



## water affairs

Department:  
Water Affairs  
REPUBLIC OF SOUTH AFRICA

PROJECT INFORMATION	
CLIENT	DEPARTMENT OF WATER AFFAIRS
PROJECT	WATER REQUIREMENTS AND AVAILABILITY RECONCILIATION STRATEGY FOR THE MBOMBELA MUNICIPAL AREA
MEETING	TECHNICAL SUPPORT GROUP MEETING NO.5
DATE	7 DECEMBER 2012
TIME	10:00 HRS
VENUE	AURECON CENTRE, LYNNWOOD BRIDGE OFFICE PARK, PRETORIA

### Draft Minutes

1	<b>OPENING AND WELCOME</b> Mr Niel van Wyk (NvW) formally opened the meeting and welcomed all attendees.		
2	<b>INTRODUCTION OF ATTENDEES</b>		
2.1	<b>Present</b>		
	<b>Person Attending</b>	<b>Contact No.</b>	<b>E-mail Address</b>
	Dawie Koekemoer (Aurecon)	012 427 3125	<a href="mailto:dawie.koekemoer@af.aurecongroup.com">dawie.koekemoer@af.aurecongroup.com</a>
	Willem Wegelin (WRP)	083 447 7999	<a href="mailto:willemw@wrp.co.za">willemw@wrp.co.za</a>
	Paul Odendaal (IWR)	073 163 4073	<a href="mailto:paul@waterresources.co.za">paul@waterresources.co.za</a>
	Ernest Kubayi (DWA: RBIG)	013 759 7306	<a href="mailto:kubayie@dwa.gov.za">kubayie@dwa.gov.za</a>
	Sampie Shabangu (DWA: MPU)	013 759 7500	<a href="mailto:shabangus2@dwa.gov.za">shabangus2@dwa.gov.za</a>
	Marius Kolesky (ICMA)	013 753 9000	<a href="mailto:koleskym@inkomaticma.co.za">koleskym@inkomaticma.co.za</a>
	Johnny Beumer (Aurecon)	082 885 3573	<a href="mailto:johnny.beumer@aurecongroup.com">johnny.beumer@aurecongroup.com</a>
	Roy Tombs (Sembcorp-Silulumanzi)	083 746 0930	<a href="mailto:roy.tombs@sembcorp.com">roy.tombs@sembcorp.com</a>
	Niel van Wyk (DWA: NWRP)	082 808 5651	<a href="mailto:vanWykN@dwa.gov.za">vanWykN@dwa.gov.za</a>

2.2	Apologies		
	Kennedy Mandaza (DWA: NWRP)	012 336 7670	<a href="mailto:MandazaK@dwa.gov.za">MandazaK@dwa.gov.za</a>
	Manda Hinsch (SRK)	082 808 9938	<a href="mailto:hinm@srk.co.za">hinm@srk.co.za</a>
	Brian Jackson (ICMA)	078 457 7639	<a href="mailto:jacksonb@inkomaticma.co.za">jacksonb@inkomaticma.co.za</a>
	Geert Grobler (DWA:WRPS)	012 336 8691	<a href="mailto:groblerg@dwa.gov.za">groblerg@dwa.gov.za</a>
	Tendai Sawunyama (IWR)	076 628 0240	<a href="mailto:tendai@waterresources.co.za">tendai@waterresources.co.za</a>
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	Radingwana Mahubila (BBR WB)	076 430 3189	<a href="mailto:radingwanae@bbrwater.co.za">radingwanae@bbrwater.co.za</a>
	Stephen Mallory (IWR)	083 415 7223	<a href="mailto:stephen@waterresources.co.za">stephen@waterresources.co.za</a>
	Johann van Aswegen (DWA:MPU)	082 807 4198	<a href="mailto:vanaswegenJ@dwa.gov.za">vanaswegenJ@dwa.gov.za</a>
	Arthur Douglass (SembCorp-Silulumanzi)	013 752 6839	<a href="mailto:arthur.douglass@sembcorp.com">arthur.douglass@sembcorp.com</a>
	Khumbu Moyo (DWA: WUE)	012 336 8293	<a href="mailto:MoyoK@dwa.gov.za">MoyoK@dwa.gov.za</a>
3	ADOPTION OF AGENDA		ACTION
3.1	Approval of Agenda		
	<p>Brian Jackson requested that an item be added to the Agenda to discuss additional work that will have to be done under a Continuation Study.</p> <p>This was added to the Agenda after Section 7.</p> <p>The Agenda was otherwise adopted without amendments, although NvW proposed that the Agenda be followed very flexibly to accommodate relevant or important discussions if and as appropriate.</p>		

