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Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

WorleyParsons
resources & energy

SUPPORT TO THE CONTINUATION OF THE WATER RECONCILIATION STRATEGY FOR THE WESTERN CAPE WATER SUPPLY SYSTEM

STRATEGY STEERING COMMITTEE MEETING #10

DATE: 28 AUGUST 2013 TIME: 08H30 – 15H00

VENUE: DWA REGIONAL OFFICE, BELLVILLE – 2ND FLOOR BOARDROOM, SPECTRUM BUILDING, VOORTREKKER RD

CHAIR: MR LIVHUWANI MABUDA, DWA CD: IWRP

ATTENDEES:

NAME		AFFILIATION	
Livhuwani Mabuda	LM	DWA CD: IWRP	
Johan van Rooyen	JvR	DWA D: NWRP	
Isa Thompson	IT	DWA D:NWRP	Study Manager
Tendani Nditwani	TN	DWA D:NWRP	
Dr Beason Mwaka	BM	DWA D: WRPS	
Elias Nel	EN	DWA D: WRPS	
Paul Herbst	PH	DWA D: WUE	
Rashid Khan	RK	DWA RO Bellville	Chief Director
Ashia Petersen	AP	DWA RO Bellville	
Boniswa Hene	BH	DWA RO Bellville	After lunch
Wilna Kloppers	WK	DWA RO Bellville	
Simphiwe Mashicila	SM	DWA RO Bellville	Water Sector Support
Anneke Schreuder	ASch	DWA RO Bellville	Berg WMA
Bayanda Zenzile	BZ	DWA RO Bellville	Groundwater
Mike Smart	MS	DWA RO Bellville	Groundwater
Nthungeni Nkhetheni	NN	DWA RO Bellville	
Antony Brutus	AB	DWA RO Bellville	
Paul Rhode	PR	City of Cape Town	Bulk Water
Peter Flower	PF	City of Cape Town	Bulk Water
Zolile Basholo	ZB	City of Cape Town	WC/WDM
Collin Mubadiro	CM	City of Cape Town	WC/WDM
Izak Toerien	IzT	D: Local Government	
Andre Roux	AR	Dep. of Agriculture	
Peter Keuck	PK	Dep. of Agriculture	
Willie Enright	WE	Berg WUA	
Rowena Hay	RH	Umvoto Africa	

Dr Kornelius Riemann	KR	Umvoto Africa	Study Leader
Jaco Human	JH	Worley Parsons	Team Leader
Olivia Davis	OD	Umvoto Africa	Study Secretariat

APOLOGIES:

NAME		AFFILIATION	
Fanus Fourie	FF	DWA D: WRPS	
Dewald Coetzee	DC	DWA D: NWRI	
Bertrand Van Zyl	BvZ	DWA D: NWRI	
Arne Singels	AS	CCT Bulk Water	
G Paulse	GP	D: Local Government	
Niel Muller	NM	Human Settlement	
Chris Rabie	CR	DEA&DP	
Catherine Bill	CB	DEA&DP	
Jan van Staden	JvS	Breede-Overberg CMA	
WD Bourbon-Leftley	B-L	Berg WUA	
Nic Faasen	NF	West Coast DM	

MINUTES

ITEM	DETAIL	ACTION	TIME
1	Welcome and Introduction LM opened the meeting with a round of introduction. He then explained that the purpose of this meeting is to get this Strategy Steering Committee running again after the long hiatus of nearly two years. The task of the Steering Committee is to monitor the implementation of the Reconciliation Strategy and to guide the different stakeholders towards achieving the objectives of the strategy; i.e. ensure the sustainable availability of water resources to meet the growing water requirements of the users supplied by the Western Cape Water Supply System, which include the City of Cape Town, other municipalities and the agricultural sector.		
2	Attendance and Apologies Attendance and noted apologies were captured on the attendance register.		
3	Acceptance of Agenda The draft agenda was accepted.		
4	Approval of Minutes of Meeting No. 9 (15 November 2011)		
4.1	The minutes of the last SSC Meeting No. 9 of 15 November 2011, prepared by the previous PSP, were approved.		
4.2	The matters arising from the previous minutes that are not covered under the following agenda items had been itemised and attached to the agenda. It was confirmed that all matters have been dealt with.		

