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Amafa AkwaZulu-Natali

Heritage KwaZulu-Natal

Erferis KwaZulu-Natal



PO Box 2685
 Pietermaritzburg 3200

Tel: 033 394 6543

Fax: 033 342 6097

Email: bernadetp@amafapmb.co.za

Website: www.heritagekzn.co.za

Date: 13 July 2012

Ref: 09/1/7/4

Attention: Andrew Batho
 AFZELIA
 TEL: 031 303 2835
 FAX: 086 692 2547
 EMAIL: Andrew@afzelia.co.za

Dear Andrew

RE: PROPOSED MAKHABELENI REGIONAL BULK WATER SUPPLY SCHEME INCLUDING BULK RETICULATION AND STORAGE INFRASTRUCTURE BETWEEN JAMESON'S DRIFT AND THE SETTLEMENT OF KWASENGE, WARD 10, UMVOTI LOCAL MUNICIPALITY, UMZINYATHI

Amafa KwaZulu Natal appreciates the opportunity given to this organization to comment on the above mentioned application that we received.

You are required to submit a **completed application form and proof of payment** for the above-proposed development before any comments can be provided.

Please visit the Amafa website, download, complete and submit the "Needs & Desirability" form as soon as possible.

Your cooperation will be appreciated in this regard.

NB: Please send all your applications to our Pietermaritzburg Office at 195 Langalibalele Street.

Kind regards

Bernadet Pawandiwa
 Archaeology Permits
 For: Annie van de Venter - Radford
 (Deputy Director: Research & Professional Services)

Amafa AkwaZulu-Natali

Heritage KwaZulu-Natal

Erfenis KwaZulu-Natal



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Kind regards

Bernadet Pawandiwa
Archaeology Permits
For: Annie van de Venter - Radford
(Deputy Director: Research & Professional Services)

12/08/2011-03

HIA.

Amafa AkwaZulu-Natali

Heritage KwaZulu-Natal

Erferis KwaZulu-Natal



PO Box 2685
Pietermaritzburg 3200

Tel: 033 394 6543

Fax: 033 394 6552

Email: amafa.pmb2@mweb.co.za

Website: www.heritagekzn.co.za

NEEDS & DESIRABILITY APPLICATION FORM

In terms of the KwaZulu Natal Heritage Act No. 4 of 2008 and the National Heritage Resources Act No.25 of 1999 (Section 38 (1)), a permit is required to carry certain listed activities.

PLEASE NOTE

It is an offence in terms of section 34. of the KwaZulu Natal Heritage Act to make false statement or fail to provide required information in this application.

ALL APPLICATION FORMS AND PROOF OF PAYMENT ARE TO BE FORWARDED TO:
AMAFI KWAZULU NATALI, ARCHAEOLOGY DEPARTMENT, 195 LANGALIBALELE STREET,
PIETERMARITZBURG, 3201/ BOX 2685 PIETERMARITZBURG 3200.

Kindly note that:

1. Kindly note that with effect from 1st of April 2010 an application fee will be charged for Needs & Desirability applications and Permit applications.
2. Incomplete applications will not be processed until they are revised.
3. All information filled in on this form will become public information on receipt by this department. Any interested and affected party should be provided with information contained in this application on request, during any stage of the application process.
4. No faxed or e-mailed applications will be accepted, **only printed copies.**

SUBMISSION FEES

Regulations make provision for the agency to charge a submission fee. A administration fee of **R600.00** is payable to **Amafa aKwaZulu Natali** in postal order or bank deposit/internet banking prior to the processing of this application.

Banking Details in case of direct deposits:

ABSA BANK: Branch: ULUNDI Bank Code: 630330

Account in the name of AMAFA AKWAZULU- NATALI

Accounting No. 40-5935-6024

NB: Proof of payment to be forwarded (faxed, posted or delivered) to Amafa, to be referenced with applicants name and date



30 July 2012

NEEDS & DESIRABILITY APPLICATION

FOR OFFICE USE ONLY

AMAFA ID _____

FILE REF _____

EIA NUMBER _____

DATE RECEIVED _____

APPLICANTS DETAILS

Applicant Name
(company/institution/individual) : Afzelia Environmental Consultants cc

Contact Person : Mr Andrew Batho

Telephone/Fax No. : Tel – 031 303 2835 Fax – 086 692 2547

Email : andrew@afzelia.co.za

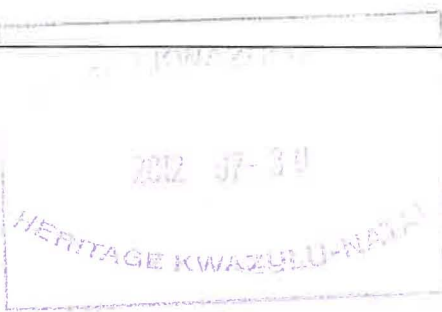
DEVELOPMENT DETAILS

Makhabeleni Regional Water Supply Scheme including bulk reticulation and storage infrastructure between Jameson's Drift and the settlement of Kwasenge, Ward 10, Umvoti Local Municipality, Umzinyathi District Municipality, KwaZulu-Natal
DAEA EIA REF: DC24/0026/2011