<p><b>4</b></p> <p><b>4.1</b></p>	<p><b>ACCEPTANCE OF THE PREVIOUS MINUTES</b></p> <p>The name of Manda Hinsch was incorrectly written on the previous minutes.</p> <p>The previous minutes were accepted without further comments.</p>	<p><b>ACTION</b></p>
<p><b>5</b></p> <p><b>5.1</b></p> <p><b>5.2</b></p> <p><b>5.3</b></p> <p><b>5.4</b></p>	<p><b>MATTERS ARISING FROM THE PREVIOUS MINUTES</b></p> <p><b>p3. (Item 5.6)</b>(Silulumanzi’s Groundwater Report on the extent of pollution of boreholes in Nsikazi):Dawie Koekemoer (DK) reported that no copy of the groundwater report could be found and that the matter remains unresolved.</p> <p>Roy Tombs confirmed that pollution of shallow boreholes was a problem, but had no knowledge of a report on the matter.</p> <p><b>NvW said that the matter remains unresolved at present, but noted that it should be kept on record in case further information on the matter were to come to light.</b></p> <p><b>p4. (Item 6.2)</b>Posting of information online.</p> <p><b>p6.</b>Format in which data is to be reported (Impact of trading of water on GDP in various economic Sectors).DK confirmed that it has been addressed.</p> <p><b>p6.</b> Quantifying impacts on secondary sectors when proposing trading of water. DK confirmed that it has been addressed.</p>	<p><b>ACTION</b></p> <p><b>No action recommended, but the matter is to be kept on record</b></p> <p><b>Completed</b></p> <p><b>Completed</b></p> <p><b>Completed</b></p>

5.5	<b>p8.</b> Updating 2009 Socio-Economic findings; incorporate 2011 Data.	<b>Completed</b>
5.6	<p><b>p9.</b>Water Quality Sampling in the Upper Elands; also, obtaining water quality sampling information from SAPPI, if they are willing to make it available.</p> <p>The ICMA needs to take note of this, for future reference. Geert Grobler (GG) and MandaHinsch (MH) confirmed that this matter will be addressed in in the Final Report and no further action is required here.</p>	<b>Completed</b>
5.7	<p><b>p11. (Item 6.4)</b> Communication between the Study Team (MH) and Silulumanzi (Arthur Douglass (AD)) on exchanging information on water quality of municipal boreholes.</p> <p><b>Roy Tombs confirmed that he'd sent borehole quality data to Johnny Beumer (JB) and DK via e-mail. Neither has received it by the time of the meeting. This has to be followed up on.</b></p>	<b>RT / JB / DK / MH</b>
5.8	<p><b>p13.</b>Including representatives of Irrigation and Forestry when assessing regional institutional capacity.</p> <p>NvW agreed that, given the magnitude of these sectors and their potential impact / influence on water resources, it seems sensible to include them in any assessment of institutional capacity.</p> <p><b>Geert Grobler (GG) mentioned that the WRC was busy with a project on institutional capacity. Tendai Sawunyama (TS) should follow up on this, since some of the proposed work might have been done already and obtaining this information will avoid duplication of effort.</b></p> <p>The contact person at the WRC is Inge Jacobs (who took over from Heidi Snyman).</p>	<p><b>SM / TS – Ongoing</b></p> <p><b>TS</b></p>
5.9	<b>p15.</b> Various technical matters had to be followed up on. JB confirmed that these will be discussed during the course of the meeting and this item is not addressed further here.	<b>Completed</b>

<p><b>5.10</b></p> <p><b>5.11</b></p>	<p><b>p16. (Item 6.8)</b>Possible Reconciliation Options: Investigating Strathmore Dam as a possible reconciliation option.</p> <p><b>This will have to be followed up with Stephen Mallory (SM), who was not present at the 7 December meeting.</b></p> <p><b>p16. (Item 6.8)</b> Investigating another dam site in the Elands River, upstream of the envisaged Montrose Dam, as a logistically simpler and financially more practical alternative to Montrose Dam.</p> <p><b>This has not been done yet, according to DK.</b> NvW noted that, while such a dam had been mooted long ago, no dam site has ever been finalized, as far as he was aware. Being informed that the proposed dam is believed to lie in a tributary of the Elands and not the Elands itself, NvW questioned whether such a dam will provide sufficient yield to make such a project economically feasible.</p> <p>JB confirmed that it was in a tributary, but that the envisaged yield would be comparable to that of Ngodwana Dam.</p>	<p><b>SM</b></p> <p><b>DK</b></p>
<p><b>6</b></p>	<p><b>COMMENTS OF THE FOCUS GROUP ON THE PRELIMINARY RECONCILIATION STRATEGY</b></p> <p>JB provided a brief introduction to this Item.</p> <p>During the course of the previous SSC meeting, it was proposed that there should be a Focus Group, consisting of selected stakeholders, who will comment on the Preliminary Reconciliation Report.</p> <p>A meeting of this Focus Group was held on the 29<sup>th</sup> November in Nelspruit during the course of which the Preliminary Strategy was discussed and various proposals made / concerns highlighted.</p> <p>JB proposed that the TSG should use the 7 December TSG meeting to work through the comments and decide on how the comments should be incorporated into the Study. Some of the comments should, where possible and practical, be incorporated into the Preliminary Study. However, JB proposed that other comments should rather be carried over to the Final Report, since continuously updating and changing the Preliminary Report will eventually eliminate the need for a Final Report.</p>	<p><b>ACTION</b></p>

