The most probable scheme in the order of economic priority is the raising of Voelvlei dam (DWA), wastewater reclamation, groundwater (TMG Aquifer) and desalination.

The desalination study is currently underway, the water reclamation study will commence soon and the pilot for the groundwater (TMG) extraction will also be commencing soon. In addition, the City of Cape Town will increase the treatment and conveyance capacity of the bulk water supply to enable optimum utilization of the existing water resource capacity created by the construction of the Berg River Dam. To this end, the Bulk Water Augmentation Scheme (BWAS), which entails the construction of Muldersvlei Treatment Plant (500 Ml/day), reservoirs (600Ml) and conveyance bulk pipelines (56km), is under planning and design.

The capital expenditure on the development and maintenance of this extensive infrastructure is outlined in the table below.

Table 12: Capital spend during the last 3 years as January 2013

	2012/13	**2011/12**	***2010/11**
WWTW	166 613 750	223 192 549	121 505 353
Reticulation	355 229 929	260 063 202	186 370 128
BW	28 664 004	17 037 756	19 160 383
EAM	74 823 457	62 713 466	36 881 170
WDM & Strategy	38 399 362	24 639 078	14 959 342
Other (SPT, SS)	18 448 000	17 510 474	11 869 133
	682 178 502	605 156 524	390 745 508

*Value as at June 2013

The statistics below highlight the problems or challenges faced by the department, which ultimately hinder service delivery. Some of the challenges have increased over the past three years, others remained the same without any improvement, mostly due to budget constraints, socio-economic pressure and lack of knowledge (in particular the sewer blockages caused by foreign objects).

Table 13: Chamber Covers Replacement

2013/14 YEAR STATS AS AT END AUGUST 2013							YTD - ANNUAL COMPARISON		
CHAMBER COVER REPLACEMENT	**BLAAUW-BERG**	**CAPE TOWN**	**HELDER-BERG**	**KHAYE-LITSHA**	**SOUTH PEN.**	**TYGER-BERG**	**YTD-2013/14**	**YTD-2012/13**	**YTD-2011/12**
Meter Box Cover	3	30	86	0	45	61	225	121	86
Hydrant Cover	10	6	47	0	4	48	115	112	98
Valve Cover	4	0	34	0	0	38	76	33	44
Sewer	37	125	143	0	4	52	361	206	259
TOTAL	54	161	310	0	53	199	777	472	487

Table 14: Sewer Blockage Incidents

2013/14 YEAR STATS AS AT END AUGUST 2013							YTD – ANNUAL COMPARISON		
SEWER BLOCKAGES INCIDENTS	**BLAAUW-BERG**	**CAPE TOWN**	**HELDER-BERG**	**KHAYE-LITSHA**	**SOUTH PEN.**	**TYGER-BERG**	**YTD-2013/14**	**YTD-2012/13**	**YTD-2011/12**
Building Material	31	0	304	170	12	441	958	1 214	842
Collapses	6	2	110	0	11	48	177	140	107
Fats	685	1 037	902	200	482	857	4 163	4 188	3 755
Other foreign objects	676	3 283	980	86	1 093	1 667	7 785	7 368	7 254
Roots	841	494	629	4	480	660	3 108	3 572	2 949
Sand	28	976	646	227	69	312	2 258	2 206	1 915
TOTAL	2 267	5 792	3 571	687	2 147	3 985	18 449	18 688	16 822

Table 15: Sewer Networks Repairs and Maintenance

2013/14 YEAR STATS AS AT END AUGUST 2013							YTD - ANNUAL COMPARISON		
SEWER NETWORK REPAIRS AND MAINTENANCE	**BLAAUW-BERG**	**CAPE TOWN**	**HELDER-BERG**	**KHAYE-LITSHA**	**SOUTH PEN.**	**TYGER-BERG**	**YTD-2013/14**	**YTD-2012/13**	**YTD-2011/12**
Sewer Pipe Breakage Repair (No.)	14	84	93	3	1	6	201	159	115
Sewer Manhole Repair (No.)	13	34	84	0	13	0	144	115	94
New Sewer Mains Installed (m) Total	1 508	2 255	4 321	0	1	0	8 085	5 018	2 852
Sewer Mains - Replacement (m)	90	0	825	0	0	167	1 082	6 336	674
New connections to sewer network (No.)	7	5	20	0	1	3	36	43	50
Pest Control (No.)	3	144	54	0	1	2	204	105	526

7. OPERATION AND MAINTENANCE

The focus on improvement of levels of service through creating new infrastructure at great cost results often in overlooking the importance of the development and implementation of sound asset management practices.

Through the assessment of this important function WSAs are enabled to identify areas of concern and it should form the base for the development of an Asset Management Plan. Neglecting the implementation of best practice operational and maintenance procedures would result in ineffective service delivery and shortened life span expectancy of assets. Additional capital expenditure for refurbishment or replacement will eventually be unavoidable.

The two important aspects of asset management under consideration are:

- Operations
- Maintenance

7.1. OPERATION AND MAINTENANCE

7.1.1. Water Network Performance

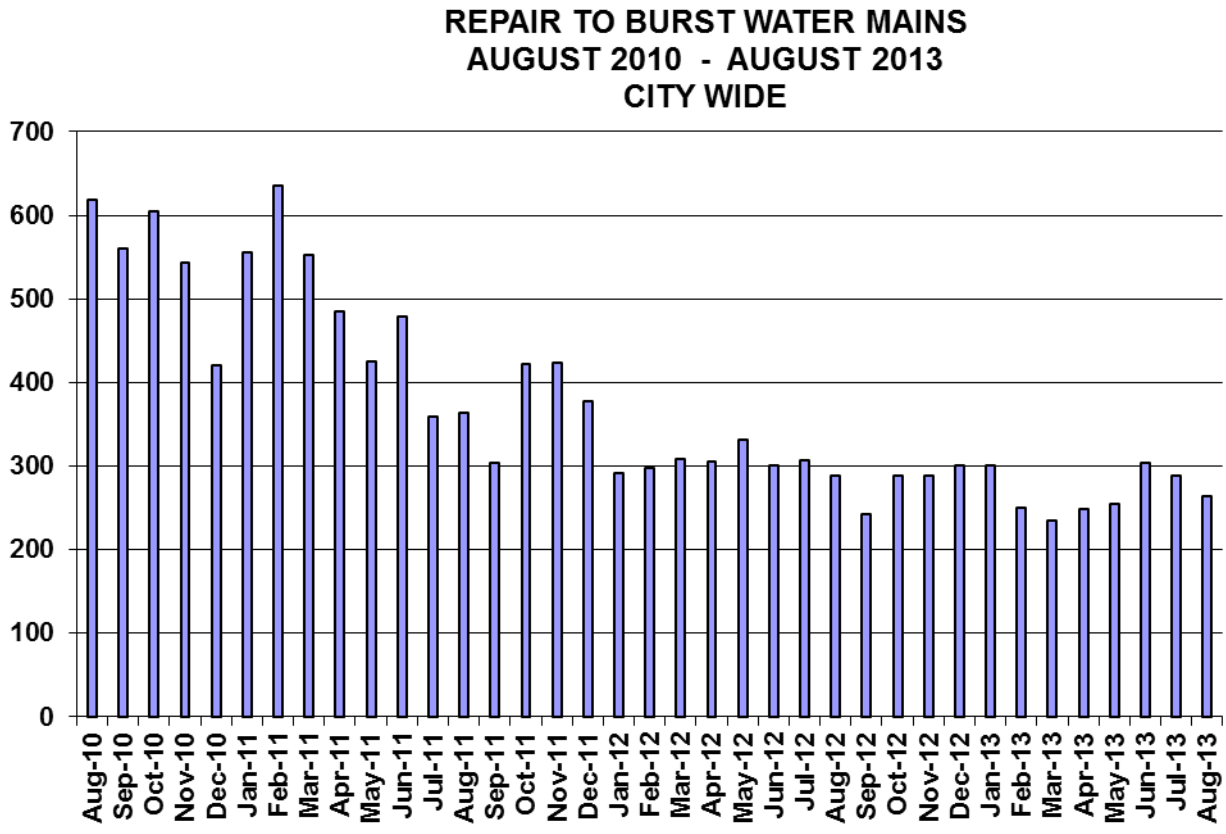

Figure 16: Water Network Performance as at end of August 2013

There is a general downward trend in burst water mains. This is a result:

- Primarily of increased water mains relays.
- Pressure management (this only ameliorates the symptoms of ageing infrastructure; it does not arrest the aging process).
- Improved management of network operations.

Table 16: Water Pipework Replaced in as at June 2013

Regions	Sewer (Km)	Water (Km)
Northern Panorama(BLA)	762.06	1012.51
Northern Panorama (KRF)	1308.44	1402.84
Tygerberg	1503.69	1710.05
Ebenezer	601.31	742.86
SPM	1375.31	1579.91
Helderberg	1448.44	1599.79
Hillstar	948.52	1165.11
Mitchells Plain	562.74	637.25
Khayelitsha	362.14	412.93
Total	**8872.65**	**10263.25**

Source: TOC GIS as at June 2013

7.1.2. Sewer Network Performance

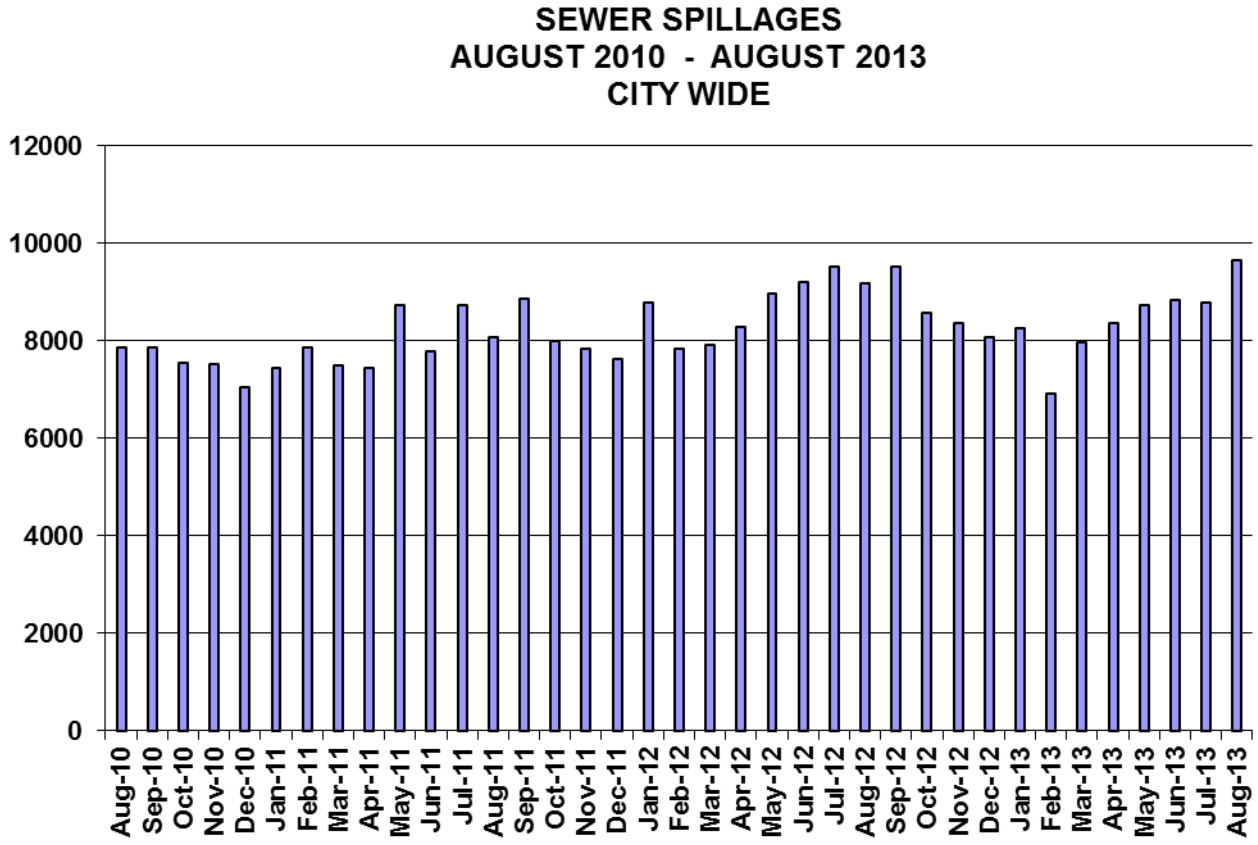

Figure 17: Sewer Network Performance as at end of August 2013

- The causes of blockages are elaborated on in other sections of this report.

- The sharp increase in spillages is due to the higher than average rainfall and the resultant storm water ingress.
- Increased management of blockages, sewer mains cleaning and sewer inspections is urgently required. The following actions have been taken:

    - Consultants investigating storm water ingress in worst affected catchments (Kuils River area).
    - Increased enforcement of By-laws (Certificate of Compliance of Water Installation on Transfer of Ownership in accordance with Water By-law).
    - Sewer Blockage awareness campaign.
    - Capital projects to clean major collector sewers, i.e. Cape Flats 1 and 2.

GIS records indicate the following:

Table 17: Estimated Sewer Rehabilitation Lengths as at January 2013

Material	Length (m)
Pitch fibre	142 384m
Clay sewers	258 560m

Source: Budget Plan (Vol 4), Reticulation, Five year replacement programme

7.1.3. Water Process Control, Maintenance and Management Skill

The current classification of the WTW's, is according to Section 26 of the National Water Act (Act No.36 of 1998).