The extension of potable water supply to the Makhabeleni Rural Water Supply Scheme (RWSS) Phase 6 area makes use of the existing Makhabeleni Water Treatment Works (Jameson's Drift). The existing distribution systems (Makhabeleni Phase 1-5) include approximately 90km of reticulation pipelines, and 18km of bulk gravity and rising mains, four booster pump stations and 10 reticulation reservoirs. The objective of the Makhabeleni RWSS: Phase 6 is to provide a sustainable and reliable supply of potable water to the rural communities located in the areas of Nophethu and Kwasenge.

The following infrastructure has been designed for implementation over the next three years, and upon completion will ensure that the entire Makhabeleni Traditional Council area has access to a basic level 1 Water supply.

Bulk Water Pipelines



- Gravity Mains:
 - 9.1km of 150mm dia Steel (CI 25) and 160mm uPVC (CI 16)
- Rising Mains:
 - 14.5km of 50-125mm Bulk Rising mains (Steel, uPVC and HDPE)
 - Pumping lifts of between 180 and 235m (static)
- All air valves positioned at strategic points (using Surge 2000 software)
- Scour valves positioned at major low points (within precast chambers)

Booster Pump stations

- 4 No. potable water booster pump stations, with 5 no. pump sets.
- All pumps are Vertical stacked multistage 3 phase pumps, for improved efficiency and reduced pump house footprint.
- Each pump-set has a variable speed drive (VSD), for soft start / stop, improved operational efficiency, reduced water hammer, reduced noise and vibration, extended life, and flexibility in capacity.
- Pump motor sizes (2 x 10Kw, 6 x 37Kw, 2 x 45Kw)
- Surge protection includes for Anti-shock air valve (positioned using Surge 2000 software), Bermad pressure relief valve, and non-return valve.
- Duty/standby operation.
- Redundancy: Designed for 18hr operation at ultimate demand (33% redundancy)

Pump controls include:

- Fully automated PLC, with manual override.
- Low level reservoir probes
- Inline No flow switch
- Inline Pressure switch
- Lightning / surge protection
- Timer start
- All data to be transmitted using GSM based telemetry to Waterworks SCADA (separate contract)

Power Supply:

- 4 x Eskom 3 phase transformers (25KVa) applied for. No back-up generators considered.

Reticulation Reservoirs:

- 6 No Reinforced Concrete reservoirs (Total capacity of 2.25MI)
- 5 x 250KI. (four reservoirs for pump and reticulation storage)
- 1 x 1MI command / reticulation reservoir at 1260m
- All reservoirs within Razor mesh fenced area, with secured gate access.
- Circular design with 3.6m wall height, with kicker for ease of construction.
- Single cell units.
- Includes separate inlet, outlet, overflow and scour.
- Side overflow and inlet, for reduced cost (GMS not SS)
- All reservoirs include minimum 300mm freeboard.
- Outlet pipe raised above floor level to prevent sludge off-take.
- Manual scour / de-sludge operation. Scour flush to floor level.
- Overflow outlet is visible to operators, to prevent waste.
- Level indicator at reservoir – to be included under telemetry contract.

| | | |
|---|---|---|
| 1 | construction of a road exceeding 300 m in length | |
| 2 | wall exceeding 300 m in length | |
| 3 | power line exceeding 300 m in length | |
| 4 | pipeline exceeding 300 m in length | √ |
| 5 | canal exceeding 300 m in length | |
| 6 | other similar form of linear development | |
| 7 | barrier exceeding 300 m in length | |
| 8 | construction of a bridge exceeding 50 m in length | |
| 9 | similar structure exceeding 50 m in length | |

| | | |
|----|---|--|
| 10 | any development exceeding 5 000 m ² in extent any other category of development provided for in regulations | |
| 11 | other activity which will change the character of an area of land, or water exceeding 10 000 m ² in extent | |
| 12 | involving three or more existing erven or subdivisions thereof | |
| 13 | any development, or other activity involving three or more existing erven or subdivisions | |
| 14 | any development, or other activity involving three or more existing erven or subdivisions which have been consolidated within the past five years | |
| 15 | any development, or other activity the costs of which will exceed a sum set in terms of regulations | |
| 16 | Rezoning of a site exceeding 10 000 m ² | |

District Municipality : Umzinyathi District Municipality

Local Municipality : Umvoti Local Municipality

Traditional Authority : Makhabeleni Traditional Council

Area/Town : Nophethu and Kwasenge

Property Description : Tugela location 4674 (NOGT00000000467400000)
(Farm name, portion, lot, erf)