	<p><b>The document containing the comments is, because of its bulk, not appended to these minutes. The full document will, however, be made available at <a href="http://www.dwa.gov.za/Projects/WRAR">http://www.dwa.gov.za/Projects/WRAR</a>)</b></p> <p>NvW asked who attended this Focus Group meeting.</p> <p>TS answered that between 10 and 12 people attended.</p> <p>NvW noted that he felt that, for such an important meeting, with fairly important decisions being made, the Study Leader ought to have been involved but he agreed that the 7 December TSG meeting be used to discuss the comments made by the Focus Group.</p> <p>Comments are referenced by the following abbreviations (as were used in the appended document).</p> <p>G for General Comments, applicable to all Mbombela's demand centres.  NS for comments applicable to Nsikazi South  KP – KarinoPlaston  Nel – Nelspruit  M – Matsulu  WR – White River  HV – Hazyview</p> <p>Comments are noted in these Minutes only when discussed in further detail than in the source document or where a decision was made regarding it.</p> <p><b>G1</b> The Focus Group expressed its unhappiness with implications in the Preliminary Report that no progress has been made with regards to Water Use Efficiency when, in fact, WC/WDM initiatives are already being implemented in several of the Demand Centres.</p> <p>Roy Tombs (RT) specifically mentioned that Sembcorp-Silulumanzi (Silulumanzi) has, as long as 2 years ago, submitted a 5-Year Business Plan to DWA, with a Test Run of the Plan in KaNyamazane. RT stated that they are making progress in this matter and, while he acknowledged that progress is not as rapid as they would have preferred, delays are often caused by factors outside their own control.</p> <p>Specifically, Silulumanzi doesn't have the authority to enforce decisions or policies. RT felt that, being blamed for failures when the responsibility lies elsewhere is unnecessarily harsh.</p>	
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	<p>the norm elsewhere.</p>	
<b>G3</b>	<p>The Focus Group requested a copy of the Final Strategy as long as a month before general distribution, to allow it to study the Final Report and comment on it.</p> <p>NvW agreed that the Study Team would like to cooperate with everybody but that the Study Team is under tremendous time pressure. Better coordination of collaboration between all Stakeholders might reduce, or even eliminate the justification for such a request, which will in turn reduce delays in finalizing the Final Report.</p> <p>RT noted that, speaking for himself, and following the Focus Group meeting of 29 November 2012, he is feeling slightly more comfortable with the process and an accommodation between the Focus Group and the Study Team on Item G3 might be possible.</p> <p><b>This issue was resolved by deciding on a TSG meeting on the 6<sup>th</sup> of March (Refer to 13 of these Minutes).</b></p>	
<b>NS1</b>	<p>Will be addressed in more detail under Section 7 of the Agenda.</p>	
<b>NS3</b>	<p>JB said that the Study Team has probably satisfied the Focus Group in this matter. All parties agreed that the relevant sections will need to be rephrased, though.</p> <p>NvW added that trading has political ramifications. Trading costs money and the indigent can't afford commercial trading of water. This means that a large segment of the population is automatically being excluded from a process like this. Re-allocation of water is politically more acceptable.</p> <p>JB agreed, but noted that it will involve a large amount of re-drafting to the Preliminary Report. He asked whether this should be changed in the Preliminary Report or carried over to the Final Report?</p> <p><b>NvW recommended leaving the relevant redrafting for the Final Report.</b> The Preliminary Report is only a working document and is not intended to be final and definitive.</p>	<b>JB</b>



<b>KP1</b>	Will be addressed in more detail under Section 7 of the Agenda.	
<b>KP4</b>	Will be addressed in more detail under Section 7 of the Agenda.	
<b>Nel 2</b>	<p>The Focus Group's comments related to Commercial vs. Industrial Water Use. JB noted the difficulty of making a realistic distinction between Domestic Water and Industrial Water, where both are provided from the same source by Municipal Services.</p> <p>NvW pointed that Commercial use is an extension of Domestic use and should not really be split.</p> <p>Brian Jackson disagreed, saying that a split between Domestic and Industrial Use would be quite useful. When restrictions are placed on Municipalities during periods of water shortage, it would make economic sense to treat general household use different from certain shops or certain industries.</p> <p>JB noted further that the Study Team has previously estimated municipal per capita water use to be fairly high, but much of this can be due to schools, to hospitals or to shopping centres. These users are included in Domestic Use, which may skew per capita estimates.</p> <p>The Meeting had a brief discussion on the matter, specifically on the practicality of making a realistic distinction between these water use sub-sectors. <b>No resolution was reached, but JB mentioned that he'll return to this matter later in the meeting.</b></p>	
<b>Nel 1</b>	Will be addressed in more detail under Section 7 of the Agenda.	
<b>Nel 3</b>	<p>The Focus Group wondered whether estimates of future water use should not be adjusted, given recent developments which have only recently been approved or confirmed. Examples of these are the proposed University or the new hospital.</p> <p><b>JB noted that information is not available for the University or for the Hospital for inclusion into the Preliminary Report, but it may become available in time for the Final Report. If not, it will at least be noted for the purposes of any Continuation Study.</b></p>	<b>JB</b>