Monitoring Process

The quality of water produced at the CCT's water treatment plants is strictly monitored on a continual basis to ensure compliance with the South African National Standard 241:2011 on drinking water quality. The Scientific Services Branch conducts routine sampling and analysis of potable water produced at all water treatment plants, distribution as well as inspection of treatment processes.

Scientific services have acquired SANS 17025 certification for laboratory quality testing. Expansion of the laboratory is a necessity for improving its capability to undertake a wide spectrum of tests. To comply with the requirements of SANS 241:2011 Scientific Services has expanded the list of determinants analysed and increased the amount of monitoring points to comply with the population within the Cape Metropolitan distribution area.

The water quality report below indicates the analytical data and approximate distribution for Cape Town drinking water. The 12 month rolling average is for the period August 2012 to July 2013. The South African National Standards (SANS 241:2011) Specification for Class I water is also stipulated on this report. This report indicates the quality of the drinking water leaving each of the major water treatment plants and the approximate distribution areas they service.

Table 18: Potable Water Quality for the month of July 2013

Water Supply Outlets	Sample Points Per Water Supply Outlet	Sample Points Sampled	Number of Samples taken for July		% Compliance SANS 241			
					July Month		12 Month Rolling Average	
			Chemical	Micro-biological	Chemical	Micro-biological	Chemical	Micro-biological
Water Treatment Plants	10	10	45	45	99	98	99	100
Reservoir	24	23	104	114	100	100	100	99
Distribution	126	116	562	576	100	100	100	100
Informal Settlements	43	37	76	82	100	93	100	95
Total	**203**	**186**	**787**	**817**	**99.8**	**97.8**	**99.8**	**98.5**

Information for August was not available at the time of reporting due to the processing time required to produce the necessary statistics for the above.

Chemical Results:

Sample points BBW 07 (Milnerton Library) fails due to a high Turbidity value. Sample point SPW 01 (Noordhoek Environmental Health, Main Road) fails due to high pH values. Sample point GPW 03 (Oranjezicht Reservoir Outlet) fails due to high Turbidity, Iron, Aluminium and Manganese values. Sample point GPW 09 (Camps Bay Drive) fails due to high Iron and Turbidity values. Overall the water is safe to drink.

The analyses that fail SANS 241:2011 at the WTP's for July are Aluminium and Turbidity.

Microbiology Results:

The following samples did not comply with SANS 241 bacteriological requirements (<1 E. coli per 100ml) in the month of July 2013: On 2013-07-08 Somerset West Treated had an E. coli count of 10 Colony Forming Units (CFU's) per 100ml and on 2013-07-22 Mamre Library had an E. coli count of 3 CFU's per 100ml.

Please see the comments below regarding the informal settlements sample sites.

Chemical analyses notes:

1) PH, Conductivity, Turbidity & Alkalinity are done weekly. 2) Aluminium, Chloride, Calcium, Iron, Manganese, Potassium, Sodium, Sulphate, Nitrate, Nitrite, TDS, Total Hardness, Chromium, Cadmium, Cobalt, Copper, Nickel, Lead, Vanadium, Zinc, Antimony, Arsenic, Selenium, TOC & Fluoride are done every 8 to 9 weeks.

Microbiological monitoring in informal settlements:

The following operational challenges may lead to contamination of samples and 'false' non-compliance results in informal settlements:

- Plastic communal taps are being used for sampling. These taps cannot be flamed prior to sample collection, as required by the sampling procedure,

because of the plastic material.

- Taps are not dedicated for sampling, as required by sampling procedure, and are used by the community.
- Location of sample taps in close proximity to or just behind the communal toilets can introduce cross contamination to the tap as users wash, touch and drink directly from the taps.
- Taps are often dirty and leaking.

7.1.4. Waste Water Operations (Process Control), Maintenance and Management Skill

An Operational and Compliance Monitoring Programme that meets the requirements of DWA as stipulated in the Green Drop Criteria was drawn up by CCT and is implemented by the Municipality. Operational samples are taken on a daily basis at all the WWTWs. The compliance samples that are taken on a monthly basis at all the WWTWs are analysed at CCT accredited Scientific Services laboratories and monthly monitoring and inspection reports are compiled.

7.1.5 Wastewater Treatment non-compliance

Table 19: Wastewater Treatment non compliance from July-June 2012/13 financial year

WWTW	PROBLEM DEFINITION	CAUSES	REMEDIAL ACTIONS
Bellville	No sample complying on COD, Ammonia and E.Coli. One sample complying on TSS	Broken diffusers in North and Centre biological reactors are causing poor aeration of the biomass. Experienced belt press mechanical breakdowns which have reduced the mass of sludge to be wasted per day. The plant was affected by industrial discharges. The UV disinfection system is not in operation due to the poor settling pond effluent. The biomass suffered further oxygen deprivation when Aeration Blower 3 gearbox non-drive end bearing failed due to high temperature on 29th October 2012 at 12:00. EAM were able to restart Blower 4 on 31st October at 09:00. The biomass dissolved oxygen concentration continues to be low due to broken aeration diffusers. Frequent belt press mechanical breakdowns reduces the mass of sludge to be wasted per day and causes sludge to be returned to the reactor via the thickener effluent thus adding extra organic loading on the works.	Some diffusers were replaced. Construction on the new Membrane Works is in progress (long-term plan). A task group comprising Operations and EAM electrical and mechanical sections has been formed to focus on improving the reliability of the dewatering equipment. The settlement ponds are in the process if being cleaned out. The by-pass pipeline to the UV lights is in progress – this will allow the SST effluent to flow directly to the UV disinfection unit. In the process of installing surface aerators, which is envisaged to be completed in about 3weeks time, in order to increase residual oxygen levels in the biological reactors Two surface aerators were installed in North reactor on 13th December 2012. This has increased the dissolved oxygen concentration of the biomass from below 0.1 to 1.0 mg. Ferric chloride dosed into the effluent from the bioreactors helped to reduce suspended carryover into the final effluent. The effluent leaving the Plant, while still non-compliant is improving. The longer term solution is the 20ML/d membrane plant (MBR) which is currently under construction. In addition, the aeration system (blowers and diffusers) in the existing bioreactors needs to be replaced once the MBR is commissioned.

			Have had meetings with acting head of EAM to focus on belt press repairs. The longer term solution is the 20ML/d membrane plant which is currently under construction The longer term solution is the 20ML/d membrane plant which is currently under construction.
Llandudno	Non-compliance on TSS	Return RAS valve failed	Valve repaired.
Borcherds Quarry	Non-compliance on TSS, COD and E.Coli	Maturation ponds are full of sludge which is contaminating the secondary settling tank effluent which is generally compliant with the General Standard. Two maturation ponds now in operation. However not sufficient retention time for complete solar disinfection. Current HTH disinfection unit inadequate for drop the E.coli values below 1000counts/100ml.	The maturation ponds and bypass channel are being cleaned. Procured disinfection units large enough to treat 35ML Extend the bypass pipeline to the secondary clarifiers to discharge a better quality effluent to the Vygieskraal River. Separate the secondary sludge from the primary sludge to enable better control of secondary sludge wasting. Belt Press one has been repaired. In the process separating secondary sludge and primary sludge to enable better control of secondary sludge wasting. Busy stockpiling and drying out wet sludge from maturation ponds. Management of sludge has been modified to increase sludge volumes removed from the Works. Adjacent ponds have been cleaned out and will be recommissioned in May 2013 which will improve effluent quality. Increase HTH chip dosing units from one to five to improve disinfection rate. Clean-out maturation ponds after the annual high rainfall season.

Klipheuwel	Non-complying Ammonia, COD and E Coli	Septic tank being cleaned out. RBC shaft and disk failure. RBC installed 28/06/2013 and hoping to see effluent compliance improvement. Rotating Biological Contactor No.3 tripped due to damaged disks. Supplementary aeration blower motor burnt out. Influent Ammonia and COD to the works is three times higher than design (COD and ammonia), so the works is organically overloaded.	RBC shaft and disc repaired on emergency basis. Septic tank to be cleaned out and in the medium term to construct a 2nd septic tank. RBC disks were removed. RBC returned from repairs on the 18th of June 2013 and installed on the 28th of June 2013. One new RBC to be purchased as a spare unit. 3. New blower to be fitted. Wastewater and Reticulation are monitoring and prevent illegal dumping of septic tanks and bucket disposal into the system. Building of the second septic tank to handle the increased organic loading is proposed for 2013
Simons Town	Non-Compliance on COD	Influent contains non-biodegradable COD which cannot be removed by treatment process. High concentration of non-biodegradable COD in influent sewage	DWA informed and Permit deviation requested. Requested relaxation of COD discharge permit. Requires an amendment to the Works permit from the Department of Water Affairs
Parow	E.coli	The chlorine contact channel was taken out of commission to remove accumulated sludge. Disinfection unit was faulty. No 3 Rotating disc shaft snapped on 3rd December 2012 reducing oxygen supply by one third.	The tank was cleaned out and put back into operation. Unit to be repaired. Temporary shaft was fitted by 16th December 2012 and two weeks later, the Plant had return to normal.
Mitchells Plain	Non-compliance on all parameters; ammonia, TSS, COD and E.Coli	Maturation Ponds contaminated with sludge due to failure of Archimedean Screw Pumps at Intermediate Pumpstation. Cleaning/refurbishing of maturation ponds. Ponds full of sludge	Removing sludge from maturation ponds. The plant effluent compliant before entering maturation ponds. Works will comply when ponds refurbishment is completed. Cleaning of ponds in progress

Zandvliet	Non-compliance Ammonia	Plant currently operating at its maximum design capacity	Extension to works is being planned and the diversion of flow away from the Plant to Macassar is part of that extension and will be prioritised. The appointment of design consultants will take place this FY.
Westfleur Industrial	Non-compliance ammonia and COD	Domestic Blower No.1 DE bearing failed during the first week of January 2013. Domestic raw inlet screw No.1 bottom bearing failed during week 4. Industrial blowers have been non-operational for the whole February month, blowers faulty up and undergoing repairs.	1. Diverted some domestic flow to industrial works. Industrial non-compliant with ammonia. Resolved by replacing DE bearing. 2. Diverted domestic raw sewage to the Industrial works because standby screw was also out of commission. Industrial works was overloaded causing COD and ammonia failures. Temporarily resolved by fitting screw 1 motor and gearbox to screw 2.
Cape Flats	Non-compliance on COD and E.Coli	The retention time on the ponds was not sufficient. Secondary Pond No 2 bridge in embankment causing short circuiting of effluent.	Increased retention time by diverting the flow. Repair embankment
Kraaifontein	Non-compliance on COD	Effluent from the SST is of good quality and it meets compliance requirement but it gets contaminated on the ponds as ponds accumulated significant amount of sludge over the years.	Ponds by-pass line is built and will be in operation end of March 2013. Effluent from SST will go straight to chlorine contact chamber.
Melkbosstrand	Non-compliance on TSS and E.Coli	There is insufficient amount of sand in the sludge drying beds which resulted to poor dewaterability of sludge and extended long hours of dryness. This resulted in sludge build-up in the reactor which eventually resulted in solids carryovers in the SST's, hence TSS and E.coli failure.	Sand purchased and sludge drying beds filled up, solids wasting from the reactor increased. The installation of a mechanical sludge dewatering is part of a capital project for 2013/14.

Potsdam	Non-compliance on ammonia and E.Coli	Ammonia – Aeration problems at 08 works which was caused by malfunctioning of the DO's meter. Aeration control is linked to DO readings. E.coli – One incomplete UV channel in operation, the other UV channel decommissioned due to lack of critical Mech, Electr and PCS spares. Effluent E.coli before UV have increased from 5000 – 100 000 which the UV plant is unable or has been unable to handle. EAM – Electrical Engineering Section submitted the UV tender BIF document to SCM late and as a result it was put at the bottom of the waiting list of Supply Chain Management – Demand Planning for FY 2011 – 2012, hence reason for late tender advertisement. Unavailability of critical mechanical, electrical and PCS spares. Too much sludge in the maturation ponds has become a primary cause of high TSS and E.Coli on the final effluent	EAM was requested to improve response time on urgent request or malfunctions reported and to verify, clean the DO probes monthly. In the interim aerators have been set on a manual pattern. UV spares have been ordered from Canada via Malutsa expected arrival date is 1 April 2013. Additional standby spares have been ordered to prevent the occurrence. Building of standby UV channel is proposed as a long term plan. Maturation ponds no 1, 2, 3, 4 and 6 undergoing cleaning, anticipated completion date 11/05/2013. Improved effluent quality (TSS and E.Coli) anticipated after cleaning the ponds.