X(South) Coordinate : 30° 50' 7.0100"S

Y(East) Coordinate : 28° 47' 58.3483"E

1:50000 mapsheet : Appendix C

1:10000 mapsheet : Appendix B

| CHECKLIST | YES | NO |
|---|-----|----|
| Completed & Signed Application Forms | √ | |
| Site Photographs | √ | |
| 1:50 000 Topographical and Aerial Photo Map | √ | |
| Payment/ Proof of Payment | √ | |

Nature of payment - postal order, bank deposit, internet banking: Internet Banking

Declaration

I, Andrew Batho  undertake strictly to observe the terms, conditions, restrictions, by-laws and directions under which the Council of *Amafa aKwaZulu-Natali* may issue the permit.

| | | | |
|-----------|--|-------|------------|
| Signature | | Place | Durban |
| | | Date | 24/07/2012 |
| Amafa | | Place | |
| | | Date | |

NB: APPLICATIONS SUBMITTED WITH INCOMPLETE FORMS WILL NOT BE CONSIDERED

APPENDIX A: LOCALITY MAP

C Annies Comment.

N&D??

Graves noted
by UMLANIX
and fall
under Local
Municipal
By-Laws.

AFZELIA

Environmental Consultants [Pty] Ltd

76 Valley View Road, Morningside, Durban, 4001

P.O. Box 37069, OVERPORT, Durban, 4067

Tel: 031 303 2835

Cell: 083 601 9411

Fax: 086 692 2547

Email: andrew@afzelia.co.za

www.afzelia.co.za



* 25m buffer
on all graves

Re-survey
densely vegetated
area after
vegetation
clearance but
before
construction
activities
commence
and submit
to Amafa
for final
comment.

8th June 2012

DRAFT BASIC ASSESSMENT REPORT

MAKHABELENI REGIONAL WATER SUPPLY SCHEME INCLUDING BULK RETICULATION AND STORAGE INFRASTRUCTURE BETWEEN JAMESON'S DRIFT AND THE SETTLEMENT OF KWASENGE, WARD 10, UMVOTI LOCAL MUNICIPALITY, UMZINYATHI DISTRICT MUNICIPALITY, KWAZULU-NATAL

DAEA EIA REF: DC24/0026/2011

Dear Interested & Affected Party,

Thank you for registering as an Interested and Affected Party for the above project. Please be advised that the draft Basic Assessment Report (dBAR) which includes the comments and responses report has been completed and is available for your review and comment if applicable. The dBAR has been circulated to the following key stakeholders and Government Departments:

| | | |
|-----------|-----------|-----------------------------|
| Manisha | Thakurdin | Department of Water Affairs |
| Andy | Blackmore | Ezemvelo KZN Wildlife |
| Carolyn | Schwegman | WESSA |
| Belinda | Benson | Ingonyama Trust |
| Mr Mgoma | | Induna for Makhabeleni |
| Mr Mlondo | | Makhabeleni Ward Councillor |

A hard copy of the draft Basic Assessment Report will be made available for public review from the Tuesday, 13th June 2012 at Jameson's Drift.

Please forward all comments to Mr. Andrew Batho or Mr. Brian Mafela at Afzelia Environmental Consultants by post, fax or email by the end of day Tuesday, 24th July 2012. **Contact details for the Environmental Assessment Practitioner (EAP) are provided below.**

| | For English Contact | For isiZulu Contact |
|------------------------|-------------------------|-------------------------|
| Contact person: | Mr. Andrew Batho | Brian Mafela |
| Postal address: | P.O Box 37069, Overport | P.O Box 37069, Overport |
| Postal code: | 4067 | 4067 |
| Telephone: | 031 303 2835 | 031 303 2835 |

19 June 2012

| | | |
|----------------|--|--|
| Fax: | 086 692 2547 | 086 692 2547 |
| E-mail: | andrew@afzelia.co.za | brian@afzelia.co.za |
| Website | www.afzelia.co.za | www.afzelia.co.za |

Yours Faithfully



Andrew Batho
Afzelia Environmental Consultants

Izinga lokuzonikezelwa – umthamo odingekayo ngu (@60 l/p/d) uma ubheka izidingo zamanzi ngezikhathi zokujingana (peak factors) kubalwa ukuba amanzi alinganiswa no-0.641 Ml/day, noma angu- 7,429 l/s azodingeka.

Indawo engaphansi kwa phase 6 amanzi izowathola ngokohlelo lokugelezela amanzi aphuma ethangini elikhona njengamanje, agelezele emathangini amasha azokwakhiwa ayisithupha okuyiwona azogelezela amanzi empompini yabantu bomphakathi.

