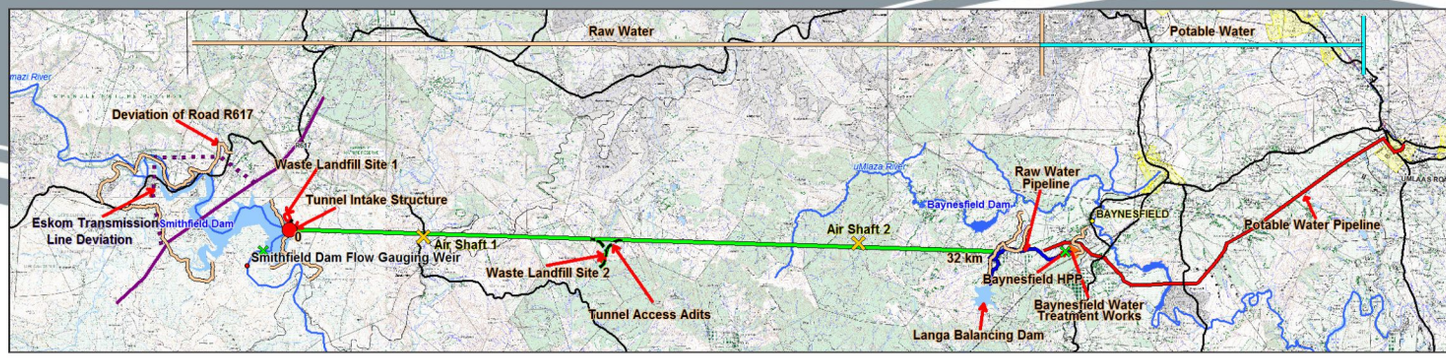
Uhlelo Olukhethiwe Ukuze Kudizayinwe Idamu:

- Idamu eSmithfield elinomthamo ongu 251 million m³. Lomthamo uncike ekugcwaleni kwedamu libe sezingeni lika 930 masl (31% okuyinani lamanzi ngonyaka)
- Idamu Lokugcina Amanzi Okwesikhashana (elibizwa ngeLanga Dam). Ledamu lingakwazi ukugcina umthamo ongu 12.5 million m3 uma ligcwele lisezingeni lika 923 masl.
- Umhubhe wokuhambisa amanzi ububanzi bawo bungu 3.5 m osuka eMkhomazi uya eMlaza nepayipi ehambisana nalo kanye nesizinda sokuhlanza amanzi siya ohlelweni lwaseMlaas Road esakhelwe ukuba sikwazi ukuhambisa amanzi anomthamo ongu 8,65 m³/s.
- Indawo Yokuhlanza Amanzi endaweni yomfula uMlaza.
- Ipayipi elehlelayo elisuka esizindeni sokuhlanza amanzi liya ohlelweni lomthamo omkhulu woMgeni Water ongowokusabalalisa amanzi.

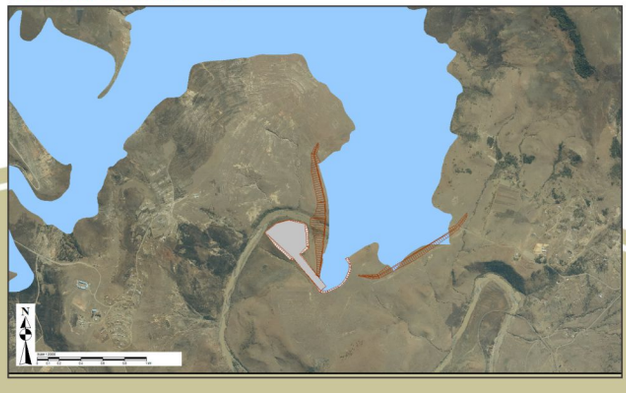
water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Projecti Yamanzi eMkhomazi: Isigaba 1 - Ikhasi Elinolwazi Lochwepheshe