7.1.6 Wastewater Final Effluent Quality

Table 20: Final Effluent Quality for all the Wastewater Works

Months	TSS 25mg/l	COD 75mg/l @	NH_3 10mg/l	E.Coli 1000/100ml
Jun-13	95.2	96.4	86.9	79
May-13	95.2	86.4	83	80.5
Apr-13	83.7	73.5	85.7	81.3
Mar-13	79.5	77.1	78.3	75.6
Feb-13	80.2	76.7	81.4	75.3
Jan-13	84.4	81.7	72.5	84.3
Dec-12	86.9	83.3	76.2	85.2
Nov-12	88.9	80	85.6	83.1
Oct-12	96.3	88.8	86.9	85.4
Sep-12	92	84.1	88.6	86.1
Aug-12	90.2	88	89.1	83.3
Jul-12	91.2	90.2	87.3	80.2

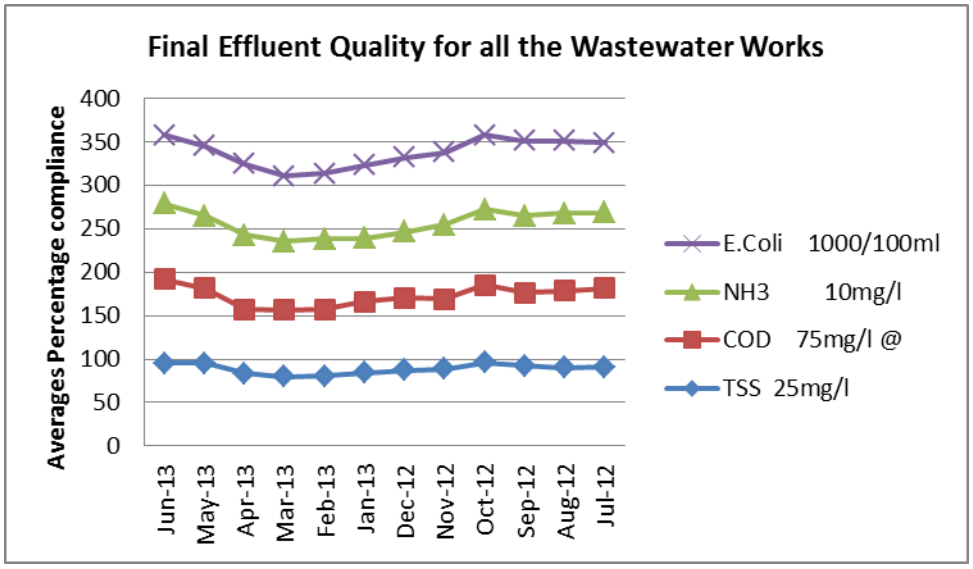

Figure 18: Final Effluent Quality for all the Wastewater Works

Table 21: Total Quantity of Effluent Received at Waste Water Treatment Plants

With Reference to: DWAF WSDP Guideline Aug 2010		Description	WSDP Implementation Report	Comparative Figures for the Preceding 3 Financial Years		
			Previous Financial Year			
Chapter & Table	No.		2012/13	2011/12	2010/11	2009/10
8.2 (11)	ToT.	Total Quantity of Effluent Received at Waste Water Treatment Plants**(Inflow)**	**238 985.2**	**218 149.4**	**226 750.3**	**257 354.2**

7.1.7 Status of Equipment and Plant at Bulk Water Installations (October 2013)

Table 22: Status of Equipment and Plant at Bulk Water Installations

Item no	WTP	Description	Intervention Required	Estimated Cost
1	Faure WTP (BW)	Obsolete and aging SCADA equipment	Replacement of all PLCs. Tender for consultants cancelled (advertised 80/20, both tenders received >R1 000 0000). Tender to be re-advertised.	R 6 million
2	Blackheath WTP (BW)	PAC Dosing System	Complete Part B of works. Commissioning and operational acceptance period for Part A completed, but Contract terminated due to non-performance of contractor on Part B. Tender for completion of Part B to be advertised.	R 700 000
3	Blackheath WTP (BW)	Treatment Residue Water Recovery PS	Replace pump motor and associated equipment – Works completed, Contract in Defects Notification Period	R 902 572 [Completed]
4	Steenbras WTP (BW)	Lime Storage and Transfer system	Complete existing contract – Contractor to address items as per snag list [Completed]	[Completed]
5	Voëlvlei WTP (BW)	Pump System Surge Vessels	Phased refurbishment of 4 large pressure vessels. Inspection by Competent Person completed, and only minor refurbishment required.	R 500 000
6	Voëlvlei WTP (BW)	Air-scour Blowers	Phased replacement of 2 blowers. One blower replaced during 2010/11, and the second during 2012/13.[Completed].	R 250 000
7	Witzands WTP (BW)	Acid Regeneration System	Refurbish Acid System	R 2 million
8	Firlands PS (BW)	Obsolete and aging Variable Frequency Drives (VFD)	Replacement of 4 off VSD's. Phase 1 (replacement of 2 VSD's): contract in progress.	R 15 million

9	Kildare PS (BW)	Obsolete motors and electrical control equipment	Replace pump motors and control equipment – Contract complete.	R 1 968 000 [Completed]
10	Molteno Reservoir PS No. 2 (BW)	Obsolete and aging pump starter panel	Replace pump starter panel – Contract complete.	R 406 200 [Completed]
11	Voëlvlei WTP (BW)	Electrical protection of Low Lift Pump Station Variable Frequency Drives (VFD)	Install UPS's to Low Lift Pump Station VFDs – Tender advertised 12 July 2013, closed 2 August 2013; BAC report being finalised.	R 450 000

7.1.7 Status of Equipment and Plant on Pump Stations (as at August 2013)

Table 23: Pump Stations Sewer Spillage

ITEM NR	REPORTED PUMP STATION AND RISING SEWER INCIDENTS: AUGUST 2013						
	PUMP STATION	LOCATION	DATE	CAUSE	POINT OF OVERFLOW	ACTION TAKEN	IMPACT *
1	Helderberg	Strand	06/08/2013	PLC fault	Onto the field from manhole	PLC reset	Medium
2	Rugby	Brooklyn	06/08/2013	Power failure	Zoar Vlei	Jet Vac organised to managed sump level till power came back	Medium
3	River Rd	Brooklyn	08/08/2013	Broken rising main	Zoar Vlei	Jet Vac organised to managed sump level assisting Waterworks	Medium
4	Sarepta #2	Sacks Circle Bellville	13/08/2013	Stormwater ingress	Kuils River	Monitored the situation	Medium
5	Bridgetown	Kewtown	13/08/2013	Stormwater ingress	Into canal behind the station	Monitored the situation	Severe
6	Helderberg	Strand	13/08/2013	Stormwater ingress	Onto the field from manhole	Monitored the situation	Severe
7	Mosselbank	Kraaifontein	13/08/2013	Stormwater ingress	Into canal behind the station	Monitored the situation	Severe
8	Raapenberg	Mowbray	13/08/2013	Stormwater ingress	Into Black River	Monitored the situation	Medium
9	Khayelitsha	Khayelitsha	13/08/2013	Stormwater ingress	From various manholes in the area	Monitored the situation	Medium
10	Muller Street	Kraaifontein	13/08/2013	Stormwater ingress	Into stormwater	Monitored the situation	Medium
11	Macassar	Macassar	13/08/2013	Stormwater ingress	Into river behind the station	Monitored the situation	Severe
12	Sarepta #2	Sacks Circle Bellville	15/08/2013	Stormwater ingress	Kuils River	Monitored the situation	Medium
13	Dalebrook	Muizenberg	19/08/2013	Stormwater ingress	Into the sea	Monitored the situation	Medium
14	Flintdale	Southfield	19/08/2013	Stormwater ingress	Into Southfield canal	Monitored the situation	Medium
15	Victoria Road	Southfield	19/08/2013	Stormwater ingress	Into Southfield canal	Monitored the situation	Medium
16	Uxbridge	Lakeside	19/08/2013	Stormwater ingress	Into stormwater	Monitored the situation	Medium
17	Silvermine	Silvermine Village	21/08/2013	Pump #1 tripped and Stormwater	Into pond	Reset the pump	Minor

				ingress			
18	Cayman Beach	Gordon's Bay	21/09/2013	Stormwater ingress	Manholes in Cayman Beach development	Monitored	Minor
19	Pumping Station 4	Gordon's Bay	21/09/2013	Stormwater ingress	At pumping station	Monitored	Minor
20	Sarepta #2	Sacks Circle Bellville	28/08/2013	Stormwater ingress	Kuils River	Monitored the situation	Medium
21	Sarepta #2	Sacks Circle Bellville	29/08/2013	Stormwater ingress	Kuils River	Monitored the situation	Medium

8. ASSOCIATED SERVICES

8.1. WATER SERVICES

8.1.1. Education Plan

Table 24: Education plan for Water Services

Associated Services Facility	Number of Facilities	Facilities with Adequate Services	Facilities with no Services	Facilities with inadequate Services	Total Potential Cost (Basic Level) RM
Schools	1 238	100 %	0	0	-
Tertiary Education Facility	Unknown	100 %	0	0	-

8.1.2 Health Plan

Table 25: Health plan for Water Services

Associated Services Facility	Number of Facilities	Facilities with Adequate Services	Facilities with no Services	Facilities with inadequate Services	Total Potential Cost (Basic Level) RM
Hospitals	38	100%	0	0	-
Health Centres		100%	0	0	-
Clinics (Mobile Incl.)		100%	0	0	-

Hospitals	Health Centres	Clinics	Mobile Centres
38	Unknown	Unknown	Unknown

Number of Medical Facilities	Unknown	**Nurse patient ratio (National target 34)**	Unknown
Percentage births under 2.5kg (National Target < 10%)	Unknown	**Proportion under 1 with 1st measles immunisation (National Target 90%)**	Unknown
TB prevalence rate (2005)	Unknown	**TB Cure rate % (National target 85%)**	Unknown
HIV/AIDS prevalence rate (2005)	Unknown	**HIV/AIDS prevalence rate (2010)**	Unknown
Number of HIV/AIDS deaths (2005)	Unknown	**Number of HIV/AIDS deaths (2010)**	Unknown

8.2 SANITATION SERVICES

8.2.1 Education Plan

Table 26: Education plan for Sanitation Services

Associated Services Facility	Number of Facilities	Facilities with Adequate Services	Facilities with no Services	Facilities with inadequate Services	Total Potential Cost (Basic Level) RM
Schools	1 238	100 %	0	0	-
Tertiary Education Facility	Unknown	100 %	0	0	-

Table 27: Sanitation Service levels at schools and Tertiary Education Facilities

School/Tertiary Education Facility	Type	Water Service Level
–	Primary; Secondary and Tertiary (list as above)	Full Flush to sewer

8.2.2 Health Plan

Table 28**:** Health Plan for Sanitation

Associated Services Facility	Number of Facilities	Facilities with Adequate Services	Facilities with no Services	Facilities with inadequate Services	Total Potential Cost (Basic Level) RM
Hospitals	38	100	0	0	**-**

Health Centres	Unknown	100	0	0	-
Clinics (Mobile Incl.)	Unknown	100	0	0	-

9. WATER CONSERVATION AND DEMAND MANAGEMENT

The purpose of the Water Demand Management and Water Conservation Strategy is to provide a long-term balance between available water resources and demand for these resources, minimise water losses from the system and postpone the need for expensive capital infrastructure projects for as long as economically viable.

The City of Cape Town has a responsibility to provide and manage services (including water and sanitation services) to a constantly growing population. Added to this, the fact that Cape Town lies in a water scarce region and the options for further water augmentation schemes to supply the Cape Town area are extremely limited since the completion of the Berg Water Project. Good water conservation and water demand management principals therefore play a crucial role in ensuring we are equipped to manage the growth and development which is taking place within our boundaries.

Growth is vital for the economy, but the management of the provision of water and sanitation services in this growing economy can bring with it some challenges. The City's response to these challenges has been to grow and develop the Water Demand Management (WDM) Department to manage a full range of projects/activities in respect of water conservation and water demand management, a few of which are mentioned below.

The Water Demand Management Department and Strategy Branch cannot single out one project for this award as each project undertaken has an innovative and different approach. The projects are summarised below:

9.1 PRESSURE MANAGEMENT (MAJOR AND MINOR PROJECTS)

Pressure management is sustainable as it reduces losses in the system, reduces bursts, reduces internal leaks, prolongs the life of the reticulation system, saves the City water and money and has a 6-12 month payback period. The City has continued to roll out Pressure Management installations across the City with 6 more installations added during 2011, refer to Table 28. The total annual water savings for all existing projects combined is 3.73 million m^3 (R31 Million/year).

Table 29: Pressure Management Initiatives within the last three years (2010/11 – 2012/13)

Area	Year Implemented	Water Savings (million m^3/yr.)	Implementation Cost (million/yr.)	Cost Savings @ R9.40/m^3 (million/yr.)
Crossroads	2010/11	0.18	R 1.24	R 1.7
Plumstead/ Retreat	2011	0.96	R 3.52	R 9.1
Marina Da Gama	2011/12	0.33	R 3.29	R 3.1
Grassy Park	2011/12	1.07	R 2.45	R 10.23
Bishop Lavis	2011/2012	0.55	R 3.06	R 5.45
Thornton	2012	0.53	R 2.25	R 0.5
Kalkfontein	2012/13	0.11	R 1.45	R 1.0
		3.73	R 17.26	**R 31.08**

By looking at the table above the total estimated savings from the system alone around the areas is R3.73 million m^3 per year as from 2010/11-2012/13.

With the implementation of a policy to install water management devices on a prioritised basis, residences defined as indigent now have the means by which to prevent their water consumption from reaching unaffordable levels.

It is critical for the City to ensure efficient use of scarce water resources to meet the growing needs of the population. To this end, the City strives to maximise the use of existing infrastructure to drive the achievement of the objectives set out in its Water Demand Management and Water Conservation Strategy.

Effective water demand management is a core requirement for the sustainability of water supply to the city. If water consumption is controlled at the levels expected in the Water Demand Management and Water Conservation Strategy, it may allow the next water resource scheme to be deferred to approximately 2029.