Indawo yeProjekthi :

Umphakathi wobukhosi baseMakhabeli (Makhabeleni tribal authority) butholakala maphakathi neningizimu komfula uThukela, neningizimu ledolobha i-Kranskop, nomngcele weLembe (lapho kukhona khona umfula i-Mandjeni) eningizimu esempumalanga kanye nomhlaba olinyiweonehlathi entshonalanga. Imiphakathi esempumalanga kwendawo yaseMakhabeleni kungeneka kuyo ngomgwaqo ophuma e-Kranskop (main road 16). Imiphakathi esentshonalanga kwayo indawo yaseMakhabeleni kungeneka kuyo ngomgwaqo wesifunda ophuma eGrey Town obizwa ngo-district road 215. Indawo yeprojekthi yokunikezelwa ngamanzi itholakala entshonalanga kwesakhiwo sokuhlaza amanzi esise-Jameson's Drift, okuyindawo ezobandakanya nomphakathi wakwaSenge.

Inhlosongqangi nesidingo somsebenzi ohlongoziwe:

Inhlosongqangi nesidingo somsebenzi ohlongoziwe sichazwa njengoba kubhaliwe ngenzansi:

- Ukufeza izidingo zokusweleka kwamanzi emiphakathini yaseMakhabeleni;
- Ukwakha ingqalasizinda efanele nesesimeni sezinga eliphakeme zokuletha amanzi emiphakathini wobukhosi obekukade kungumphakathi obungasizakele ngaloluhlobo obunezingqalasizinda ezisezingeni eliphansi zokuletha amanzi kunyite nezinye izinsizasebenza nezidingo;
- Ukuthuthukisa umnotho wendawo yabantu ngokuqahswa kwamalungu omphakathi ngesikhathi kwakhiwa umsebenzi ohlongoziwe; kanye
- Nokuthuthukisa izinga lempilo emiphakathini ngokuletha izingqalasizinda ezoqinisekisa ukunikezelwa ngamanzi zokhathi zonke.

Imisebenzi ezokwenziwa ithinta uhlu lwezinto ezivikelwe ngokomthetho wezwe wokunakekela imvelo nokuyiphatha, uhlu oluthintekayo nanjengokushicilelwa emthethweni ngu-GNR 544 (11 & 18) kanye no-GNR 546 (14), okuhambelana nemithelela engase ibekhona emaxhaphozini, emifuleni egelezayo endaweni nezakhi zamanzi kanye nezimila zendabuko. Akukho okuthinta uhlu lokubhekelela imithelela engase ibekhona mayelana nemfucuzo.

UMBHALO OWUVO LOMCWANINGI MAYELANA NOKUCWANINGIWE KUZE KUBE YILESISIGABA

Indlela eqokiwe ezosetshenziswa mayelana nomsebenzi ohlongoziwe

1. Ocwaningweni kutholakele ukuba akukho okungavimba ukuba umsebenzi uqhubeke okumayenala nobunjalo bendawo yesakhiwo. Umsebenzi ohlongoziwe uzophazamisa izindawo ezincane nezenani elamukelekayo, futhi akulindelekile ukuba zincane izimila ezevikelwe zendawo ezizophazamiseka. Lokhu kwenziwa ngokuba indawo ethintekayo iwumgudu lapho kuzofakwa khona amapayipi nokuba indawo ethintekayo ngokufakwa kwengqalasizinda zomsebenzi izobuyiselwa esimweni sayo uma kuqedwa ukwakhiwa nokusetshenzwa.

2. Mayelana nemfucuzo ezokwakheka ngenxa yomsebebzi ohlongozwayo, ayikho imithelela emibi ezobakhona uma izindlela zokunciphisa leyomithelela yenziwe ngendlela.

3. Mayelana nemithelela ethinta konke okumayelana namanzi, akukho imithelela emibi elindelekile: Uma imifudlana inakekelwe ukuba ayiphazamiseki kutshalwe futhi nezimila ezindawo ezigugulekile, ukuguguleka

komhlabathi kuzogcineka kusezingeni eliphansi. Ukuguguleka komhlaba okukhulu kulindeleke ngesikhathi sekwakhiwa, kepha uma izindlela zokunciphisa leyomithelela zifakiwe, imithelela iyoba mincane kakhulu. Imithelela engase ibekhona ngenxa yokungasebenzi kahle kwamapayipi azofakwa kungaba nemithelela emibi endaweni yesakhiwo, kepha uma amapayipi efakwe ngokukhulu ukucophelela nangendlela efanele nokunakekelwa zikhathi zonke akulindelekile imithelela emibi

4. Akukho mthelela wemfucuzo ewudoti olahlwayo ezobakhona ngokomsebenzi ohlongoziwe, uma kuqikelelwe ukuba izindlela zokunciphisa imithelela ehambelana nemfucuzo zenziwa ngendlela efanele..