JULY 2015



IDamu iSmithfield

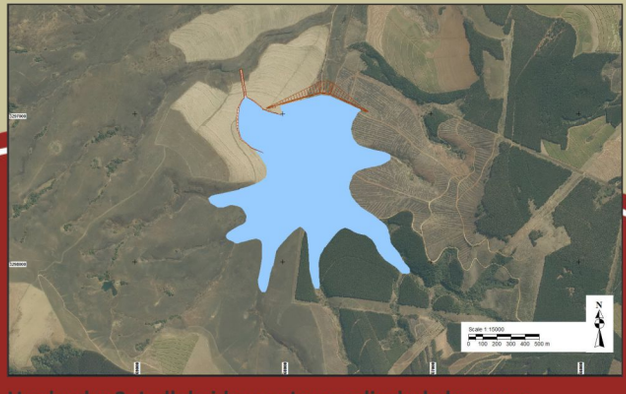


Umdwebo 1: Indlela idamu eSmithfield elizobukeka ngayo

Tebhula 1: Imininingwane yeDamu elizokwakhiwa eSmithfield

Imininingwane Yedamu	Unqenqema Lwedamu Elikhulu	Unqenqema Lwengxenye yedamu Elisiza Ukulawula Amanzi
Uhlobo lwedamu	Idamu elakhiwe ngamatshe	Idamu elakhiwe ngamatshe
Umkhakha ngokukaDWS	Umkhakha III	
Inani Lomthamo Wamanzi Angagcinwa ngonyaka - MAR (%)	31	
Izinga Eligcwele Lamanzi Edamini – FSL (masl)	930	
Amazinga Ehlile Okusebenza Kwedamu – MOL (masl)	887.2	
Izinga Eligcwele Lokusebenza Kwedamu FSL (million m³)	251	
Indawo Yedamu Engaphezulu (km2)	9.53	
Indawo Yokuphathwa Kwamanzi (km2)	2 058	
Ubungako Bendawo Ephezulu Yodonga Lwedamu (masl)	936	
Ubude Bodonga (m)	81	26
Ubude Bendawo Ephezulu Yodonga Lwedamu (m)	1 200	1 090
Uhlobo Lwendawo Yokukhipha Amanzi Edamini	Main side channel	Fuse plug
Ukuma Kwendawo Yokukhipha Amanzi Edamini	umgudu ojikelezayo ophumela ezindaweni ezahlukene kodwa zibe zibhekene	Umgudu okhiphela amanzi phezulu
Ubude Bendawo Yokukhipha Amanzi Edamini (m)	150	100
Ukuqinisekisa umthamo wamanzi ongatholakala ngonyaka (million m3/a) (kusetshenziswe amazinga endawo yamanzi ka 2012)	220	

iDamu iLanga Lokugcina Amanzi kwesikhashana

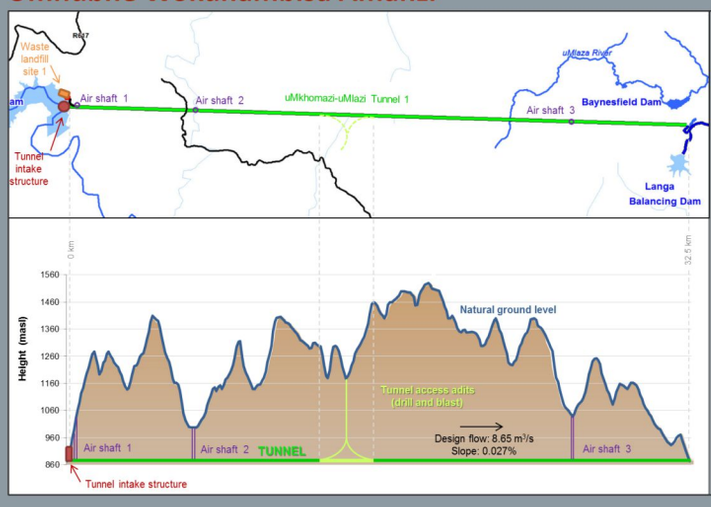


Umdwebo 2: Indlela idamu eLanga elizobukeka ngayo

Tebhula 2: Imininingwane yeDamu elizokwakhiwa iLanga

Umniningwane	Incazelo
Uhlobo lwedamu	Idamu elakhiwe ngosemende (CFRD)
Umkhakha ngokukaDWS	Umkhakha III
Izinga Eligcwele Lamanzi edamini – FSL (masl)	923
Amazinga Ehlile Okusebenza Kwedamu – MOL (masl)	898
Izinga eligcwele lokusebenza Kwedamu FSL (million m³)	15.7
Umthamo Wamanzi Ongagcinwa FSL (million m³)	14.8
Indawo Yedamu Engaphezulu FSL (km2)	0.95
Indawo Yokuphathwa Kwamanzi (km2)	5.4
Ubungako Bendawo Ephezulu Yodonga Lwedamu (masl)	926.6
Ubude Bodonga (m)	46.6
Ubude Bendawo Ephezulu Yodonga Lwedamu (m)	573
Uhlobo Lwendawo Yokukhipha Amanzi Edamini	Izoba ngakwesokunxele iphumele ezansi
Ukuma Kwendawo Ekhipha Amanzi Edamini	Iwumgudu ojikelezayo ophumela ezindaweni ezahlukene kodwa zibhekene