9.2 RETROFITTING AND LEAK FIXING

The Retrofitting programme was undertaken in Samora Machel, Ravensmead and Fisantekraal. The community generally welcomed the project and were particularly pleased with having their responsibilities clearly spelt out, being shown how to read their meters so that they could detect underground leaks and correlate the reading with their bill, and seeing that they are actually getting 6kl/month free. The average water savings achieved with this project was approximately 10Kl/month per targeted area and a financial saving of between R1.2 – R1.7 Million/year per targeted area.

9.3 WATER EDUCATION CONSUMER PERCEPTION ASSESSMENT PROJECT

The Water Conservation Awareness and Education projects (most of which are on-going) included the comprehensive Water Conservation Consumer Perception Assessment (report attached to this document) which included the implementation of the City's Mayoral Expanded Public Works Programme (EPWP). The results obtained from this project will serve as a valuable guide from where planning,

financial resources and human resources, educational resources and time management can most effectively be applied by the Water Conservation Section, thereby ensuring that the most efficient education and awareness strategy is implemented where it is most needed in order to achieve the maximum water savings for the City.

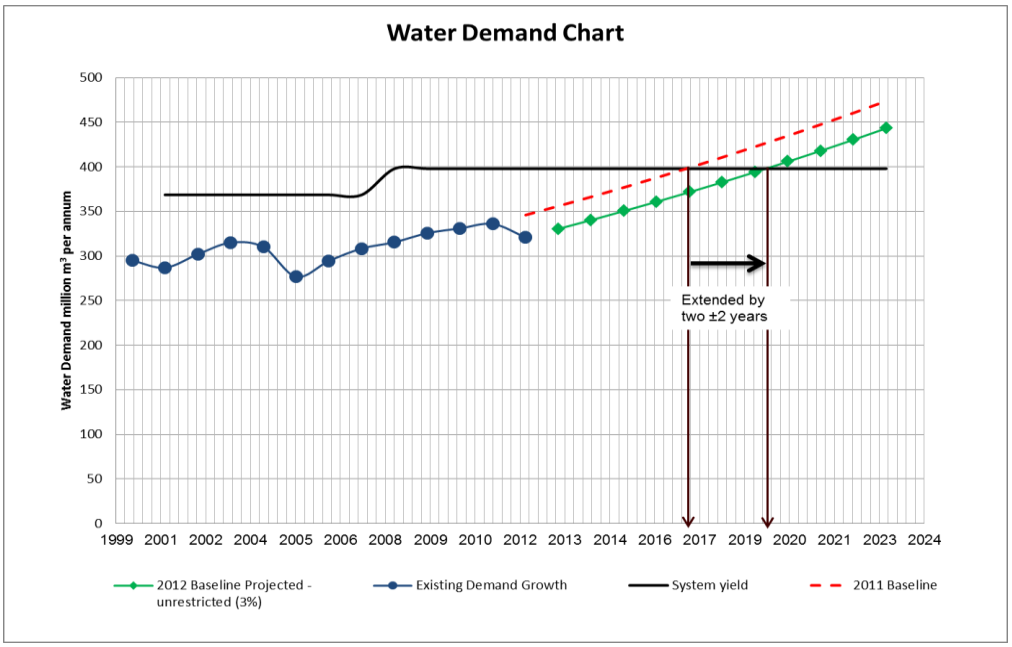

Figure 19: Water Demand Projection

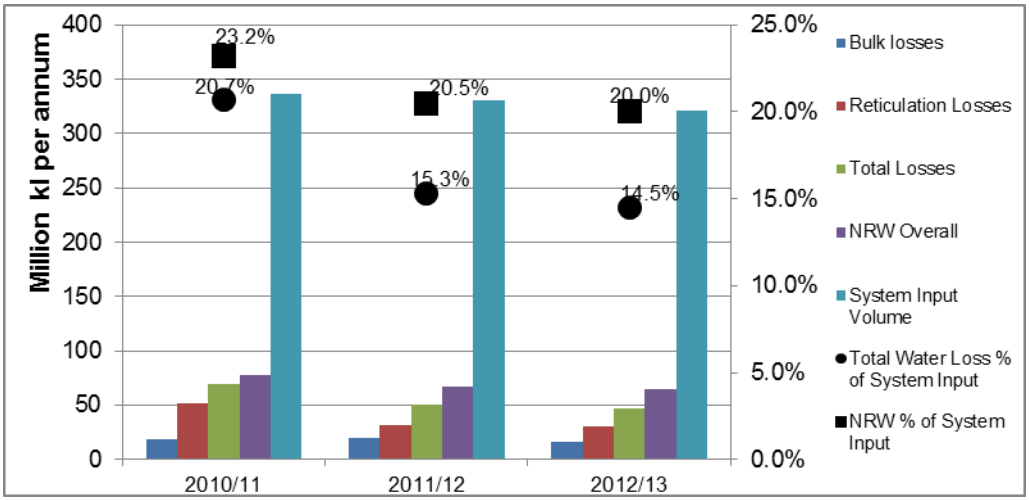

Figure 20**:** Three year overview of successful impact of WCWDM Interventions

10. WATER RESOURCES

10.1 Major Dam Levels

The table below compares the storage in the six major dams of the Western Cape Water Supply System over the past five years.

Table 30**:** Storage in the major dams of the WCWSS at 26 August 2013

MAJOR DAMS (99.6% of total capacity)	BULK STORAGE ON 26 AUGUST 2009 – 2013						
	CAPACITY Ml	CAP. LESS DEAD STORAGE	% 2009	% 2010	% 2011	% 2012	% 2013
Wemmershoek	58 644	58 544	99.8	77.3	76.0	94.4	99.8
Steenbras Lower	33 517	33 517	100.4	57.9	80.8	100.1	100.7
Steenbras Upper	31 767	29 267	100.3	85.4	100.8	99.9	101.3
Voëlvlei	164 122	156 022	99.2	98.0	84.2	86.2	98.7
Theewaterskloof	480 250	432 250	103.0	93.9	82.1	91.1	104.3
Berg River	130 000	125 800	100.5	100.7	89.2	100.1	100.7
TOTAL STORED			911 881	834 385	752 005	829 852	918 119
TOTAL STORAGE	898 300	835 400	768 300	898 300	898 300	898 300	898 300
% STORAGE			101.5	92.9	83.7	92.4	102.2

The six major dams comprise 99.6% of the total system capacity.

The percentages in the above table include “dead storage” (water that is not available for use). The approximate dead storage for each dam is indicated in the table.

10.2 Minor Dam Levels

Table 31: Shows the capacities of the minor dams supplying water to Cape Town.

MINOR DAMS (0.4% of Total System Capacity)	CAPACITY Ml	% on 26 AUGUST 2013
Dams supplying Kloof Nek WTW:		
Hely Hutchinson	925	100.8
Woodhead	954	100.9
Dams supplying Constantia Nek WTW:		
Victoria	128	101.2
Alexandra	126	98.3
De Villiers	243	100.7
Dams supplying Brooklands WTW:		
Kleinplaats	1 368	102.5
Lewis Gay	182	94.5

The minor dams owned and operated by the City of Cape Town comprise 0.4% of the total system capacity.

The minor dams in the table above are grouped by systems: Hely Hutchinson and Woodhead Dams supply Kloof Nek WTP; Victoria, Alexandra and De Villiers Dams supply Constantia Nek WTP; and the Kleinplaats and Lewis Gay Dams supply Brooklands WTP.

10.3 Water use efficiency (Potable water)

Table 32: Potable Water Production and Supply

MONTH	VOLUME WATER TREATED (kl)		VOLUME WATER SUPPLIED (kl)	
	2012	2013	2012	2013
January	34 219 464	33 413 068	30 753 013	32 116 660
February	32 184 198	28 899 915	33 418 277	28 408 279
March	32 873 632	30 577 365	29 877 668	25 732 543
April	25 965 792	25 672 000	24 706 867	26 216 843
May	24 139 274	24 526 486	23 644 223	21 624 034
June	22 310 242	22 223 499	20 781 211	18 870 242
July	23 006 654	22 773 584	22 749 190	24 104 918
August	22 508 576	22 514 141	23 515 678	22 255 298
September	22 416 626	-	22 031 382	-
October	25 496 328	-	26 036 048	-
November	29 237 591	-	27 443 101	-
December	32 943 615	-	29 624 434	-

Volume of water treated: This is the total volume of potable water produced at the City's twelve water treatment works for the month.

Volume of water supplied: This is the total volume of potable water supplied from the bulk water supply system to bulk consumers i.e. the reticulation systems of the City of Cape Town, Drakenstein Municipality and Stellenbosch Municipality.

Corrections to the database are made from time-to-time, as data or calculation errors are found and corrected. For this reason, volumes reported above may be subject to change.

11. FINANCIAL PERFORMANCE/MANAGEMENT

Audited financial statement - Not yet available.

12. WATER SERVICES INSTITUTIONAL ARRANGEMENTS

12.1 Situation assessment (water services institutional arrangements profile)

The new City of Cape Town and the Water and Sanitation Services entity was formed with the amalgamation of the Cape Metropolitan Council and the 6 metropolitan local councils in December 2000.

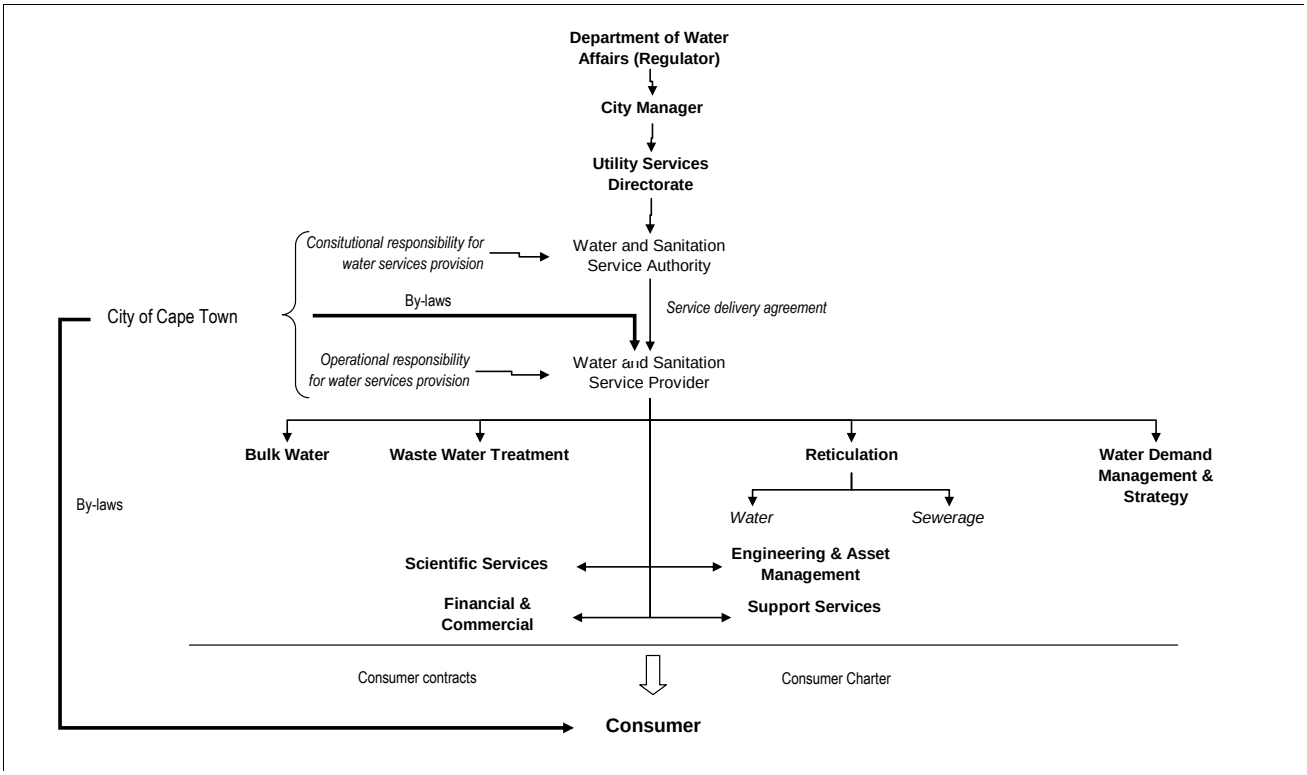

Figure 21: Water Service Institutional Arrangements (Source: Water Demand Management Strategy)

On 28 November 2001, Council authorized Water and Sanitation Services as it was called then to operate as fully-fledged and functional internal business unit in order to ensure maximum independence and minimum constraints. In practice this has not been implemented further and the service is now housed in the Utility Services Directorate as the Water and Sanitation Department.

12.2 Future Trends and Goals

The appointment and retention of technical staff (engineers, scientists and IT personnel) remains a high priority.

12.2.1. Strategic gap analysis

The City of Cape Town is currently undertaking the constitutional responsibility for water service provision (as the Water Services Authority (WSA)) as well as the

operational responsibility (as the Water Service Provider (WSP)). The City has not separated the service authority and service provision function to establish a municipal entity, preferring to operate the service as an internal ring-fenced department. At the moment, there is no service delivery agreement between WSA and WSP in place.