5. Imithelela emayelana netrafiki ilindelekile ngokuba izinqola zokusebenza zizobanengi ngesikhathi kusetshenzwa nangenkathi umsebenzi usuphuthuliwe. Akulindelekile ukuba imithelela emkhulu yetrafiki ibekhona uma umsebenzi usuphuthuliwe umsebenzi ususebenza. Isigaba sokwakhiwa sizoba nemithelela ekunyuseni itrafiki ngokuba izinqola zizobe zenyuka zehla zihambisa impahla yokusebenza. Uma lemigwaqo inakekelwe ngumasipala, ayikho imithelela elindelekile. 6. Izakhiwo ezizofakwa zizosishintsha izihlabathi phansi lapho kuzofakwa khona izingqalasizinda. Lokhu kuzodala imithelela emibi emifuleni emincane egeleza endaweni kepha ngokuba indawo ethintekayo yincane, nemithelela izoba mincane futhi angeke yande yedule indawo eyakhiwe enethintekile

7. Ayikho imithelela ehambelana nokuphepha nokuvikeleka uma izindlela zokunciphisa lemithelela zenziwa ngendlela efanele.

8. Imithelela yokushintsha kwendawo yesakhiwo itholakale ingemincane kakhulu.

9. Ayikho imithelela ehambelana nenthuthuko yabantu kunye nenhlalakahle yabo engenza ukuba umsebenzi ohlongoziwe ungenziwa. Umsebenzi ohlongoziwe uzoba nemithelela emihle yokukhulisa umnotho wendawo ngokwakha indlela yokufaka izingqalasizinda ezosezingeni elifanele lokunikezela ngamanzi esifundazweni, ukuthuthukisa ukusebenza kwezindlu zangasese kunye nempilo, futhi izothuthukisa umnotho ngokuba kuqashwe abantu bomphakathi uma sekwakhiwa.

Lendlela ehlongoziwe yokunikezela ngamanzi iyona kuphela evela ingefanele ocwaningweni engenzeka ngesikhathi esisheshayo nengenziwa ngenani lemali elifanele nelamkelekayo.

Indlela okungamele yenziwe (The No-go Alternative)

Ukuqhubeka nokungawakhi umsebenzi ohlongoziwe kuzoqhuba ukuba umnotho wendawo ungakhuli futhi umphakathi ungazitholi izingqalasizinda zokunikezela ngamanzi ahlanzekile. Umphakathi unokweswela amanzi ahlanzekile nengqalasizinda onayo ayikho esimweni. Uma umsebenzi ungenziwa ozoletsa izidingo emphakathini kungenza imiphakathi ingathokozi.

Lendlela ebhaliwe ngenhla ayihambisani nenhlalakahle nesidingo somsebenzi ohlongoziwe.

Isincomo

Kungumbono womcwaningi ozimele ocwaninga ukunokubezeka kwemvelo ukuba indlela eqokiwe yokwenza umsebenzi izoletsa lokhu: Imithelela ezoba semhlabeni okuzokwakhiwa kuwo iyamukelekalt is in the view of the Environmental Assessment Practitioner that the preferred activity is (i) biophysically acceptable, (ii) izothuthukisa umphakathi nomnotho wawo, (iii) iyona eyamukelekayo ngokutshalwa kwezimali emsebenzini, and (iv) umsebenzi uhambelana nenhlalakahle nesidingo somsebenzi ohlongoziwe.

Isincomo esokuba umsebenzi ohlongoziwe uyithole imvume emnyangweni wezolimo nezemvelo, nanjengoba kulotshiwe emqulwini wocwaningo esigabeni 2 (section 2).

Ngalesosizathu kunesidingo sokuba umbhalo okhomba ukunakekelwa nokuphathwa kwemvelo wenziwe, lombhalo ubizwa nge-EMPr kulolushicilelo nokuba zonke izincomo zokunciphisa imithelela ezilotshiwe emqulwini wombiko locwaningo olwenziwe kanye nezincomo zochwepheshe abacwaninge izingxenye ezintekile zemvelo ngokwehluka kwazo zibandakanywe kulobhalo obizwa nge EMPr unikezelwe emnyangweni ukuze kuthole imvume yokuba usetshenziswe.