ITEM	DETAIL	ACTION	TIME
5	Aspects that affects the WC WSS		
5.1	Water Conservation and Water Demand Management (WC/WDM)		
5.1.1	Report on CCT's progress with WC/WDM CM presented on the progress of the CCT's WC/WDM measures and their updated WDM Strategy (see attached presentation). The main elements and discussions are summarised below: The updated strategy comprises 5 goals to be achieved by 2015/2016: • minimizing water losses (apparent losses and real losses) to 15% of system input, • decreasing non-revenue water (losses plus unbilled use) to below 20%, • limiting growth of water use to be under 3% per annum, • ongoing effective management, • mobilise resources according to WDM Strategy. There has been an improvement in reducing water losses and non-revenue water since 2011. Cumulative savings since 2007 were >60% of what was anticipated to be achieved by 2011. The above mentioned 2015/2016 targets from the updated Strategy have been met in 2012/2013. The success is due to several interventions; e.g. meter replacements, pressure management and leak detection.. CCT also supplies neighbouring municipalities with water, which are implementing their own WDM Strategies. The 2013 WDM Strategy provides a detailed programme and budget for ongoing WDM measures up to 2020/2021. These include: • leak detection and improvement of data accuracy. • replacement of old water meters • smart water meters for people who are already in debt • treated effluent use • measures to address WC/WDM education and awareness. The CCT gets many requests for use of treated effluent from golf courses, schools and industries due to the competitive price and new water scarcity consciousness. Water re-use already provides good revenue but it is planned to change the tariff structure for supply of treated effluent so that the users pay fully for the cost of the supply (i.e. the intervention pays for itself). The CCT introduced a programme to get qualitative information on perception and behaviour, and actual water consumptions for particular areas. The water use prior to and after awareness campaigns and implementation of other interventions is measured to evaluate the success of interventions. E.g. Simon's Town had a high water use in summer. Interventions in schools, with community members and in libraries dropped the consumption by 60% during the subsequent high consumption season.		

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	PH queried about the implementation and acceptance of smart water meters as they restrict the available water for use. PF replied that for people that are not paying for their water use and are in arrays the CCT offers the option to write off their debt if they get new smart meters installed. This is taken up positively. The CCT has dedicated water conservation teams for education and awareness campaigns. PF concluded that the CCT has done much better than other metros in terms of successful implementation of WC/WDM measures.		
5.1.2	WC/WDM in the agricultural sector AR gave a presentation on the Fruitlook project that supports the agricultural sector with implementing water use efficiency measures (see attached presentation). Water use efficiency in the agricultural sector can be measured by crop yield per unit volume of water; i.e. either the same crop yield and using less water or produce more crops using the same volume of water. Fruitlook provides information on 9 growth parameters per registered plot, using satellite imagery: evapotranspiration deficit, crop factor, biomass developed, biomass-water-use efficiency, nitrogen content etc. The effects of global warming results in higher temperatures and more extreme events such as bigger floods and longer droughts. Hence, the agricultural sector needs to adapt to the changing environment and improve their water use efficiency. RK requested that the agricultural sector (farmers) indicate to the DWA their targets with respect to savings from implementing WC/WDM measures and whether they actually save any water. He mentioned that the water allocations for irrigation farmers will probably not be increased in the future, except for allocations to resource poor farmers to bring the total irrigation allocation up to the capped volume.		
5.2	Other Nothing to report		
6	Update of Reconciliation Strategy		
6.1	Status November 2011 KR gave an overview of the WCWSS and the situation as reported in the last Status Report of November 2011. The critical elements observed were high water requirement growth, with limited WC/WDM successes shown for the report year. The developed reconciliation scenarios indicated that the next water augmentation intervention should be in place to provide water by 2019. A decision about the next scheme was required by 2013.		
6.2	Status July 2013 KR then presented a preliminary analysis of the current status. The planning tool for the WCWSS was updated with the 2011/2012 and 2012/2013 actual water usage figures. The CCT used a 3.38% high growth projection in their June 2013 WDM Strategy and up to 2011a 3.01% high growth projection was used in the WCWSS planning tool for the scenario development. Some of the studies identified in the November 2011 Status Report were delayed, which would impact on the time when water could become available.		