12.2.2. Implementation strategies

Institutional reform: The City's strategic intent, aligned with the national agenda and as stated in the IDP is:

- Sustainable use of scarce resources such as water
- Achieving operational, financial and other efficiencies which will enhance equitable, affordable and effective service delivery and sustainable development;
- Increase service provision (taps and toilets in formal settlements)

Human resources: It is the City's strategic intent to develop and retain a skilled and motivated staff according to the Staffing Strategy and the Workplace Skills Plan. A strategy to hold onto staff is a talent management programme currently underway which intends to hold onto qualified and experience staff through a career development and succession plan. This effort will help to hold onto institutional knowledge.

Table 33: WSA capacity development currently in process

WSA Priorities for capacity development	Capacity needs assessments conducted(Yes/No)	Formal Skills training required (Yes/ No)	Proposed timeframe for capacity development	Total Estimated Cost in rates only (exclu VAT)
Strategic and Master Planning	Yes	Yes	From date of commencement of contract until 30 June 2013.	R 565 421

An automation, monitoring and technology programme is being driven in the department towards achieving maximum efficiency and optimum utilisation of staff resources in a "smart" way. To this end, cooperation has been pursued with leaders in the field such as the Norwegian Oslo Waterworks and the Danish Hydraulic Institute.

Table 34: The bylaws affecting water services are listed in the table below

ACTION	PROGRESS	TIMEFRAME	IMPLEMENTATION COST
Plant SCADA upgrades. (Bulk, Wastewater, Pump stations).	SCADA upgrades completed at Atlantis, Blackheath and Steenbras WTP. Visnet implemented Software and partial commissioning at	5 years (2014)	R10M for current Reticulation system phase. Full system scope being

	Wildevoelvlei WWTW Additional license required and connection to corporate network. And Wemmershoek Dam WTW. Complete		developed.
Bulk & Zone meter automation	Further zones delineated (201) and zone meters installed.	All Water Zone meters logged by 2014.	
Customer meter automation	AMR pilot installation completed May 2010. Extensive evaluation undertaken in N2 Gateway, SunsetBeach and Epping Industria. Various technical, meter supply and process issuesaddressed. Prepayment meters to be investigated and piloted.	AMR Phased rollout planned in priority industrial or commercial areas over a multi-year timeframe (2020) for entire City. Prepayment pilot 2011.	R1.5M pilot phase. R50M excluding meter replacement.
Integrated Information System	DIMS development (Danish Hydraulic Institute) with major DWA grant completed. Integrates key major Water and Sanitation information systems in browser map-based dashboards.	Completed and handover October 2010	R7M (R5M DWA grant)
Integrated Master Planning: A tender evaluation is currently underway to appoint a service provider who transfer skills to City of Cape Town staff. An appointment is expected to be made within the next 4 weeks and the appointment is intended to cover 3 financial years	Training and skills transfer in the practical updating of the IMP is expected to be completed by June 2015	The tender was designed as a rates only tender but the estimated cost for the project is between 10 and 13 million over the 3year period	A tender evaluation is currently underway to appoint a service provider who transfers skills to City of Cape Town staff. An appointment is expected to be made within the next 4 weeks and the appointment is intended to cover 3 financial years
Technical Operating Centre process improvements	SAP-GIS Integration being implemented under control of SAP. Includes: GIS & SCADA integration in SAP, C3 Notifications, Tetra Radio comms and spatial tracking, Mobile Asset Management.	2012	R10M.

SCADA/Telemetry master plan	Contract has been awarded to develop a new master station for all reservoirs and pump stations, including the supply of RTU's. Also included is the development of data from the new telemetry system to the database that DIMS will harvest. Tender in place for the procurement of RTUs Factory Acceptance Test complete snag list being resolved. Test RTU in field trials. • Central SCADA system installed • 500 RTUs procured under a tender • 80 Installed, 26 commissioned and handed over	2012	
Automated Water Analysis	Process lab Units already installed at 9 Bulk Water Depots. Installation of 8 computers and Connectivity testing to be in March 2010.	Completion end March 2010.	R693 000
Air Quality Monitoring System (Service provider to Health Dept.)	Tender awarded April 2010.	Completed 2010	R1.3 Million

12.2.3. Bylaws affecting water services

Table 35: The bylaws affecting water services are listed in the table below

By-law	Date promulgated	Short Description	Effect on Water Services
Water	18 February 2011	To control and regulate water supply and use in the City of Cape Town and strive for continued availability and access of the resource to all.	Increased awareness on the need to save water, renders a more sustainable provision of the service where supply meets demand. Punitive measures serve to deter non-compliance.
Wastewater and Industrial Effluent	1 September 2006	To control and regulate sewerage and industrial effluent discharges for the protection of infrastructure and the environment.	Increased awareness amongst the target market continues to trigger behavioural change in terms of a better understanding of the principle of environmental protection Punitive measures serve to deter non-compliance
Credit Control and Debt Collection	Latest as Approved by Special Council on 28 May 2012	To give effect to the Council's credit control and debt collection policy, its implementation and enforcement, as required by Section 98 of the Municipal Systems Act, 32 of 2000, and to give effect to the duty imposed by Section 96 of the Municipal Systems Act to collect all money that is due and payable to the Council.	Renders the service financially sustainable for current and future generations.
By-law relating to Stormwater Management	23 September 2005	To provide for the regulation of stormwater management and to regulate activities which may have a detrimental effect on the development, operation or maintenance of the stormwater system	Greater public awareness on the need to prevent environmental damage Punitive measures serve to deter non-compliance.
Treated Effluent	28 October 2009	To control and regulate the supply and use of treated effluent in the City of Cape Town in line with the Integrated Water Resource	Treated effluent users make available more potable water to other consumers in need and hence

By-law	Date promulgated	Short Description	Effect on Water Services
		Management and Water Conservation Water Demand Management goals.	prolong local water security.

Table 36**:** The institutional objectives of the IDP

Strategic Focus Area	Objective	Programme	Water Services Business Elements									
			1. Socio - Economic Profile	2. Service Level Profile	3. Water Resource Profile	Conservation / Demand	Services Infrastructure	6. Water balance	institutional arrangements	8. Customer Service Profile	9. Financial profile	10. List of Projects
			Page Numbers									
1.THE OPPORTUNITY CITY	**Objective 1.1 - Create an enabling environment to attract investment to generate economic growth and job creation**	P1.1(c) Identify and promote catalytic sectors, such as oil and gas	x									
	Objective1.2 - Provision and maintenance of economic and social infrastructure to ensure infrastructure-led growth and development	P1.2(b) Maintenance of infrastructure					x					
		P1.2(c) Investing in Infrastructure					x					
	Objective 1.3 – Promote a sustainable environment through efficient utilization of resources	P1.3(a) Sustainable utilization of scarce resources			x	x					x	x
		1.3(b) Water Conservation and Water Demand Management Strategy			x	x	x	x			x	x
2.THE SAFE CITY	**No direct link to Water Services objectives**											
3. THE CARING CITY	**Objective 3.4 Provide for the needs of informal settlements and backyard residences through improved services**	P3.4(b) Service delivery programme in informal settlements		x								
		P3.4(c) Backyarder service programme		x		x						
	Objective 3.7 Provision of effective Environmental Health services.	P 3.5(a) Environmental Health Care Programme			x	x						x

Strategic Focus Area	Objective	Programme	Water Services Business Elements									
			1. Socio-Economic Profile	2. Service Level Profile	3. Water Resource Profile	Conservation / Demand	Services Infrastructure	6. Water balance	Services institutional arrangements	8. Customer Service Profile	9. Financial profile	10. List of Projects
			Page Numbers									
4.THE INCLUSIVE CITY	**Objective 4.1 Ensure responsiveness by creating an environment where citizens can communicate with and be responded to.**	P4.1(a) Managing service delivery through the service management process (C3 notification responsiveness)		x		x				x		
		P4.1(b) Building strategic partnerships				x						x
5.THE WELL-RUN CITY	**No direct link to Water Services objectives**								x			

13. SOCIAL AND CUSTOMER REQUIREMENTS

13.1 SITUATION ASSESSMENT

Although under stress in certain regions, necessary infrastructure is in place to ensure an adequate quality of service to all households. All customers receive water that is fully treated. There are mechanisms in place to attend to customer complaints and queries.

A survey is undertaken on an annual basis to gauge the customer satisfaction in formal domestic, informal domestic and business sectors and to identify specific issues of concern.

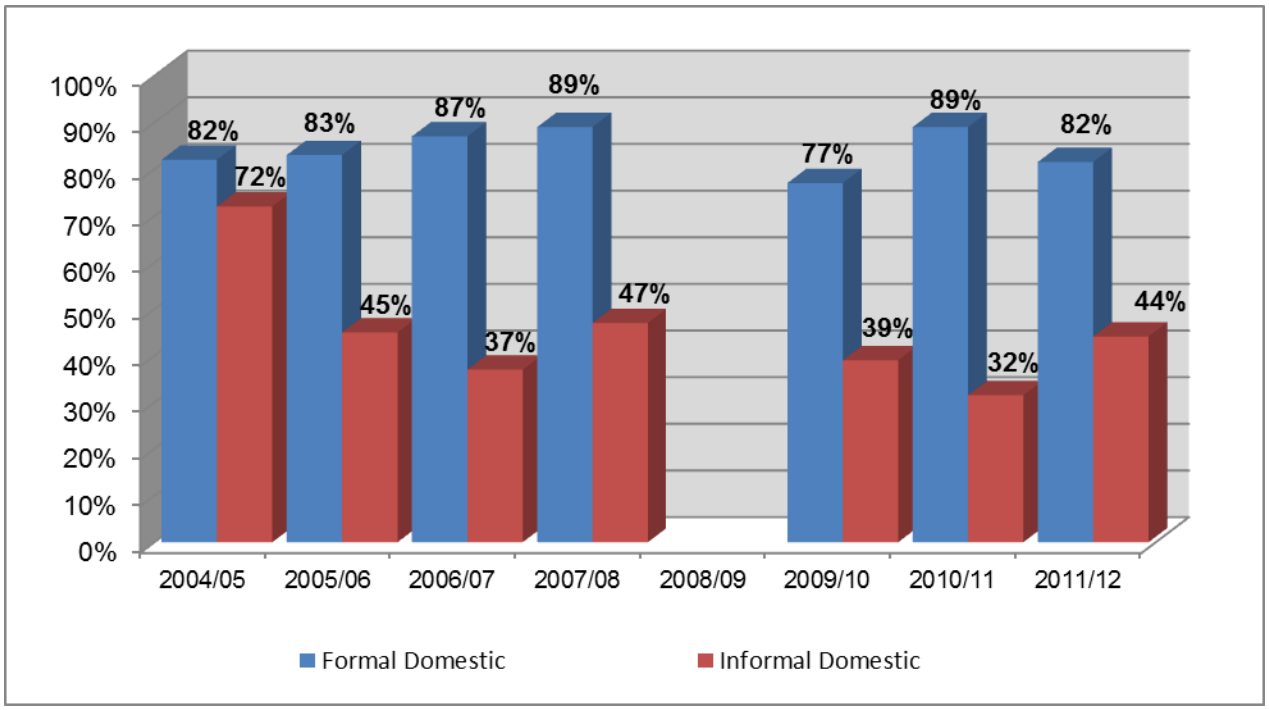

Figure 22: Customer satisfaction levels over time

The general conclusions are:

- The increasing satisfaction level for respondents living in formal residential areas has shown a downturn.
- Respondents living in informal residential areas are generally dissatisfied.
- 82% of business respondents are satisfied.

This could be an indication that residents do not understand the reasons for a basic level of service as opposed to a full level of service. An alternative argument could be that people, whether in a formal or informal settlement, will only be satisfied with a full level of service and that the level of satisfaction in

informal settlements will always remain low due to problems related to communal toilets.

13.2 FUTURE TRENDS AND GOALS

The goal is to ensure that the percentage of customers satisfied with the service continues to increase and reaches 95% within the next 5 years.

13.3 STRATEGIC GAP ANALYSIS

There is no consolidated information on response times to complaints and queries and to repairing water and sewer mains. An integrated information system dealing with these matters is under development by the Technical Operating Centre.

13.4. IMPLEMENTATION STRATEGIES

- Ensuring water pressure standards are maintained to improve areas of extreme high or low pressures.
- The Education and Awareness Campaign will be extended to affect behaviour change in residential customers towards reducing water consumption, and that all customers have a better knowledge of water efficient fittings.
- Establishment of a system at the Technical Operating Centre to ensure that customer complaints are measured and followed up.
- The AMR project promises to bring improved customer satisfaction around metering and billing.
- Appointment of staff for critical vacancies.
- Have a public awareness on level of service and affordability.
- The survey question in informal settlements should be structured differently.

Table 37: Water Distribution Networks

2013/14 YEAR STATS AS AT END AUGUST 2013							YTD - ANNUAL COMPARISON		
WATER NETWORKS	**BLAAUW-BERG**	**CAPE TOWN**	**HELDER-BERG**	**KHAYE-LITSHA**	**SOUTH PEN.**	**TYGER-BERG**	**YTD-2013/14**	**YTD-2012/13**	**YTD-2011/12**
Discoloured Water complaints	27	22	6	0	4	2	61	37	62
Repair to Burst Water Mains	82	84	122	14	103	147	522	595	723
Valves Marked / Plated	4	6	18	28	0	94	150	198	185
Valves Replaced / Renewed	21	21	20	1	0	18	81	155	130
Valves Repacked	29	17	24	0	92	21	183	199	219
Fire Hydrants Replaced / Renewed	11	4	16	2	3	31	67	97	93
Fire Hydrants Repacked	21	20	0	1	80	29	151	139	160
Fire Hydrant Nozzles Replaced	0	0	1	0	0	0	1	36	18
Fire Hydrants Installed	1	3	0	0	0	163	167	10	162
New Mains Installed (m)	877	2 287	3 570	0	4 198	0	10 932	5 031	109
Water Mains Replaced (m)	0	149	3 480	0	490	0	4 119	6 433	6 093
Water Mains Cleaned (m)	0	0	0	0	0	0	0	111	33

As indicated in the table above, the number of burst mains in the first month of each year has steadily decreased: 723 in 2011/12, 595 in 2012/13 and 522 in 2013/14. The corresponding rate of bursts per 100 km per year is as follows: 42 in 2011/12, 35 in 2012/13 and 31 in 2013/14.