La ngaphansi izincomo okumele zenziwe ukuze kutholakale imvume emnyangweni wezolimo nezemvelo:

- Kumele kwakhiwe izithangami esibizwa nge-Project Steering Committee (PSC) esizobandakanya ikhansela lendawo amakhosi izinduna, esizoba nomsebenzi wokuqasha abantu bendawo ngesikhathi kwakhiwa
- Umxhumanisi womphakathi nosonkontileka oyoqokwa kumele aqashwe ukuze umphakathi wazi ngemisebenzi ezokwenzeka njalunjalo zigabazonke kwi-projekthi nokulekelela ekunciphiseni izikhalo eziphuma emphakathini. Izingxoxo zezinxephezelo nenkokhelo nabobonke abathintekayo kumele zenziwe ziphuthulwe ngaphambili kokuba kuqalwe kwakhiwe. Umxhumanisi womphakathi nosonkontileka uyolekelela kulesisigaba futhi. Ukwakha uhlelo lokuphatha nokunakekela imvelo ngenkathi kwakhiwa, nankenkathi umsebenzi usuwenziwe, okulotshwe kuwo kwenziwe (umbhalo okumele uthole imvume emnyangweni wezolimo nezemvelo). Umqaphi wokunakekelwa kwemvelo nabantu nokungaphazamiseka kumele aqashwe ukuze agade ukuba imisebenzi kasonkontileka kayiphazamise yini imvelo.
- Bonke abazibandakanye nomsebenzi wokwakhiwa okubandakanya usonkontileka, onjiniyela kunye nabasebenzi abalekelela ibhizinisi likasonkontileka, bamelwe umsebenzi wokunakekela imvelo nokwegwema imithelela emibi engaba khona ngokuba okungenzeka kuzokhokhelwa yibo emaphaketheni abo. Ukusulwa kwezimila kuzolandlelwa imigudu efanele enobuciko kanjalo nangokuthola isihlabathi sibuyiselwe ebesigugulekile. Lokhu kuizokwenzi njalolunjalo lapho kuihamba khona umgudu wepayipi futhi kudingekile ngokomthetho.
- Umnyango obhekenelele nokuvikela amafa namagugu kwazulu natali kumele kuxhunyanwe nawo uma kutholakala amathambo, amathuna noma izindawo zamagugu ngesikhathi kusetshenzwa. Kumele kuqikelelwe ukuba kuyacophelelwa uma ipayipi liwelwa imifula nemifudlana. Amalaysensi adingakalayo okudonsa amanzi kumele atholakale eMnyangweni wezaMansi (Department of Water Affairs) noma kuzowelwa kuthintekela amaxhaphozi noma kuwelwa imifuma nemifudlanalzimvume ziyadingeka eziphuma enhlanganweni evikela imvelo eyaziwa nge-Ezemvelo KZN Wildlife (EKZNW) nemvume eMnyangweni wezaManzi namaHlathi iyadingeka uma kuzogugulwa amahlathi ngenxa yokufaka izakhiwo ezihlongoziwe.



DRAFT BASIC ASSESSMENT REPORT

Makhabeleni Regional Water Supply Scheme including bulk reticulation and storage infrastructure between Jameson's Drift and the settlement of Kwasenge, Ward 10, Umvoti Local Municipality, Umzinyathi District Municipality, KwaZulu-Natal
DAEA EIA REF: DC24/0026/2011

Submitted in terms of the Environmental Impact Assessment Regulations, 2010 promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998)

The extension of potable water supply to the Makhabeleni Rural Water Supply Scheme (RWSS) Phase 6 area makes use of the existing Makhabeleni Water Treatment Works (Jameson's Drift). The existing distribution systems (Makhabeleni Phase 1-5) include approximately 90km of reticulation pipelines, and 18km of bulk gravity and rising mains, four booster pump stations and 10 reticulation reservoirs. The objective of the Makhabeleni RWSS: Phase 6 is to provide a sustainable and reliable supply of potable water to the rural communities located in the areas of Nophethu and Kwasenge.

The following infrastructure has been designed for implementation over the next three years, and upon completion will ensure that the entire Makhabeleni Traditional Council area has access to a basic level 1 Water supply.

- Bulk Water Pipelines - Gravity Mains 9.1km , Rising Mains, 14.5km
- Booster Pump stations
- Reticulation Reservoirs:
- Domestic Reticulation Network - 86.1km of pipe

Service Levels - the ultimate demand (@60 l/p/d) including peak factors and losses for Phase 6 is calculated at 0.641 Ml/day, or 7,429 l/s.

The phase 6 area is to be gravity fed from an existing Command Reservoir to the first of six reticulation reservoirs at approximately 420m MSL. Water is then to be pumped up between reticulation reservoirs in approximately 200m lifts to a final elevation of approximately 1260m MSL at the command reservoir of the system.

Location:

The Makhabeleni tribal authority is located between the southern banks of the uThukela River, with Kranskop town to the south, the Ilembe boundary (Mandjeni River) to the south east and farm land / forestry to the west / south west. The eastern communities of Makhabeleni are accessible from Main Road 16 (from Kranskop). The western communities are accessed from Greytown off District Road 215. The water supply project deals specifically with the area to the west of the treatment works at Jameson's Drift, incorporating the Kwasenge area.