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	The feasibility study for the surface water options identified the Voëlvlei Augmentation Phase 1 as being the more favourable. However, the yield was reduced from 35 million m^3/a to 23 million m^3/a. With a high growth of 3% and successful implementation of WC/WDM measures by the CCT, the next water augmentation scheme would be required by ~2020 and the scheme after that by ~2023. He expressed the concern that based on the current information only the Voëlvlei Phase 1 Augmentation Scheme would be available for implementation. JvR responded that three possible interventions were identified in 2011 to be ready for implementation by 2019; i.e. Voëlvlei Phase 1, water re-use and desalination. Hence, there should be no concern as yet. KR indicated that the difference in the interpretation of the current status is mainly due to a discrepancy in the lead times required for implementation of an intervention. It was agreed that the lead times for all relevant interventions will be updated by the team with support by the ATSG. Additional time is necessary by the CCT to complete the desalination and the water re-use feasibility studies. The cost-benefit analyses for all the schemes are not yet done. A decision can probably be taken next year at the same time on the most feasible option for water augmentation, once the other two studies were completed.	PSP	
7	Monitoring the Progress with the WC WSS		
7.1	Progress with current studies: CCT PF presented on overview of the CCT's current water supply and future plans (see attached presentation). He reiterated that the CCT has reduced water requirements over the last two years in absolute terms and will try to keep the future growth in water requirements below 2%. He explained that they used two different approaches to estimate when the next intervention would be required; i.e. growth in annual water consumption and growth in peak week water requirement. Taking the current peak week figure and projecting it forward, the CCT would meet the current infrastructure capacity at the same time (~2024) as a new intervention would be required to augment the supply. He emphasised that this is purely the CCT's perspective and does not include the other water requirements on the WCWSS. He concluded that there is enough time to make decisions regarding the next intervention. It is not as tight as it was in 2011.		
7.1.1	Water re-use feasibility study PR reported that the CCT issued a tender for a feasibility study on water re-use (potable standard) earlier this year. The nine tenders received are being evaluated, hence, the study should commence in November 2013 and will probably take 12 months to complete. Information on potential size, costs, the location and uses should become available early in 2014 or towards the middle of the year.		

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	The estimated volume of water available for potable use will be between 20 and 40 million m³/annum. All of the CCT's WWTWs will be investigated (current re-use practices and volume of water available). A full feasibility study will be done for two of the most favourable schemes (up to preliminary designs).		
7.1.2	Desalination feasibility study PR reported that WorleyParsons were appointed in July 2012 to conduct the desalination feasibility study. Two possible schemes are being investigated up to feasibility level. The contract period is 12 months but will take 6 months longer than anticipated, thus until December 2013. Two possible sites have been identified, one of which is at the Koeberg Power Station (ESKOM). The design capacity of the plant will be 150 Ml per day, with the possibility of upgrading it with a further two phases up to 450 Ml per day, but they will have to size the abstraction works for the final capacity. The use of the ESKOM site and marine infrastructure could result in possible savings of about a billion Rand for the CCT. PR concluded that the final report from WorleyParsons is expected by December 2013 (Preliminary designs and cost estimates) after which a decision about the site selection and way forward can be taken.		
7.1.3	TMG Aquifer feasibility study PR stated that the TMG aquifer feasibility study comprises 4 phases. The exploratory phase has been concluded in 2012, but the City has encountered legal complications about how to proceed with the project and current appointment after receiving conflicting legal opinions. The CCT intends to continue with the project and to proceed with the Pilot Phase, which is expected to run for 5 to 6 years. The pilot well field is designed for 5 million m^3/a. The ecological and hydrogeological monitoring continues and will run parallel with the Pilot Phase.		
7.1.4	Cape Flats and Newlands aquifers feasibility study PR stated that it is becoming more unlikely that the CCT will be able to use the Cape Flats or Newlands aquifers as part of the future water augmentation. Assessing the feasibility for utilizing the Cape Flats Aquifer for storage of treated effluent is part of the water re-use feasibility study. However, the City does not plan to undertake a feasibility study to investigate the potential of the Cape Flats for augmenting their water supply, but rather a situation assessment whether water supply from the Cape Flats is still an option, given the water quality and land use issues. Numerous studies were already done on the Cape Flats by various Departments. It was agreed that Umvoto will undertake the desktop Situation Assessment as part of the technical support for the SSC.	Umvoto	
7.1.5	Lourens River Diversion feasibility study PR stated that it is becoming more unlikely that the CCT will be able to develop the scheme to augment the water supply. The proposed scheme is a weir with an earth off-channel dam. Water quality in		