Table 38: Water Meter Connections (Performed by Depot)

2013/14 YEAR STATS AS AT END AUGUST 2013							YTD – ANNUAL COMPARISON		
	BLAAUW-BERG	CAPE TOWN	HELDER-BERG	KHAYE-LITSHA	SOUTH PEN.	TYGER-BERG	YTD-2013/14	YTD-2012/13	YTD-2011/12
Installed Meter Connections 15 mm	47	0	0	0	0	0	47	132	47
Installed Meter Connections 20 mm	175	255	1	2	9	7	449	355	328
Installed Meter Connections 25 mm	7	57	0	1	4	1	70	35	43
Installed Meter Connections 32 mm	1	0	1	0	0	0	2	0	0
Installed Meter Connections 40 mm	7	3	0	0	1	1	12	14	42
Installed Meter Connections 50 mm	1	11	0	0	2	0	14	8	11
Installed Meter Connections 80 mm	2	3	0	0	0	0	5	2	2
Installed Meter Connections 100 mm	0	16	0	0	0	0	16	9	7
Installed Meter Connections 150 mm	0	2	0	0	0	0	2	4	2
Water Meters Replaced	132	155	198	75	0	144	704	572	850
Relocate / Re-fix Meters	107	20	3	136	47	91	404	769	760
Water Meters	10	72	123	0	21	42	268	233	225

Stolen									
Remove Water Meter Connections	52	0	3	76	0	4	135	188	97
Repair Leaks on Water Connections	783	2 265	844	403	1 062	518	5 875	6 120	5 693
Locate Water Meters	44	0	1	3	0	11	59	277	146
TOTAL	**1 368**	**2 859**	**1 174**	**696**	**1 146**	**819**	**8 062**	**8 718**	**8 253**

A Project Initiation document (PID) was submitted to acquire funds for the new financial year in order to roll-out the Sewer Blockages Education campaign to other areas, but unfortunately the request was unsuccessful due to insufficient funds compared to the number of PIDs received, so the household door to door campaign has been put on hold until further notice.

Table 39: Sewerage Blockages per areas of Metro for August 2013

	BUILDING MATERIAL	COLLAPSES	FATS	FOREIGN OBJECTS	ROOTS	SAND	TOTAL
South Peninsula Area	0	0	254	519	317	1	1091
Blaauwberg Area	0	3	46	74	83	7	213
Durbanville	0	0	110	0	108	0	218
Kraaifontein/Brackenfell	0	0	177	156	186	0	519
Atlantis	12	1	40	108	92	1	254
Bellville Area	3	0	71	183	169	30	456
Goodwood Area	7	15	60	530	65	40	717
Parow Area	209	13	328	309	24	35	918
Khayelitsha	126	0	124	46	2	144	442
CBD & Atlantic Seaboard	0	0	8	371	39	5	423
Mitchells Plain/Philippi	0	2	251	376	1	77	707
Maitland/Pinelands	0	0	15	262	30	23	330
Rosebank/Claremont	0	0	57	159	85	6	307
Athlone/Hanover Park	0	0	189	390	49	66	694
Ikapa	0	0	43	264	17	306	630
Delft/Eerste River/Kuils River	31	37	270	316	206	165	1025
Somerset West/Strand	110	19	174	160	92	152	707
TOTAL	**498**	**90**	**2217**	**4223**	**1565**	**1058**	**9651**

13.5. CUSTOMER SERVICES

Infrastructure and personnel is in place for this function and there are also projects to improve the performance.

13.6. CUSTOMER/CONSUMER CHARTER

This service charter provides our customers with a clear understanding of our commitment to service and product quality and of the standards we strive to meet.

It also explains the City of Cape Town's obligations and the obligations of the consumers. The charter includes a list of our service standards and we encourage all users and other stakeholders to measure our performance against these standards, and to communicate any deviations to our hotline number on 0860 10 30 54 or/and 0860 10 30 89. (Water option)

Customer right to access

The water service act (Act no. 108 of 1997) compels the City of Cape Town to provide water and sanitation services that are efficient, affordable, and sustainable.

The City of Cape Town water quality complies with world class standards (WHO & SANS 241).

The City of Cape Town wastewater complies with the DWA: Wastewater General Standards (1984), DWA: Wastewater special standards (1984), National Standards and by laws

The ISO 9001 Quality Management System will:

- Assist integration of previous administrations
- Improve customer satisfaction
- Ensure compliance to OHS and Environmental Standards
- Improve service delivery
- Improving the processes on a continual basis
- Improve efficiency/production- lower costs
- Facilitate performance management
- Boost staff morale
- Ensure documentation of best practices.

The Consumer (previously Customer) Charter was introduced as part of this process during 2001.

13.7. CUSTOMER SURVEYS

Since 2002, Water and Sanitation Services has been conducting research on annual basis to measure consumer satisfaction, needs and perceptions.

Water and Sanitation Objectives for Customer Surveys

The objectives of conducting a customer survey for Water and Sanitation Department are as follows:

- To enable Water and Sanitation to gain great insights about customer requirements
- To generate feedback about Water and Sanitation's products and services as well as customer service.
- To attune Water and Sanitation towards more focused customer service
- To develop better relationships with customers to achieve brand success
- To assist with quick measures to bring about the desired improvements or address grievances and placate relevant customers
- To drive innovative efforts and initiatives at Water and Sanitation branches
- To consistently and better address customer needs and expectations, maintain brand reputation and facilitate long-term relationships with Water and Sanitation Customers

The findings from the research are, among other things, used:

- As an input to ISO 9001:2008 certification
- to ensure that an acceptable level of service satisfaction is achieved and maintained
- to identify areas needing improvement
- to develop continual improvement initiatives
- to uncover needs not currently being addressed, especially in informal areas or in commercial arena
- to ensure relevance of the Water Service Customer Charter.

The following issues are mainly addressed:

- Perception of services received: drinking water, effluent water or sewer(sanitation) drainage
- Evaluation of services rendered when reporting problems or enquiring about water services
- Awareness of environmental initiatives, including water conservation or restrictions
- Awareness of regulation in the sector
- Effectiveness of marketing drives such as around Water Week

- Issues relating to payment and billing procedures for services
- Importance rating and evaluation of services supplied.

Improved Metering of Informal Settlements Consumption

The Reticulation Branch has been busy since June 2010 with a process to more accurately account for the water consumption within Informal Settlements.

During this process the numbers of dwelling units had to be estimated as being supplied by a particular meter. This was a lengthy process, as within a settlement, one has to establish which standpipes are fed by which meters before one can attribute estimates of dwelling units served by particular meters. This process was extended into numerous settlements and currently totals 291 meters loaded, read and reported on SAP. These meters serve an estimated 87 269 households.

The Water & Sanitation Services Finance and Commerce Branch, has taken ownership for the monthly reading and reporting of the 291 meters loaded on SAP. A procedure has also been implemented for recording newly installed informal settlement meters on the SAP system for regular reading and reporting.

The strategic issues, policies, objectives and initiatives of the Customer and Meter Management Section are herewith briefly discussed:

Key Strategic Issues

There are seven key strategic issues on which CCT is basing its customer and meter management strategy:

- An Effective Debt Management Process
- Meter Verification and Meter Accuracy
- Meter Management and Billing
- Meter Reading
- 24/7 Technical Operation Centre
- Corporate Call Centre
- Customer Interaction

13.8 QUALITY OF SERVICE FOR WATER: URBAN

The overview of the quality of service provided is given in the table below:

Table 40: Quality of Services Provided

	Item	Up until End of June 2013
1.	Total no. of consumers	628 756
2.	No. of consumers experiencing greater than 7 days interruption in supply per year	Zero
3.	No. of consumers receiving flow rate of less than 10 litres per minute	Zero
4.	Water quality: no chlorination	Zero
5.	Water quality: chlorinated	Zero
6.	Water quality: full treatment	628 756

Technical Operation Centre (24hr Emergency Service)

The Technical Operation Centre responds to all technical complaints and enquiries such as:

- Burst, leaking and damaged water and mains/leadings and meters
- Water taste and discoloration problems
- Low water pressure or interrupted supply
- Water restriction contravention reporting or advice

All calls are logged and responded to appropriately, becoming part of the Workflow process. All calls reaching the Corporate Call Centre but dealing with Water and Sanitation Services-related matters are re-routed to it.

A number of pilot applications for new technology utilisation towards improved operational processes such as GIS, GPS and Vehicle tracking have been implemented.

Table 41: Cumulative Notification Statistics July 2012 - June 2013

Cumulative Notification Statistics July 2012- Jun 2013 C3 notifications created from *all sources* including TOC							
FORMAL AREAS - WATER			**FORMAL AREAS - SEWER**			**FORMAL**	
CREATED (YTD)	**CLOSED** (YTD)	**OPEN** (At end of period)	**CREATED** (YTD)	**CLOSED** (YTD)	**OPEN** (At end of period)	**WATER % OPEN**	**SEWER % OPEN**
17 185	9 979	7 206	10 650	7 458	3 192	42%	30%
INFORMAL AREAS - WATER			**INFORMAL AREAS - SEWER**			**INFORMAL**	
CREATED (YTD)	**CLOSED** (YTD)	**OPEN** (At end of period)	**CREATED** (YTD)	**CLOSED** (YTD)	**OPEN** (At end of period)	**WATER % OPEN**	**SEWER % OPEN**
686	536	150	748	635	113	22%	15%

Corporate Call Centre

A Corporate Call Centre (Tel 086 010 3089, Fax 086 010 3090, e-mail accounts@capetown.gov.za) has been established by the City, which receives

most complaints and requests, also those in respect of water account queries. Any technical complaints or others related to water that cannot be dealt with by the Corporate Call Centre, is forwarded via an electronic notification to the Technical Operation Centre for action.

13.9 EDUCATION FOR BASIC WATER SERVICES

Customer Interaction

This function includes engaging the public and educating them in the awareness of Water Conservation, Water Pollution and Water Demand Management. It also deals with broad-impact citizen queries and correspondence as well as matters that are logged at the Corporate Call Centre but which require specialist investigations.

Customer education, communication and liaison are accepted as key strategic issues and are being afforded a high priority in the new structure of Water and Sanitation Services. Water conservation, water pollution, water ingress and payment habits, among others, are all being addressed in a comprehensive and sustainable fashion.

14. PROJECTS COMPLETED

The project list as provided from the department is given in the table below: (Source: 10 Year Capital Prioritisation spread sheet: Finance).

This is a comprehensive list of Projects which includes the sustainability list. The table lists the total cost of each project. All the projects are for inclusion in the IDP.

The infrastructure projects are listed in group in accordance with their investment reason i.e. new asset, enhancement asset and replacement of asset. Support Services projects are grouped together.