<p><b>Nel 5</b></p>	<p>The Focus Group noted that large industries – MMC and Delta were specifically mentioned – periodically discharge Manganese into their sewers. This enters the Crocodile River at the Kingston Vale WWTW which then becomes a potential problem for other users lower down.</p> <p>RT noted that there is Manganese in the river even without large Municipal Industries like MMC or Delta. It is a large problem.</p> <p>DK mentioned, firstly, that the Klarespruit, where mentioned in the Comments Document, should be the Gladdespruit. He also mentioned that there is an old quarry there which leaches Manganese and so confirmed that Manganese in the river is not solely caused by large municipally based industries.</p> <p>MH went on to mention Arsenic in the Crocodile River which she'd originally believed originated from the Kaap System, but which she'd subsequently identified higher up in the Crocodile River. <b>Pollution is clearly a larger problem than had been believed and should be noted in the Final Report.</b></p>	
<p><b>Nel 6</b></p>	<p>Will be addressed in more detail under Section 7 of the Agenda</p>	
<p><b>Nel 7</b></p>	<p>The Focus Group queried the high pipe burst frequency (i.e. 100/week). JB confirmed that the figure should be 100/month and this will be amended.</p>	
<p><b>Nel 8</b></p>	<p>Will be addressed in more detail under Section 7 of the Agenda</p>	
<p><b>M1</b></p>	<p>Will be addressed in more detail under Section 7 of the Agenda</p>	
<p><b>M3</b></p>	<p>Will be addressed in more detail under Section 7 of the Agenda</p> <p>BJ just noted that there is a canal, but that this is not called the Van Graan Canal, although he's not sure what the correct name is. Van Graan</p>	

	refers to a weir further downstream. He proposed an alternative, less confusing name like Kaapmuiden Canal.	
<b>WR 1</b>	The Focus Group recommended that the future growth rates of White River should be adjusted. The currently allocated volume of 7 million m <sup>3</sup> per annum has already been allocated, albeit some of it to future development. NvW queried the volume referred to since it sounds very high for what is, after all, a relatively small town.	
<b>WR 4</b>	<p><b>He proposed to state this concern in the Preliminary Strategy, but the matter will have to be investigated in more detail in the Final Report.</b></p> <p>RT added to this by noting that Silulumanzi provides water fairly high up in the direction of Rocky's Drift, which makes the very high water use by White River more implausible.</p>	<b>JB</b>
<b>WR 4</b>	<p><b>The Focus Group expressed disagreement with the Preliminary Report's statement that the Municipal allocation from Longmere is 1.25 million m<sup>3</sup>/a. They feel it should be 1.6 million m<sup>3</sup>/a.</b></p> <p><b>This should be taken up with Debbie Turner for verification.</b></p>	<b>JB</b>
<b>HV4</b>	<p>The Focus Group pointed out that a part of Hazyview (Ward 1) will move to Bushbuckridge in 2014.</p> <p>BJ explained that the border between Mbombela and Bushbuckridge is actually not the Sabie River but lies just North of the Sabie River. A small part of Mbombela – the Ward referred to in the comment – will receive their water Hoxane. <b>The existing estimates for Hazyview will, however, be retained for the purposes of the Preliminary and Final Strategy.</b></p>	
<b>7</b>	<b>GAPS IN THE PRELIMINARY WATER RECONCILIATION STRATEGY WHICH NEED TO BE ADDRESSED IN THE FINAL STRATEGY</b>	
<b>7.1</b>	<p><b>Population Estimates for Nsikazi South, Karino, Plaston and Matsulu</b></p> <p>It was believed by the Focus Group that the population estimates,</p>	