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	the river has long been a problem and is difficult to control. The area for the earth dam that was identified previously has become part of a housing development. The tender call for a feasibility study will be published early in 2014. It is estimated that the study will take 6 – 8 months to complete.		
7.2	Progress with current studies: DWA		
7.2.1	Surface water feasibility studies IT provided feedback on the surface water feasibility studies on behalf of Menard Mugumo (D:OA): Based on the feasibility investigations, the First Phase Augmentation of Voëlvlei Dam was selected as the best surface water option which now needs to be compared with the non-surface water options being investigated by the CCT. The incremental yield of the scheme was found to be 23 million m^3 at a level of assurance of supply of 98% (1 in 50 years failure). The unit reference value (URV) of the water was estimated to be R1.52/m^3 at a social discount rate of 8% per annum. The environmental impact assessment for the First Phase Augmentation of Voëlvlei Dam is expected to start before the end of 2013. If environmental authorization is obtained by early 2015, it should be possible to commission the scheme by 2019, the initial date by when augmentation of the WCWSS was required.		
7.2.2	Langebaan Road Aquifer Artificial Recharge scheme IT reported on behalf of FF that a second feasibility study will be undertaken to relook at different methods and different sites, because the first pilot study did not work out as anticipated. The project could not start yet due to procurement issues.		
7.2.4	WC WSS Annual Operating Analysis and Real-time Project IT reported that the Western Cape WSS Annual Operating Analysis and Real-time Project (AOA RTP) is on track. It is a three year project, with one year still to go. A decision support system has been established and a website developed. The website will give an indication of the status of the system at various points. The system allows for the correct volume of water to be released, in order to meet the ecological Reserve requirements.		
7.3	Other Municipal Studies		
7.3.1	Drakenstein Municipality JH reported that the municipality tries to be less dependent on the CCT for potable water supply. They are going to use raw water and treat it themselves. Water losses are relatively low at 11.9% in 2011/2012 and 12.4% in 2012/2013 and they have reduced non-revenue water and water losses over the last 10 years due to active WDM being implemented. Based on a previous study 4 years ago the municipality decided to use more water directly from the Berg River for Wellington and Paarl. A new 8 Ml/day WTW was built on Paarl Mountain (Meulwater WTW) for this purpose. The total water requirement has dropped a lot over the last 10 years.		

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7.3.2	Witzenberg Municipality		
	The towns in the Witzenberg LM are not part of the system, but share the same resource area. Tulbagh and Wolseley get their water from the Klein Berg, while Ceres and Prince Alfred Hamlet sit in the Upper Breede catchment, which is still earmarked for a possible transfer scheme into the Klein Berg (Michell's Pass diversion). The municipality have high water losses and non-revenue water of above 40%. This needs to be addressed by the WC RO.	SM	
7.3.3	Stellenbosch Municipality		
	WorleyParsons investigated the source augmentation options available to the various towns in Stellenbosch Municipality's Management Area about two years ago. The Municipality however struggle to make the quarterly water balance data available to the DWA on a regular basis. They also have serious challenges as regards water quality problems, especially in the Plankenburg River.	SM/DD	
7.3.4	West Coast District Municipality		
	JH reported that the West Coast DM is the bulk water supplier for Swartland LM, Saldanha Bay LM and parts of Bergrivier LM. The current water use exceeds their allocation of 23 million m^3/a. They are investigating the feasibility of a desalination plant at Danger Bay, which would cost R500 million. However, the funding of the capital costs is the problem. The water losses of the bulk water supply system and the reticulation systems of the local municipalities are very low, as the municipalities are active with water loss reduction.		
7.4	Other relevant Studies		
7.4.1	All Towns Reconciliation Strategy Continuation		
	IT reported that the continuation of the All Towns Reconciliation Strategy Study commenced last year. The study will update the information and the strategies as and when required. Priorities are the towns with water resource problems. An annual status report of the situation in different municipalities will be produced in October 2013.		
7.4.2	WesCape development		
	IT asked the CCT's representatives about the status of the proposed WesCape development. PF responded that they do not have more information. The Bulk Water department is against this development, as meeting the additional water requirements would be a challenge. The proposed development also falls outside the urban edge of the CCT. IT requested feedback from the CCT at the next SSC meeting.	CCT	
7.4.3	WRC Projects		
	KR reported that an up-to-date list of current WRC projects is not readily available. However, he undertook to prepare a list of current projects that will be of wider relevance to this study. All members were asked to inform the team of studies that they are aware of or are involved in. The list will be distributed as part of the Minutes.	All	