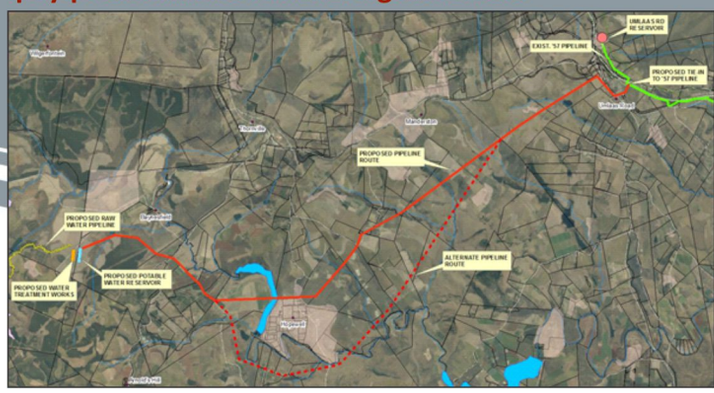
Umhubhe Wokuhambisa Amanzi



Tebhula 3: Imininingwane Yomhubhe Okhethiwe

Umniningwane	Incazelo
Uhlobo	Uzophushwa Amandla
Ububanzi (m)	3.5
Ubude (km)	32.0
Ukujula ngaphansi komhlaba (m below NGL)	636.4
Amandla Okuhambisa Amanzi (m3/s)	8.65

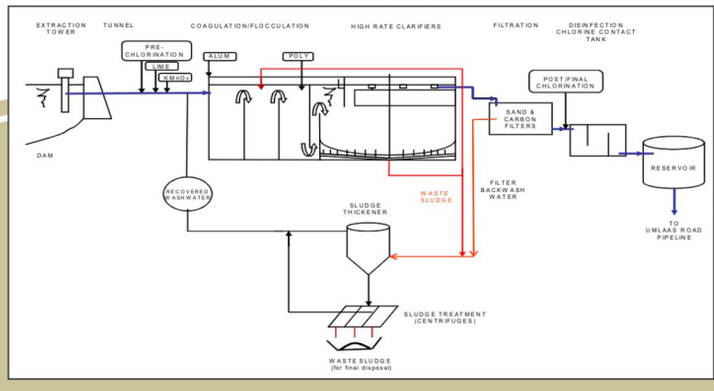
Ipayipi Elihambisa Amanzi Ngokwehlela



Tebhula 4: Imininingwane yepayipi elihambisa amanzi ngokwehlela

Umniningwane	Incazelo
Inhlobo Yepayipi	Carbon steel
Ububanzi (m)	2.5
Umthamo (Mℓ/d)	500
Inani Lamapayipi	2
Ubude	21.3 km (noma 24.5 km kwenye indlela)
Uhlobo Lomgudu	Ukuhambisa amanzi ngokulandela ukuma komhlaba

Isizinda Sokuhlanzwa Kwamanzi



Tebhula 5: Imininingwane Yesizinda Sokuhlanza Amanzi

Umniningwane	Incazelo
Ubungako (bubonke):	1 250 Mℓ/d in ten trains of 125 Mℓ/d Initially 375 Mℓ/d
Indawo (ububanzi):	600 m by 350 m
Imigudu ezosetshenziswa ukuhlanza amanzi	• Ukufakwa kwemithi yokuhlanza amanzi; • Uhlelo lokuhlanganisa izibi ezisemanzini zihlangane ndawonye; • Uhlelo lokuzikiswa kwezinto ezisemanzini; • Ukuhluzwa kwamanzi; • Ukususwa kwamagciwane; • Ukususwa kwamanzi enzikeni nokuqiniswa.
Amakhemikhali azosetshenziswa:	• Potassium permanganate for oxidation of iron and manganese; • Lime for stabilization; • Alum and poly as coagulant/flocculant; • Bentonite as ballasting agent; • Chlorine for disinfection – pre and post chlorination required.

Indlela Idamu Elizobukeka Ngayo Ngokwabadwebi