Table 42: Capital Budget of the CCT for 2012/13 as at June 2013

WBS Element	WBS Element Description	Source	Fund Source Desc	Current Budget	Planned Monthly Spend	Actual Monthly Spend	Monthly Variance	YTD Planned Spend	YTD Actual Spend	% Spent of Current Budget	YTD Variance	YTD % Variance	Anticipated Exp to 30 Jun '13	Reason for underspend	Responsible Person	Major Fund	Commitments	Branch
C05.01333-F2	Durbanville Collectors Sewers	Internal	3 BICL Sewer:Tyg N	269 237	69 237	0	-69 237	269 237	247 695	92 %	-21 542	-8%	247 695	Other - Please specify	Eduaan Albertyn	CRR	0	Retic
C05.01333-F3	Durbanville Collectors Sewers	Internal	1 EFF	2 429 233	293 601	0	-293 601	2 429 233	1 860 026	77 %	-569 207	-23 %	1 860 026	Other - Please specify	Eduaan Albertyn	EFF	569 207	Retic
C06.01457-F1	Bellvile North Water Supply system	Internal	1 EFF	8 755 700	3 755 700	736 019	-3 019 681	8 755 700	3 052 897	35 %	-5 702 803	-65 %	4 468 000	Other - Please specify	Eduaan Albertyn	EFF	5 011 488	Retic
C06.01639-F2	Retreat Rising Main - Rehab	Internal	1 EFF	1 348 518	345 203	198 883	-146 320	1 348 518	1 202 199	89 %	-146 319	-11 %	1 202 199	Project completed - Savings identified	Andrew Taylor	EFF	146 318	Retic
C06.01639-F3	Retreat Rising Main - Rehab	External	4 NT USDG	4 175 439	263 937	0	-263 937	4 175 439	4 100 000	98 %	-75 439	-2%	4 100 000	Project completed - Savings identified	Andrew Taylor	CGD	0	Retic
C06.30147-F1	Kraaifontein WWTW	Internal	1 EFF	446 599	0	166 115	166 115	446 599	446 599	100%	0	0%	446 599	Project completed - Savings identified	Kevin Allan Samson	EFF	0	WWTW
C06.30170-F1	Bellville WWTW - EFF	Internal	1 EFF	45 741 258	8 241 258	11 999 749	3 758 491	45 741 258	45 734 753	100%	-6 505	0%	45 734 753	Project completed - Savings identified	Kevin Allan Samson	EFF	2 360	WWTW

C06.30170-F3	Bellville WWTW-USDG	External	4 NT USDG	70 066 500	18 122 303	16 290 603	-1 831 700	70 066 500	69 861 143	100%	-205 357	0%	69 861 143	Project completed - Savings identified	Kevin Allan Samson	CGD	105 357	WWTW
C06.30201-F1	Athlone WWTW - EFF	Internal	1 EFF	98 000	58 000	0	-58 000	98 000	83 241	85%	-14 759	-15%	83 241	Project completed - Savings identified	Kevin Allan Samson	EFF	14 759	WWTW
C06.30201-F3	Athlone WWTW (USDG)	External	4 NT USDG	2 637 002	439 134	50 810	-388 324	2 637 002	1 794 006	68%	-842 996	-32%	1 794 006	Project completed - Savings identified	Kevin Allan Samson	CGD	842 988	WWTW
C06.42179-F2	Protea Heights Water Sup	Internal	1 EFF	47 141	0	0	0	47 141	47 140	100%	-1	0%	47 140	Project completed - Savings identified	Eduaan Albertyn	EFF	0	Retic
C07.00047-F2	Fish Hoek Outfall Sewer	Internal	1 EFF	1 000 000	524 221	0	-524 221	1 000 000	1 000 000	100%	0	0%	1 000 000	Project completed - Savings identified	Yusuf Ebrahim	EFF	0	Retic
C07.00048-F2	Blue Route Interceptor Sewer	Internal	1 EFF	999 779	524 221	0	-524 221	999 779	149 000	15%	-850 779	-85%	999 779	Project completed - Savings identified	Yusuf Ebrahim	EFF	850 779	Retic
C07.00407-F1	Northern Area Sewer Thornton	Internal	1 EFF	10 000 000	3 857 226	143 980	-3 713 246	10 000 000	2 421 255	24%	-7 578 745	-76%	7 074 487	Project delayed due to tender appeals	Zamokuhle Chauke	EFF	7 578 745	Retic

C08.00214-F1	De Grendel Reservoir	Internal	1 EFF	16 000 000	4 000 000	4 518 751	518 751	16 000 000	12 103 879	76 %	-3 896 121	-24 %	16 000 000	Project delayed due to contractor/vendor underperformance / supply constraints	Eduaan Albertyn	EFF	3 896 120	Retic
C08.86023-F1	De Gendel Reservoir Link	Internal	1 EFF	1 559 731	359 931	47 938	-311 993	1 559 731	297 633	19 %	-1 262 098	-81 %	1 559 731	Project completed - Savings identified	Eduaan Albertyn	EFF	381 696	Retic
C08.86023-F2	De Gendel Reservoir Link	Internal	3 BICL Water:TygN	9 100 000	0	0	0	9 100 000	9 100 000	100%	0	0%	9 100 000	Project completed - Savings identified	Eduaan Albertyn	CRR	0	Retic
C08.86024-F1	Contermans Kloof Water Mains	Internal	1 EFF	8 627 164	696 782	0	-696 782	8 627 164	8 592 475	100%	-34 689	0%	8 592 476	Project completed - Savings identified	Eduaan Albertyn	EFF	0	Retic
C08.86027-F1	SWest Bus Park Main Sewer (lower leg)	Internal	1 EFF	78 350	0	0	0	78 350	78 350	100%	0	0%	78 350	Project completed - Savings identified	Charl Moller	EFF	0	Retic
C08.86031-F1	Provision of Sewerage to Croydon	Internal	1 EFF	4 675 824	2 280 000	1 238 245	-1 041 755	4 675 824	3 167 030	68 %	-1 508 794	-32 %	4 675 016	Other - Please specify	Charl Moller	EFF	1 507 986	Retic
C08.86038-F1	Main Rd Upgrade M/Berg to Clovelly Rehab	Internal	1 EFF	12 588 000	556 320	0	-556 320	12 588 000	12 588 000	100%	0	0%	12 588 000	Project completed - Savings identified	Yusuf Ebrahim	EFF	0	Retic

C09.86008-F1	Ruyterwacht Midblock Water Pipes	Internal	1 EFF	3 000 000	219 458	0	-219 458	3 000 000	3 000 000	100%	0	0%	3 000 000	Project completed - Savings identified	Zamokuhle Chauke	EFF	0	Retic
C09.86014-F1	Pump Station & Rising Main Du Noon	Internal	1 EFF	1 075 000	400 000	0	-400 000	1 075 000	392 715	37%	-682 285	-63%	1 075 000	Project completed - Savings identified	Eduaan Albertyn	EFF	682 285	Retic
C09.86014-F2	Pump Station & Rising Main Du Noon	External	4 NT USDG	7 925 000	2 925 000	1 205 691	-1 719 309	7 925 000	2 876 771	36%	-5 048 229	-64%	7 925 000	Project completed - Savings identified	Eduaan Albertyn	CGD	5 048 229	Retic
C09.86015-F1	Rehab Outfall Sewers Pentz Sandrift m/qu	Internal	1 EFF	1 200 000	800 000	0	-800 000	1 200 000	0	0%	-1 200 000	-100%	318 123	Other - Please specify	Eduaan Albertyn	EFF	1 200 000	Retic
C10.82001-F1	Cape Flats #1 Rehabilitation	Internal	1 EFF	500 000	0	60 000	60 000	500 000	497 392	99%	-2 608	-1%	497 392	Project completed - Savings identified	Yusuf Ebrahim	EFF	0	Retic
C10.82002-F1	Cape Flats #2 Rehabilitation	Internal	1 EFF	433 101	0	0	0	433 101	433 101	100%	0	0%	433 101	Project completed - Savings identified	Yusuf Ebrahim	EFF	0	Retic
C10.86066-F2	Khayelitsha Driftsands Site C	External	4 NT USDG	10 127 665	1 360 014	116 978	-1 243 036	10 127 665	6 814 096	67%	-3 313 569	-33%	6 814 096	Project delayed due to contractor/vendor underperformance / supply constraints	Tertius De Jager	CGD	3 313 568	Retic

C10.86118-F2	Treated Effluent Re-use	External	4 STATE DEPT: DWAF	0	0	0	0	0	-43 883	0%	-43 883	0%	0	Other - Please specify	Collin Mubadiro	CGD	0	WDM
C10.86130-F1	Regional resources development	Internal	1 EFF	5 355 584	1 321 879	347 713	-974 166	5 355 584	4 381 419	82 %	-974 165	-18 %	5 261 247	Project completed - Savings identified	Nigel Ireland	EFF	400 613	Retic
C10.86132-F1	Remove midblock water network-Bishop Lav	Internal	1 EFF	1 908 951	425 651	0	-425 651	1 908 951	762 604	40 %	-1 146 347	-60 %	1 152 493	Project delayed due to departmental capacity constraints	Zamokuhle Chauke	EFF	389 888	Retic
C11.86059-F3	Sandtrap Bridgetown Sewer Pump Station	External	4 NT USDG	14 600 000	3 058 572	1 778 912	-1 279 660	14 600 000	10 719 549	73 %	-3 880 451	-27 %	14 484 075	Project completed - Savings identified	Zamokuhle Chauke	CGD	3 764 526	Retic
C11.86063-F3	Potsdam WWTW - Extension (USDG)	External	4 NT USDG	1 720 171	46 434	0	-46 434	1 720 171	1 720 171	100%	0	0%	1 720 171	Project completed - Savings identified	Kevin Allan Samson	CGD	0	WWTW
C11.86077-F2	Bulk Water Augmentation Scheme (CRR)	Internal	3 AFF: Water	1 700 000	935 076	0	-935 076	1 700 000	65 124	4%	-1 634 876	-96 %	65 124	Other - Please specify	Kevin Balfour	CRR	934 876	BW
C12.86002-F2	Repl&Upgr Sew Pumps Citywide	Internal	1 EFF	729 208	160 000	32 582	-127 419	729 208	632 276	87 %	-96 932	-13 %	705 788	Project completed - Savings identified	Brian Andrew Thomson	EFF	73 511	Retic
C12.86004-F2	Replace & Upgrade Water Network	Internal	1 EFF	0	0	0	0	0	-2 832	0%	-2 832	0%	0	Other - Please specify	Albertus Johannes Louw	EFF	0	Retic
C12.86008-F2	Infrastructure Replace/Refurbish - WWT	External	4 NT USDG	7 285 100	1 243 875	1 524 419	280 544	7 285 100	6 328 567	87 %	-956 533	-13 %	6 328 567	Project completed - Savings identifie	Kevin Allan Samson	CGD	222 444	WWTW

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C12.86019-F2	TMS Aquifer Deep Borehole	Internal	1 EFF	3 550 000	754 091	761 289	7 198	3 550 000	3 275 900	92 %	-274 100	-8%	3 550 000	Other - Please specify	Paul Rhode	EFF	274 100	BW
C12.86033-F1	Tools & Equipment (Mech)	Internal	1 EFF	0	0	0	0	0	-1 694	0%	-1 694	0%	-1 694		Bert Correia	EFF	0	EAM
C12.86046-F1	Water Meters	External	4 PRIVATE SECTOR FIN	0	0	0	0	0	-7	0%	-7	0%	0	Other - Please specify	Mogamat Nazeem Marlie	CGD	0	Retic
C12.86046-F2	Water Meters (EFF)	Internal	1 EFF	0	0	0	0	0	-85	0%	-85	0%	0	Other - Please specify	Mogamat Nazeem Marlie	EFF	0	Retic
C12.86075-F1	Northern Regional Sludge Facility	Internal	1 EFF	1 000 000	500 000	15 000	-485 000	1 000 000	973 148	97 %	-26 852	-3%	973 148	Project completed - Savings identified	Kevin Allan Samson	EFF	26 852	WWTW
C12.86079-F1	EAM Depot Realignment - 5 Nodal System	Internal	1 EFF	41 449 457	15 994 728	2 665 667	-13 329 061	41 449 457	13 509 093	33 %	-27 940 364	-67 %	23 000 000	Project delayed due to contractor/vendor underperformance / supply constraints	Bert Correia	EFF	27 937 992	EAM
C12.86082-F1	Water Supply at Baden Powell Dr to Khaye	External	4 NT USDG	400 000	0	0	0	400 000	0	0%	-400 000	-100 %	0	Other - Please specify	Tertius De Jager	CGD	0	Retic
C12.86083-F1	New Rest Reticulation Rectification	External	4 NT USDG	1 500 000	0	0	0	1 500 000	120 573	8%	-1 379 427	-92 %	1 500 000	Project delayed due to way leave approvals	Albertus Johannes Louw	CGD	1 379 427	Retic

C12.86084-F1	Completion of Langa Collector Sewer	External	4 NT USDG	500 000	0	228 254	228 254	500 000	499 907	100%	-93	0%	499 907	Project completed - Savings identified	Albertus Johannes Louw	CGD	93	Retic
C12.86090-F1	BlacMac Sewer: Upgrade sewer diversion	External	4 PROV HOUSE DEV BRD	3 000 000	1 500 000	0	-1 500 000	3 000 000	0	0%	-3 000 000	-100 %	0	Project delayed due to tender appeals	Rajan Moodley	CGD	0	WWTW
C12.86091-F1	Borchards Quarry WWTW	External	4 NT USDG	1 150 000	0	109 375	109 375	1 150 000	840 732	73 %	-309 268	-27 %	840 732	Project completed - Savings identified	Kevin Allan Samson	CGD	283 127	WWTW
C12.86092-F1	Cape Flats WWTW	External	4 NT USDG	995 865	300 000	320 408	20 408	995 865	995 770	100%	-95	0%	995 865	Project completed - Savings identified	Kevin Allan Samson	CGD	95	WWTW
C12.86096-F1	Macassar WWTW Extension (USDG)	External	4 NT USDG	9 328 500	2 966 701	3 160 392	193 691	9 328 500	9 256 510	99 %	-71 990	-1%	9 256 510	Project completed - Savings identified	Kevin Allan Samson	CGD	71 990	WWTW
C12.86100-F1	Water Meter Reading equipment	Internal	1 EFF	6 000 000	508 530	0	-508 530	6 000 000	5 899 010	98 %	-100 990	-2%	5 899 010	Project completed - Savings identified	Albertus Van Zyl Saayman	EFF	0	Fin
C12.86103-F1	Scottsdene : Reticulation Network	External	4 NT USDG	15 832 849	3 250 850	0	-3 250 850	15 832 849	15 832 849	100%	0	0%	15 832 849	Project completed - Savings identified	Robert Vere Johnston	CGD	0	Retic
C12.86141-F1	Bulk Water Infrastructure Replacement	Internal	1 EFF	79 004	0	0	0	79 004	79 004	100%	0	0%	79 004		Kevin Balfour	EFF	0	BW