ITEM	DETAIL	ACTION	TIME
8	Communication		
8.1	Interaction on Provincial Level RK stated that the last scheduled meeting of the Provincial Liaison Committee (PLC) was cancelled. He intends to change the strategic direction of the PLC. A letter was drafted to the Office of the Premier. The Strategic Objectives of the various Departments need to be aligned. The TOR for the PLC were also distributed to the other Departments. The DWA needs to be aware of what the other Departments are planning, which could possibly impact on the water requirements of the WCWSS.	KR	
8.2	Communication with general public IT said that the stakeholders as well as the general public will be informed about the progress and situation via the regular media release by the DWA and the CCT after the SSC meeting. The media release will be based on the approved 2013 Status Report that will be finalised by the PSP based on the input provided at this meeting. The draft Status Report will be distributed to the ATSG members within the next two weeks. Further input and the process for review and submission of the status report will be discussed and agreed upon by the ATSG.	PSP	
9	Administrative and Technical Support Group Feedback		
9.1	Report from ATSG Meeting 12 June 2013 Nothing else to report as everything was covered in items above.		
9.2	Berg River Water Quality Task Team AS reported that the Berg River Water Quality Task Team is active and has implemented a monitoring programme as well as plans for improving the water quality. Water Resource Quality Objectives were also finalised. The task team is supported by all spheres of government; i.e. DWA, provincial departments, local government; and water users within the Berg River catchment. The Berg River Monitoring Programme is driven by DWA and the Berg River Improvement Plan by DEA&DP. The Berg River Improvement Plan has a budget of R13.5 million for this financial year. The DWA also wants to expand the programme in the future to the Breede and Olifants / Doorn Catchments.		
10	General Nothing to report		
11	Next meeting of SSC and Closure The next meeting of the Strategy Steering Committee is scheduled for 9 April 2014. The venue of the meeting will be confirmed closer to the time. The team will liaise with AR of Agriculture or PF of the CCT for a suitable venue. LM thanked everybody for their contribution and closed the meeting at 15:00.	PSP	

SIGNATURE ORIGINATOR

Umvoto Africa | Date

SIGNATURE DEPARTMENT OF WATER AFFAIRS

CD: IWRP | Date

ATTACHMENTS:

- Presentation by Andre Roux
- Presentation by Collin Mubadiro
- Presentation by Peter Flower
- List of current WRC projects

DISTRIBUTION LIST:

ORGANISATION	MEMBER	POSITION
Western Cape Provincial Government		
Department Agriculture	André Roux	Chief Director
	Peter Keuck	Chief Engineer
DPLG and Housing	Niel Muller	
	Emmanuel Muanza	
Cape Nature	Pierre de Villiers	
DEA&DP	Chris Rabie	- Planning Branch
	Joy Leaner	
	Catherine Bill	
	Zaahir Toefy	- Environmental Branch
Local Government	Dr Hildegarde Fast	
	Izak Toerien	
	G Paulse	
Local Authorities		
City of Cape Town	Peter Flower	Director Bulk Water
	Paul Rhode	- Bulk Water
	Kevin Samson	- Waste Water
	Zolile Basholo	Director WDM & Strategy
	Collin Mubadiro	
	Jaco de Bruyn	- WC/WDM
West Coast DM	Nic Faasen	
	Henk Matthee	
Cape Winelands DM	Francois van Eck	
Drakenstein	Andre Kowalewski	
Stellenbosch	Dries van Taak	
	Esias de Jager	
	Brett Keyser	
Witzenberg	Nathan Jacobs	
Bergrivier	Jaco Breunissen	
Department of Water Affairs		
Regional Office	Rashid Khan	Chief Director
	Ashia Petersen	Director Institutional Establishment
	Anneke Schreuder	
	Boniswa Hene	Director Regulatory Support
	Wilna Kloppers (alt)	
	Simpiwe Mashicila	Manager Water Sector Support
	Zenzile Bayanda (alt)	- Groundwater
Chief Directorate: Integrated Water Resource Planning (Head Office)		
- Chief Director	Livhuwani Mabuda	Chairperson
- National Water Resource Planning	Tendani Nditwani	Acting Director
	Isa Thompson	CE: South
- Options Analysis	Menard Mugumo	CE: South

ORGANISATION	MEMBER	POSITION
- Water Resource Planning Systems	Dr Beason Mwaka	Director
	Elias Nel	- Int Hydrological Planning
	Fanus Fourie	- Groundwater Planning
	Jenny Pashkin	- Systems operation
- Water Use Efficiency	Paul Herbst	Director
	Nosipho Sombane (alt.)	
- Climate Change	Dr Smangele Mgquba	Director
Water Resources Infrastructure: Southern Operations (EC & WC)		
- Operations	Dewald Coetzee	Director
	Bertrand van Zyl	
CMAs		
Berg - Olifants-Doorn	Derril Daniels	
Breede - Gouritz	Phakamani Buthelezi	
	Jannie van Staden	
WUAs / IBs		
Berg WUA	Willie Enright	
	WD Bourbon-Leftley	
Sentraal-Breede WUA	Louis Bruwer	
Winelands WUA		
PSP		
Umvoto Africa	Kornelius Riemann	
	Rowena Hay	
	Olivia Davis	Project Secretariat
WorleyParsons	Jaco Human	