	<p>derived from Spot Building Counts (SBC), for these three demand centres were too low (The Focus Group felt that an average of 5.4 for Nsikazi South would be more appropriate than the 4.1 used by the Study Team).</p> <p>NvW asked who performed the Spot Building Counts.</p> <p>JB responded that it was ESCOM. He noted that to redo the SBC would be a prodigiously expensive and time-consuming exercise which is not allowed by the budget or study programme. He proposed that this task rather be allocated to the Continuation Study.</p> <p>NvW agreed, saying that variation orders are very difficult to motivate and authorize. The appropriate mechanism for work of this type will be the Continuation Study.</p> <p>RT voiced a concern that existing population estimates, if too low, will skew estimates of per capita water use and, in addition, skew estimates of non-revenue water. This would invalidate certain conclusions drawn from the data and, hence, recommendations made in response to them.</p> <p>NvW agreed, but pointed out that redoing the SBC will be impractical, given the constraints of both budget and time. Some uncertainty will be accounted for in the current study through scenario planning, where different scenarios will attempt to provide some flexibility.</p> <p>Part of the problem, it was claimed by the Focus Group, was that ESCOM, during their SBC, counted only a single house per stand and so ignored possible multiple dwellings on single stands. In this manner, residences with people living in them were undercounted.</p> <p>JB noted that, during the 2009 Nsikazi Water Master Plan, a correction factor had been derived between houses and stands; a factor of 1.18 was determined for Nsikazi South and 1.14 for Nsikazi North. He proposed that these be used to adjust ESCOM's SBC figures.</p> <p><b>NvW agreed, and requested that these correction figures should be easily verifiable and, if appropriate, used in the Final Report.</b></p> <p>JB continued by pointing out that the 2010 Census Figures agree well with the population estimates used by the Recon Study Team (an average of 4.2 persons per household for Nsikazi North; 4.1 for Nsikazi South). The average for the whole Mbombela used by the Study Team is 3.8 against 3.6 given by Census 2010. Should the Focus Group's proposal of a household average of 5.4 for Nsikazi South be adopted, it would</p>	<p>JB</p>
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	<p>skew the average for the rest of Mbombela to 0.8, which is clearly unrealistic since the overall / total population for the whole Mbombela Municipal Area will not also be adjusted; only averages within specific Demand Centres.</p> <p>RT disagreed strongly with the lower figures, saying that Nsikazi's figures are certainly higher than 4.2.</p> <p>NvW cautioned that it's an important issue, and too difficult to make a spot decision on. Both figures can't be correct, and it is important to establish where each of the parties gets their data from.</p> <p><b>NvW urged RT to provide the information from which they derive their population estimates to the Study Team and that the matter be carried over to the Final Report, not the Preliminary Report.</b></p> <p>The Preliminary Study assumed the population of KarinoPlaston to be 4,375. The Focus Group, however, indicated that they already supply water to 20,000 people in this area, with high additional growth expected.</p> <p>JB reported that this is likely not a disagreement on population numbers, <i>per se</i>, but rather an error in how demand centre boundaries were drawn (i.e. that much of Karino-Plaston's population has inadvertently been included under Nsikazi South).</p> <p>For the purpose of the Preliminary Reconciliation Strategy report, it was proposed to add the difference of 15,625 to Karino-Plaston and to subtract the same from Nsikazi South.</p> <p><b>The boundaries should then be verified and population numbers adjustment (if necessary) for the Final Reconciliation Strategy</b></p> <p>The Focus Group and the Study Group also disagreed over the population estimates for Matsulu – 12 000 in 2009 and 16 000 in 2012 according to the Focus Group which is a fairly high increase.</p> <p>JB noted that adopting the Focus Group's population estimates won't make a big difference to the Final Strategy</p> <p><b>NvW stated that the discrepancy should be looked into for the Final Report, but that, for the Preliminary Report, the discrepancy should merely be noted.</b></p>	<p>RT / JB</p> <p>JB</p> <p>JB</p>
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7.2	<p><b>Improved Water Use Information for Nsikazi South</b></p> <p>The Focus Group objected to the figure of 60MI/d for Nsikazi South's water use, believing it too high. While there have been periods of very high water use (e.g. some months during 2009 when demand reached 70MI/d), the average over the entire recent period since new pumps were installed is only around 50MI/d. If water use from Dwahleni and Tekwane South (2.4MI/d) and groundwater (0.3MI/d) is added, average water use for Nsikazi South would be 52.7 MI/d.</p> <p><b>JB proposed that the Preliminary Report's figure of 60MI/d be adjusted to 52.7MI/d. NvW agreed.</b></p>	JB
7.3	<p><b>Split between Industrial, Commercial (University, Hospital, Shops etc.) and Domestic Water Use in Water Demand Centres</b></p> <p>JB posed the question whether commercial and domestic water use should be split and, if yes, what resolution should be employed when making such a split since, clearly, making the distinction is not always obvious or practical. Shops, schools, hospitals, theatres, the proposed University etc. all use water commercially but their priorities should be specified since, if, say, restrictions were to be imposed, these users can not be treated the same.</p> <p>NvW agreed and noted that, while one would ideally like to have a split between commercial and domestic use, the difficulties in actually making such a split might render it impractical.</p> <p><b>Where information is available, the split should be made. JB noted that enough information to permit a commercial/domestic split should be available for Nelspruit, but Silulumanzi should provide the information.</b></p> <p><b>The information might not be available for other demand centres, but the practicality can at least be looked into.</b></p>	JB / RT
7.4	<p><b>Review Growth Rates of Nelspruit (as a result of the New University and Hospital), Matafin, Matsulu and White River</b></p> <p>The Focus group questioned certain aspects of Nelspruit's growth rate because of new developments, such the new university, hospital, etc. These developments were only rumoured when the demographic report</p>	