C12.95018-F1	Treated Effluent: Reuse & Inf Upgrades	Internal	1 EFF	4 747 109	998 021	1 887 590	889 569	4 747 109	3 133 798	66 %	-1 613 311	-34 %	4 585 707	Project completed - Savings identified	Collin Mubadiro	EFF	1 613 311	WDM
C12.96004-F1	Pressure Management: COCT	Internal	1 EFF	57 253	0	0	0	57 253	57 253	100%	0	0%	57 253	Project completed - Savings identified	Collin Mubadiro	EFF	0	WDM
C13.00021-F1	Zone Metering	Internal	1 EFF	1 240 000	280 451	287 125	6 674	1 240 000	317 674	26 %	-922 326	-74 %	887 970	Project completed - Savings identified	Jacobus De Bruyn	EFF	887 970	WDM
C13.00023-F1	Logger Installations	Internal	1 EFF	1 500 000	500 000	846 716	346 716	1 500 000	1 036 336	69 %	-463 664	-31 %	1 036 336	Project completed - Savings identified	Jacobus De Bruyn	EFF	175 439	WDM
C13.00024-F1	Information System Server	Internal	1 EFF	125 000	25 000	60 523	35 523	125 000	60 523	48 %	-64 477	-52 %	60 523	Project delayed due to contractor/vendor underperformance / supply constraints	Jacobus De Bruyn	EFF	16 055	WDM
C13.00025-F1	Electronic Drawing Equipment: Additional	Internal	1 EFF	300 000	80 000	0	-80 000	300 000	0	0%	-300 000	-100 %	264 670	Project completed - Savings identified	Jacobus De Bruyn	EFF	264 670	WDM
C13.86000-F1	Replacement of Plant & Equipment (EAMS)	Internal	1 EFF	5 060 000	1 110 000	2 792 800	1 682 800	5 060 000	4 985 447	99 %	-74 553	-1%	4 985 447	Project completed - Savings	Bert Correia	EFF	73 084	EAM

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C13.86011-F1	Replacement of Vehicles (EAMS)	Internal	1 EFF	25 000 000	6 769 429	3 787 271	-2 982 158	25 000 000	24 595 838	98 %	-404 162	-2%	24 595 838	Project completed - Savings identified	Bert Correia	EFF	0	EAM
C13.86014-F1	Furniture, Tools, Equip: Additional EAMS	Internal	1 EFF	196 000	0	31 616	31 616	196 000	148 432	76 %	-47 568	-24 %	158 200	Project completed - Savings identified	Bert Correia	EFF	8 084	EAM
C13.86022-F1	Refurbishment of Labs	Internal	1 EFF	500 000	100 000	64 884	-35 116	500 000	477 726	96 %	-22 274	-4%	477 726	Project completed - Savings identified	David Epstein	EFF	21 425	SS
C13.86036-F1	Furniture & Equipment (IT): Additional	Internal	1 EFF	1 000 000	233 386	202 700	-30 686	1 000 000	751 245	75 %	-248 755	-25 %	751 245	Project delayed due to contractor/vendor underperformance / supply constraints	Ashraf Arendse	EFF	185 182	SPT
C13.86037-F1	Furniture,Tools, Equipme: Additional WDM	Internal	1 EFF	110 000	20 000	22 209	2 209	110 000	22 209	20 %	-87 791	-80 %	22 209	Other - Please specify	Collin Mubadiro	EFF	39 080	WDM
C13.86040-F1	Informal Incremental Areas Upgrade	Internal	1 EFF	20 160 840	4 951 471	1 830 638	-3 120 833	20 160 840	9 907 425	49 %	-10 253 415	-51 %	19 339 878	Project delayed due to labour problems	Tertius De Jager	EFF	9 146 793	Retic
C13.86041-F1	Bulk Water Infrastructure Replacement	Internal	1 EFF	15 000 000	4 305 975	2 244 677	-2 061 298	15 000 000	12 495 820	83 %	-2 504 180	-17 %	15 000 000	Other - Please specify	Kevin Balfour	EFF	2 437 613	BW

C13.86043-F1	Laboratory Equipment: Additional	Internal	1 EFF	3 195 700	399 791	2 170 632	1 770 841	3 195 700	2 672 555	84 %	-523 145	-16 %	3 195 700	Project completed - Savings identified	David Epstein	EFF	523 145	SS
C13.86046-F1	Replace &Upgr Sew Pumpstns (citywide)	Internal	1 EFF	7 500 000	1 628 578	267 886	-1 360 692	7 500 000	4 092 093	55 %	-3 407 907	-45 %	7 469 542	Project completed - Savings identified	Brian Andrew Thomson	EFF	3 377 449	Retic
C13.86047-F1	Replace & Upgr Sewer Network (Citywide)	Internal	1 EFF	37 923 547	18 904 238	6 426 731	-12 477 507	37 923 547	25 446 040	67 %	-12 477 507	-33 %	37 258 111	Project completed - Savings identified	Nigel Ireland	EFF	11 356 044	Retic
C13.86048-F1	Replace & Upgr Water Network (citywide)	Internal	1 EFF	71 511 946	12 859 811	8 199 406	-4 660 405	71 511 946	62 303 592	87 %	-9 208 354	-13 %	69 934 696	Project completed - Savings identified	Albertus Johannes Louw	EFF	6 270 339	Retic
C13.86048-F2	Replace & Upgrade Water Network (USDG)	External	4 NT USDG	4 000 000	813 956	0	-813 956	4 000 000	3 580 646	90 %	-419 354	-10 %	3 580 646	Project completed - Savings identified	Tertius De Jager	CGD	418 303	Retic
C13.86050-F1	TOC Infrastructure Development	Internal	1 EFF	4 500 000	4 484 498	16 995	-4 467 503	4 500 000	32 497	1%	-4 467 503	-99 %	32 497	Project delayed due to contractor/vendor underperformance / supply constraints	John Potgieter	EFF	4 393 514	Retic
C13.86053-F1	Completion of Cape Flats III Bulk Sewer	External	4 NT USDG	3 370 879	2 570 879	163 747	-2 407 132	3 370 879	728 092	22 %	-2 642 787	-78 %	728 092	Other - Please specify	Nigel Ireland	CGD	2 642 787	Retic

C13.86053-F2	Completion of Cape Flats III Bulk Sewer	Internal	1 EFF	1 000 000	0	0	0	1 000 000	1 000 000	100%	0	0%	1 000 000	Project completed - Savings identified	Nigel Ireland	EFF	0	Retic
C13.86055-F1	Replacement Of Plant and Equipment BW	Internal	1 EFF	150 000	6 858	2 099	-4 759	150 000	132 287	88%	-17 713	-12%	132 287	Project completed - Savings identified	Vernon Marinus	EFF	0	BW
C13.86056-F1	Plant and Equipment Additional	Internal	1 EFF	500 000	20 648	0	-20 648	500 000	499 252	100%	-748	0%	499 252	Project completed - Savings identified	Vernon Marinus	EFF	0	BW
C13.86058-F1	Tools and Equipment: Additional	Internal	1 EFF	800 000	0	174 500	174 500	800 000	479 299	60%	-320 701	-40%	479 299	Project delayed due to tender appeals	Bert Correia	EFF	0	EAM
C13.86065-F1	Tools & Equipment: Additional (Mech)	Internal	1 EFF	2 325 000	1 174 342	317 869	-856 473	2 325 000	1 526 925	66%	-798 075	-34%	2 289 079	Project completed - Savings identified	Bert Correia	EFF	140 975	EAM
C13.86067-F1	Tools & Equipment: Additional (PCS)	Internal	1 EFF	253 000	0	0	0	253 000	37 842	15%	-215 158	-85%	43 635	Project delayed due to tender appeals	Bert Correia	EFF	5 794	EAM
C13.86069-F1	Pressure Management: COCT	Internal	1 EFF	16 000 000	4 500 000	3 116 477	-1 383 523	16 000 000	11 751 094	73%	-4 248 906	-27%	15 680 000	Project completed - Savings identified	Collin Mubadiro	EFF	4 016 987	WDM
C13.86072-F1	Infrastructure Replace/Refurbish - WWT	Internal	1 EFF	26 144 755	8 360 954	3 000 244	-5 360 710	26 144 755	22 551 842	86%	-3 592 913	-14%	22 551 842	Project completed - Savings identified	Kevin Allan Samson	EFF	1 052 072	WWTW

C13.86074-F1	Pump Stn Rehab (Citywide)	External	4 NT USDG	14 105 399	3 415 100	0	-3 415 100	14 105 399	1 845 320	13 %	-12 260 079	-87 %	14 105 399	Project completed - Savings identified	Tertius De Jager	CGD	12 260 079	Retic
C13.86075-F1	Rehab of Sewer Network (Citywide)	External	4 NT USDG	10 000 000	2 850 000	678 079	-2 171 922	10 000 000	8 836 468	88 %	-1 163 532	-12 %	9 755 769	Project completed - Savings identified	Tertius De Jager	CGD	919 302	Retic
C13.86076-F1	Small Plant & Equipment: Additional	Internal	1 EFF	2 000 000	300 000	156 382	-143 618	2 000 000	1 848 881	92 %	-151 119	-8%	1 966 794	Project completed - Savings identified	Nigel Ireland	EFF	116 437	Retic
C13.86077-F1	Bulk Sewer (Housing Projects)	External	4 NT USDG	6 154 638	2 698 375	117 242	-2 581 133	6 154 638	1 211 022	20 %	-4 943 616	-80 %	1 378 814	Other - Please specify	Nigel Ireland	CGD	167 792	Retic
C13.86078-F1	Bulk Water (Housing Projects)	External	4 NT USDG	9 960 506	2 285 891	218 495	-2 067 396	9 960 506	6 094 044	61 %	-3 866 462	-39 %	7 854 338	Project delayed due to contractor/vendor underperformance / supply constraints	Nigel Ireland	CGD	1 760 294	Retic
C13.86083-F1	Tools,Sundry,Equip :Additional Flt Maint.	Internal	1 EFF	65 000	0	18 920	18 920	65 000	58 624	90 %	-6 376	-10 %	58 624	Project completed - Savings identified	Bert Correia	EFF	0	EAM
C13.86085-F1	WS contingency provision - Insurance	Internal	2 REVENUE: INSURANCE	150 000	150 000	0	-150 000	150 000	0	0%	-150 000	-100 %	0	Other - Please specify	Albertus Van Zyl Saayman	REVENUE	0	Fin
C13.86086-F1	IT:System,Infrastruct Equip: Additional	Internal	1 EFF	6 798 000	1 445 606	1 693 390	247 784	6 798 000	5 924 341	87 %	-873 659	-13 %	5 924 341	Other - Please specify	Ashraf Arendse	EFF	249 044	SPT

C13.86088-F1	Stormwater Ingress Systems (WDM)	Internal	1 EFF	470 000	100 000	338 237	238 237	470 000	464 857	99 %	-5 143	-1%	464 857	Project completed - Savings identified	Collin Mubadiro	EFF	0	WDM
C13.86090-F1	Informal settlements water installations	Internal	1 EFF	2 000 000	500 000	62 964	-437 036	2 000 000	719 131	36 %	-1 280 869	-64 %	2 000 000	Project completed - Savings identified	Tertius De Jager	EFF	1 270 188	Retic
C13.86091-F1	Water Meters (Retic)	Internal	1 EFF	1 200 000	700 000	692 041	-7 959	1 200 000	1 091 169	91 %	-108 831	-9%	1 200 000	Project completed - Savings identified	Mogamat Nazeem Marlie	EFF	0	Retic
C13.86091-F2	Water Meters (Retic)	External	4 PRIVATE SECTOR FIN	10 000 000	822 461	150 069	-672 392	10 000 000	9 856 201	99 %	-143 799	-1%	10 000 000	Project completed - Savings identified	Mogamat Nazeem Marlie	CGD	44 218	Retic
C13.86092-F2	Development of Additional Infrastructure	Internal	3 AFF: Water	9 235 000	2 784 073	2 447 164	-336 909	9 235 000	7 116 619	77 %	-2 118 381	-23 %	7 900 000	Other - Please specify	Kevin Balfour	CRR	1 445 345	BW
C13.86094-F1	Upgrading of Sewer Connection Erf 267	Internal	3 AFF:WardAllocation	130 000	0	0	0	130 000	130 000	100%	0	0%	130 000	Project completed - Savings identified	Randall John Josephs	CRR	0	Retic
C13.86096-F1	Water Projects as per Master Plan	Internal	1 EFF	6 000 000	823 992	440 995	-382 997	6 000 000	5 792 884	97 %	-207 116	-3%	5 797 686	Project completed - Savings identified	Nigel Ireland	EFF	0	Retic
C13.86097-F1	Replacement of Radio	Internal	2 REVENUE: INSURANCE	7 139	0	0	0	7 139	0	0%	-7 139	-100 %	0	Project completed - Savings identified	Eduaan Albertyn	REVENUE	0	Retic

C13.86098-F1	Completion of Market Facility (Ward 97)	Internal	3 AFF:WardAllocation	61 630	30 630	0	-30 630	61 630	0	0%	-61 630	-100 %	61 630	Project completed - Savings identified	Tertius De Jager	CRR	61 553	Retic
C13.95014-F1	Treated Effluent: Infrastructure Upgrade	Internal	1 EFF	13 850 000	5 286 788	3 541 690	-1 745 098	13 850 000	10 006 326	72 %	-3 843 674	-28 %	13 503 750	Project completed - Savings identified	Collin Mubadiro	EFF	3 843 674	WDM
				68934727 1									62291783 5					

15. NON-FINANCIAL PERFORMANCE

Table 43**:** 2012/2013 Water and Sanitation Department SDBIP – 4th Quarter performance