	<p>was produced but have since been confirmed as definite future development and their expected water use should be incorporated into future water use estimates.</p> <p>RT added that there will, eventually, be as many as 18 000 students on the campus, as many of 11 000 of whom will live on the campus. This invalidates certain components of Sililumanzi's Master Plan, even if only in the long term.</p> <p><b>JB proposed that growth rates be retained as they are in the Preliminary Study and be amended for the Final Report.</b></p> <p><b>NvW agreed, stating that, since one is using strategies, they are inherently adaptable. He recommended that the growth rates be corrected on an ongoing basis as information becomes available, and that the information not be updated for the Preliminary Study.</b></p> <p><b>7.5 Determine how to make provision for the high daily influx of people in Nelspruit – people that live elsewhere but work in Nelspruit</b></p> <p>The Focus Group mentioned that a very high number of people pass through Nelspruit every day who don't live there, as many as 80 000 (which, if taken as is, would amount to the population of Nelspruit more than doubling every day). Some of them pass through on their way elsewhere, while others spend the day in Nelspruit, working, and return home afterwards. The total water use from non-residents could be as high as 1.8 Ml/d, which is considerable.</p> <p>JB proposed that this information be verified and incorporated, if and as appropriate, into the Final Strategy, but that this matter not be taken further in the Preliminary Strategy.</p> <p>NvW agreed that this aspect might be worth investigating, since he is not aware of any other similar study having taken this factor into consideration. At present, however, all figures are probably mostly speculative and he wondered how practical it might be to investigate this in any great detail.</p> <p>Marius Kolesky (MK) cautioned that one should not place too high significance on such transient water use since most of it is likely caused by internal migration: people living in Kabokweni, KaNyamazane, even White River, travelling to Nelspruit every day. It is therefore already accounted for somewhere under Mbombela's total water use.</p>	<p><b>JB</b></p>
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	<p>NvW agreed, noting that incorporating this water use might amount to double-counting. This is an internal shift of water use, but still part of Mmombela's total consumption.</p> <p>BJ agreed, but said that it's still worth investigating further. He lives in White River where his water use is classed as domestic but, when at work in Nelspruit, his water use will be classed as commercial. This is likely to be the norm for transients and the distinction will become important should a split between commercial and domestic water use be contemplated, as has been mooted earlier in this meeting.</p> <p>RT agreed, adding that, of their relatively large employee contingent, every single one showers in Nelspruit at the end of the day before going home to, say, Kabokweni. Such trends are likely to be wide-spread. This could, at least to some degree, explain the high per capita water use in Nelspruit.</p> <p><b>NvW recommended that this work could be looked into for the purposes of the Final Report, but only to a limited degree. It appears too complex a matter to address in any detail under the current Study. A prodigious amount of work might be required, and this might better be incorporated into the Terms of Reference of a Continuation Study.</b></p>	JB
7.6	<p><b>Investigate the Option of Re-using Nelspruit's water for Domestic/Industrial Purposes</b></p> <p>It was proposed by the Focus Group – it had also been mooted during previous TSG meetings – that Mbombela might be allowed to re-use waste water after treatment. This is already being done elsewhere with success, and JB presented the examples of Melbourne and Windhoek.</p> <p>NvW stated that re-using treated wastewater doesn't provide major benefits in the interior of the country because it is very expensive and it merely reduces return flows. It could, however, be very useful in coastal areas.</p> <p>NvW stated, however, that this is an option which should be investigated in more detail for the Final Report, but it should not be a first option. WUE should be a higher priority; otherwise re-using water merely becomes an alternative to WUE instead of something with which to augment WUE.</p>	



	<p><b>For the purposes of the Final Report, NvW proposed the following:</b>  <b>A decent information piece, using readily available information, including basic cost, basic energy use.</b></p> <p><b>RT stated that Silulumanzi is eager to investigate this matter further and wishes to collaborate with the Study Team on this.</b> He stated that there are certain challenges which will make this a logistically difficult option to implement. Such challenges include having to separate partly purified water (to be used, say, for irrigating parks or sports grounds) from drinking water in the distribution network. There will also have to be an effective awareness campaign, so that people don't drink from certain taps.</p> <p>He raised the concern that this option might require institutional capacity which some feel might not be available in future.</p>	<p><b>JB</b></p> <p><b>RT</b></p>
<b>7.7</b>	<p><b>Include the Action of Upgrading the intake canal to the Nelspruit Abstraction Works</b></p> <p>The Focus Group raised the concern about various irrigation canals (e.g. Crocodile Valley and Friedenheim Canals), including the feeder canal to the Nelspruit intake works, which are very old with high conveyance losses. These losses need to be addressed by repairing the canals, or even closing them and pumping directly from the river.</p> <p>The Meeting recommended that closing of canals might not be an appropriate action since other users which also rely on them may be impacted upon in the process. RT also stated that the canal is too useful as an early warning system of water levels, but that abstraction facilities directly from the river might be a useful backup.</p> <p><b>It was agreed, however, that this option will be investigated as part of the Final Strategy, including quantifying other water use which relies on the canals.</b></p>	<p><b>JB</b></p>
<b>7.8</b>	<p><b>Recommend a Solution for the Water Shortages at the Matsulu Abstraction Works as a result of the river diversion through the Van Graan Canal</b></p> <p>JB reported on an issue influencing the assurance of water to Matsulu. Water is diverted from the Crocodile River into a canal for power</p>	

	<p>generation purposes. The diversion takes place above the Matsulu Abstraction Works, and water is returned to the Crocodile River below. The capacity of the diversion canal was reported to be sufficient to measurably reduce the river's flow where Matsulu abstracts water at times when the river is low.</p> <p>BJ noted the similarities to a situation in the Sand River (in Bushbuckridge) where diversion canals have been demonstrated to be capable of taking the full flow in the river during period of low flow. This then amounts to a single user taking all the water during certain times of the year, which is not acceptable.</p> <p>BJ also mentioned the system of proportional diversion weirs in Bushbuckridge which allow a certain proportion of any volume of flow in the river to be retained in the river for other users.</p> <p>RT noted that there is such a proportional diversion weir at the canal in question, but that it's not working.</p> <p><b>NvW recommended that there isn't a lot of work that can be done under the Recon Study to resolve this matter. It should form part of the TOR of a continuation study. However, the problem should be clearly verbalized in the Final Report and various proposals suggested to resolve it.</b></p>	JB
7.9	<p><b>Investigate Rainwater and Fog Harvesting as a Water Supply Option for the town of Kaapsche Hoop</b></p> <p>The Focus Group noted the shortage of water at Kaapsche Hoop since groundwater is limited and contains iron. While surface water augmentation possibilities could be investigated, it's not certain that any success can be achieved. However, the area has very high rainfall and has amongst the highest densities of fog in the country which make rainwater- and fog harvesting two obvious possibilities for water augmentation intervention. Decent yields for fog harvesting are around 12l/m<sup>2</sup>/d.</p> <p>It was recommended by the Focus Group that a pilot fog harvester be established at Kaapsche Hoop.</p> <p><b>NvW stated that, while the Study Team can't do any actual fieldwork on this, it would be a good idea for specific recommendations to be included in the Final Report. Such recommendations could be quite</b></p>	JB

7.10	<p><b>detailed and focused, especially with regards to rainwater harvesting from hardened structures.</b></p> <p>NvW made the general comment that, at the end, the Focus Group meeting has proven to be quite useful and very helpful. He also noted that this fits in with the aim of the Study to engage all relevant stakeholders to the extent that parties with useful contributions to make are consulted. The final product will be improved as a result.</p>	
8	<p><b>SSC MEMBERSHIP</b></p> <p>Ernest Kubayi (EK) was asked to keep Tendai Sawunyama (TS) informed if and as he becomes aware of institutions involved in water provision, or relevant studies in the area.</p> <p>If such parties are relevant, they could be invited to meetings, whether the TSG or the SSC. At least, such parties should be made aware of the Recon Study and, if appropriate, DWA support projects which might assist them. Such where collaboration and/or mutual exchange of information might be of mutual benefit.</p>	
9	<p><b>STUDY PROGRAMME</b></p> <p>Mbombela LM and Silulumanzi have requested that a draft of the Final Strategy a full month before the SSC meeting, which was scheduled for the 6<sup>th</sup> of March.</p> <p>The Study Team expressed doubt whether this is feasible, since this would require a Final Report to be available by early February.</p> <p>NvW wondered whether it might not be better to have a TSG meeting before the SSC meeting. This will provide a solution to the request by Mbombela and Silulumanzi to study the Final Report before the SSC meeting.</p>	

	<p>JB noted that this might still be impractical, since it would require a draft of the Final Strategy to be completed in time for any TSG meeting.</p> <p><b>NvW proposed that a TSG meeting be scheduled for 6 March 2013, and that the SSC meeting then be scheduled for the end of March, with the actual date to be confirmed. This will provide ample time for comments.</b></p> <p>JB stated that the amended dates are acceptable.</p>	
<b>10</b>	<p><b>FUTURE MEETINGS</b></p> <p>A TSG meeting will be held on 6 March 2013, the first for the year. If a need is expressed for an informal meeting before, it can be arranged informally.</p> <p>The next SSC meeting will be held towards the end of March 2013, the precise date to be confirmed.</p>	
<b>11</b>	<p><b>COMMUNICATION AND DISTRIBUTION OF INFORMATION</b></p> <p>The Study Team reported that the project information is uploaded to the DWA website at <a href="http://www.dwa.gov.za/Projects/WRAR">http://www.dwa.gov.za/Projects/WRAR</a>)</p> <p>TS reported that Newsletters have been prepared and distributed. The ICMA has also received copies and will distribute these.</p>	
<b>12</b>	<p><b>GENERAL</b></p>	
<b>12.1</b>	<p>Kennedy Mandaza (KM) made the comment that the Study Team is still talking of Preliminary vs. Final Reports, despite the project's completion date being very close. At what point will the Study Team start separating the two?</p> <p>JB noted that the Preliminary Report is expected to be completed within three weeks, with the final report being finished within three months. The final report will, therefore, be completed in time for the Project completion date.</p>	

<p><b>12.2</b></p>	<p><b>The TSG meeting raised the concern that MEGA is planning many projects without consulting or liaising with DWA at all.</b></p> <p>Ernest Kubayo (EK) noted that they don't plan any projects themselves. They merely take over projects at municipal level where funds for implementation were not available or depleted. They therefore don't build projects from scratch and the responsibility for liaison with DWA, at least at some level, lies not with them but with the Municipalities.</p> <p>NvW noted this, but said that it is urgent to get everybody on board so that role players in the field are aware of what is taking place. There are supporting studies – Inkomati Licensing Support and the All Town Study – which can provide support to institutions which require it, but only for as long as those project are running. These projects may be followed up by continuation studies, but there will inevitable be gaps.</p> <p>Tendai Sawunyama (TS) stated that he'd visited MEGA during the week to deliver newsletters for the Mbombela Recon Study. They should be more aware of the Recon Study and will hopefully be more forthcoming about attending meetings in future.</p>	
<p><b>12.3</b></p>	<p>BJ proposal to add a discussion about future work / work to be done under a Continuation Study. This was added to the current meeting's Agenda but was not discussed due to time constraints.</p> <p><b>NvW proposed that a list of recommendations for work to be done under a Continuation Study be compiled and distributed to the TSG for comments and amendments. This work will form part of the Final Strategy.</b></p>	<p><b>All TSG</b></p>
<p><b>13</b></p>	<p><b>DATE OF NEXT MEETING</b></p> <p>A TSG meeting will be held on 6 March 2013, the first for the year. If a need is expressed for an informal meeting before, it can be arranged informally.</p> <p>The next SSC meeting will be held towards the end of March 2013, the precise date to be confirmed.</p>	

<b>WATER REQUIREMENTS AND AVAILABILITY RECONCILIATION STRATEGY FOR THE MBOMBELA MUNICIPAL AREA</b>		
<b>TECHNICAL SUPPORT GROUP</b>		
<p>Date: 7 December August, 2012 Time: 10:00 Venue: Aurecon Centre, Lynnwood Bridge Office Park, 4 Daventry Street, Lynnwood Manor, 0081 Rooms 2.3 &amp; 2.4 (2<sup>nd</sup> Floor).</p> <p>Chair : Mr N Van Wyk</p>		
<p><b><i>Meeting Objectives</i></b></p> <p>1. To review the comments of the Focus Group on the Preliminary Reconciliation Strategy. 2. To agree on the gaps in the Preliminary Strategy that needs to be addressed in the Final Reconciliation Strategy.</p>		
Item	Agenda Point	Discussion Leader/Presenter
1.	Opening and Welcome	N van Wyk
2.	Introduction of Attendees	
3.	Adoption of Agenda	
4.	Acceptance of the previous minutes	N van Wyk
5.	Matters arising from the previous minutes	N van Wyk
6.	Comments of the Focus Group on the Preliminary Reconciliation Strategy	D Koekemoer and J Beumer
7.	<p>Gaps in the Preliminary Water Reconciliation Strategy which need to be addressed in the Final Strategy</p> <p>7.1 Population Estimates for Nsikazi South, Karino, Plaston and Matsulu</p> <p>7.2 Improved Water Use Information for Nsikazi South</p> <p>7.3 Split between Industrial, Commercial (University, Hospital, Shops etc.) and Domestic Water Use in Water Demand Centres</p> <p>7.4 Review Growth Rates of Nelspruit (as a result of</p>	J Beumer

	<p>the New University and Hospital), Matafin, Matsulu and White River</p> <p>7.5 Determine how to make provision for the high daily influx of people in Nelspruit – people that live elsewhere but work in Nelspruit</p> <p>7.6 Investigate the Option of Re-using Nelspruit's water for Domestic/Industrial Purposes</p> <p>7.7 Include the Action of Upgrading the intake canal to the Nelspruit Abstraction Works</p> <p>7.8 Recommend a Solution for the Water Shortages at the Matsulu Abstraction Works as a result of the river diversion through the Van Graan Canal</p> <p>7.9 Investigate Rainwater and Fog Harvesting as a Water Supply Option for the town of Kaapsche Hoop</p>	
8.	SSC Membership	N van Wyk
9.	Study Programme	D Koekemoer
10.	Future Meetings	N van Wyk
11.	Communication and Distribution of Information	N van Wyk
12.	General	
13.	Date of Next Meeting	

# ATTENDANCE REGISTER 7 DECEMBER 2012



Water affairs  
Department:  
Water Affairs  
REPUBLIC OF SOUTH AFRICA

## WATER REQUIREMENTS AND AVAILABILITY RECONCILIATION STRATEGY FOR THE MBOMBELA MUNICIPAL AREA



### TECHNICAL SUPPORT GROUP MEETING ATTENDANCE REGISTER

Meeting no.: 5 Date: 7 December 2012 Venue: Aurecon Centre, Lynnwood Bridge Office Park, 4 Darenty Street, Lynnwood Manor, 0081  
10h00-13h00 Rooms 2.3 & 2.4

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