Purpose and Need:

The purpose and need of the proposed development has been defined as follows:

- *Fulfilling a need for water in the Makhabeleni communities;*
- *To provide adequate and appropriate services to tribal settlement areas where the quality of services is low;*
- *To promote local economic development during the construction phases of the development in terms of direct employment and ancillary requirements; and*
- *To improve basic living conditions through the provision of an assured water supply*

The Listed Activities applicable to the development are GNR 544 (11 & 18) and GNR 546 (14), relating to impacts on wetlands, watercourses, and indigenous vegetation. No Waste Management Activities pertain to this development.

ENVIRONMENTAL IMPACT STATEMENT

Preferred Alternative

1. In regard to the biophysical environment, there do not appear to be any environmental issues which should prevent the proposed development from being implemented. The proposed development is likely to result in an acceptable loss of habitat, and is unlikely to impact significantly on the local fauna and flora. This is due to the relatively small area (in terms of the linear activity) that the development is proposed to occupy, and the high potential for rehabilitation after construction.

2. With regard to sewage disposal there are no significant impacts predicted if mitigation measures are instituted.

3. In the case of water-related impacts, there are no significant impacts predicted: If drainage is properly managed and bare areas kept vegetated, soil erosion can be kept at low levels. Higher levels of erosion are expected to occur during the construction phase but if the mitigation steps are implemented the impact would be negligible. The change in erosion as a result of the proposed activity would most likely be no more than the *status quo*. The impacts predicted by a pipeline failure would have a negative effect on the surrounding environment, however if the water pipeline is installed carefully and correctly and regular maintenance is carried out on the structure, this should be avoided and is extremely unlikely.

4. There do not appear to be any solid waste issues with regards to the proposed development provided the above mentioned mitigatory steps (stated in the impact / mitigation sections) are instituted (during all phases of the development).

5. The potential traffic issues related to the proposed development would not be highly significant as a meaningful increase in traffic (and heavy vehicles) would only be expected in the construction and closure phases. There should not be any significant traffic impacts during the operational phase. The construction phase would have an increase in traffic as construction vehicles would have to travel to and from the site transporting various materials i.e. road deterioration. If these roads are maintained regularly by the municipality this issue should be negated. Background traffic levels are very low.

6. The construction phase would significantly change the soil structure of the ground under the development footprint. This would have negative impacts on the hydrology of the certain localities within the proposed area. This impact although fairly significant, would be localized to the development footprint and is not significant on a spatial scale.

7. No safety and security impacts were found to be significant provided mitigation measures are implemented.

8. Aesthetic impacts relating were found to be insignificant.

9. There do not appear to be any negative socio-economic impacts associated with the development that should prevent it from occurring. The proposed development will create positive socio-economic impacts in terms of creating a sustainable and reliable water supply for the region, improving sanitation and quality of life, and is likely to concomitantly promote local economic development.

The proposed pipeline scheme is the only water supply alternative available that would deliver potable water to this area in a reasonable amount of time and at a reasonable cost.

The No-go Alternative

Continuing the current *status quo* would result in significant negative social-economic impacts through the lack of a sustainable and reliable water supply to the local communities. There is currently dissent from the community in respect of the poor state of water delivery. Further resentment from the local residents would follow.

The No-go would not meet the purpose and need of the proposed application.

Recommendation

It is in the view of the Environmental Assessment Practitioner that the preferred activity is (i) biophysically acceptable, (ii) socially beneficial, (iii) economically the best option, and (iv) will maximize the purpose and need of the application.

It is recommended that the preferred activity is granted environmental authorization, as described in Section 2 of the Basic Assessment Report.

In this regard it is fundamental that an EMPr is developed for the project, and that all mitigatory measures in the Basic Assessment Report, including specialist reports, are included in the final EMPr to be approved by the DAEA.

The following recommendations must be undertaken as conditions to approval of environmental consent:

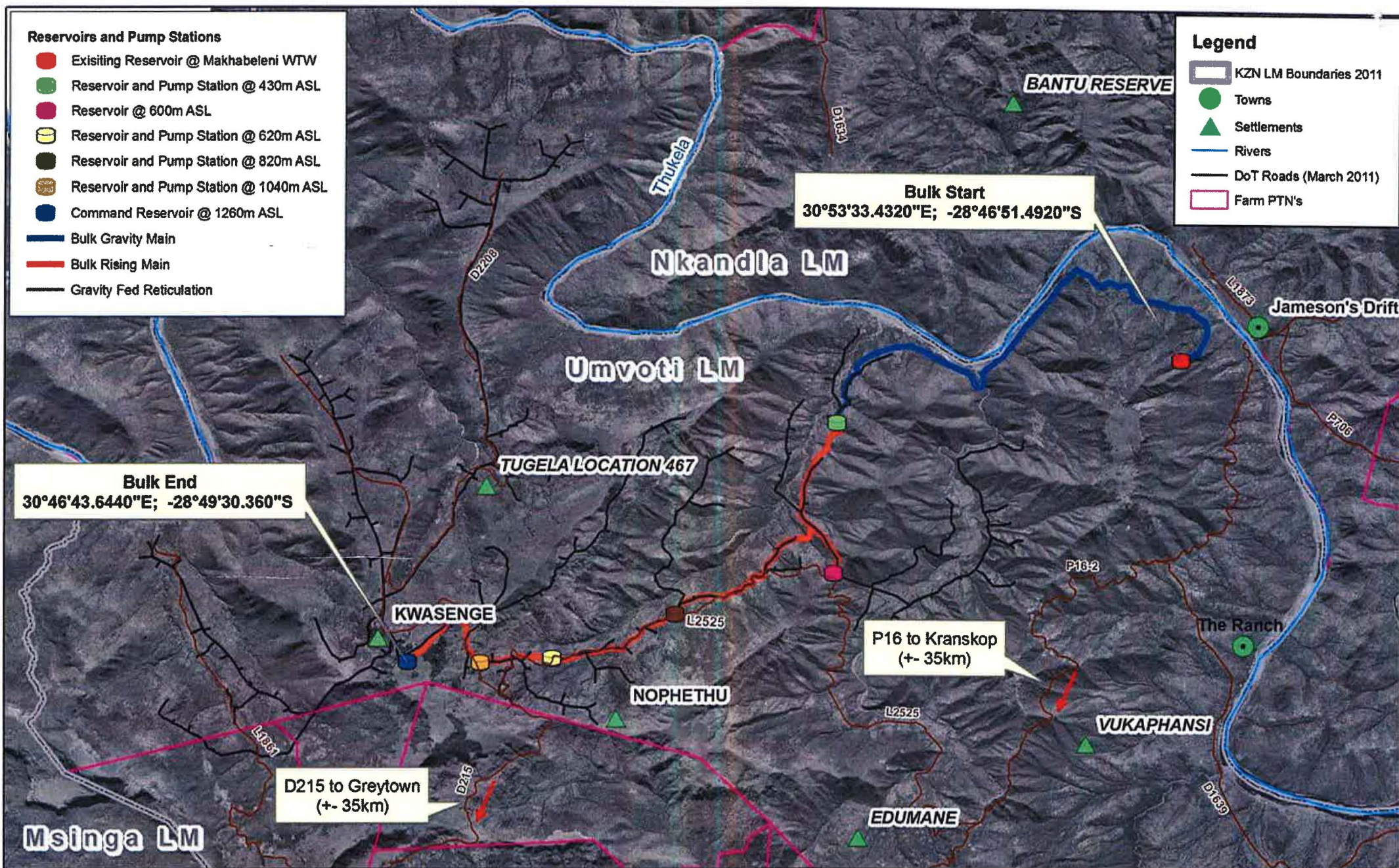
- A Project Steering Committee (PSC) should be established, including the local Ward Councillors and Amakhosi Councillors (iZinduna), to discuss issues of employing local labour to ensure economic benefits accrue to the local population.
- A social facilitator (liaison) must be employed to liaise with the local community to ensure that the community that is impacted is aware of the construction activities and have an open channel to the contractors and engineers to ensure that any grievances are remedied.
- The process of negotiating compensation in respect of the loss of any infrastructure or resources along the route must commence prior to construction taking place. The social facilitator should preferably be the same person as in the point above.
- Compilation and adherence to the EMPr for the life of the pipeline development must be undertaken to ensure that activities are environmentally sound (the final EMPr would have to be approved by DAEA).
- A suitably qualified Environmental Control Officer must be appointed to guide the contractor through the construction phase and ensure compliance with the EMPr and conditions in the Basic Assessment Report.
- All parties involved in the construction and ongoing maintenance of the pipeline (including contractors, engineers, and administrators) are, in terms of NEMA's "Duty of Care" and "Remediation of Damage" principals (Section 28), required to prevent any pollution or degradation of the environment, are responsible for preventing impacts occurring, continuing or recurring and are responsible for the costs of remediation (should damage occur).
- Removal of alien invasive plants with specific follow-up control measures, and reclamation and management of soil erosion along the proposed pipeline alignment is an ongoing requirement in terms of national legislation.

Reservoirs and Pump Stations

- Existing Reservoir @ Makhabeleni WTW
- Reservoir and Pump Station @ 430m ASL
- Reservoir @ 600m ASL
- Reservoir and Pump Station @ 620m ASL
- Reservoir and Pump Station @ 820m ASL
- Reservoir and Pump Station @ 1040m ASL
- Command Reservoir @ 1260m ASL
- Bulk Gravity Main
- Bulk Rising Main
- Gravity Fed Reticulation

Legend

- KZN LM Boundaries 2011
- Towns
- ▲ Settlements
- Rivers
- DoT Roads (March 2011)
- Farm PTN's



AFZELIA

Environmental Consultants cc



Makhabeleni Regional Water Supply Scheme - Route Alignment

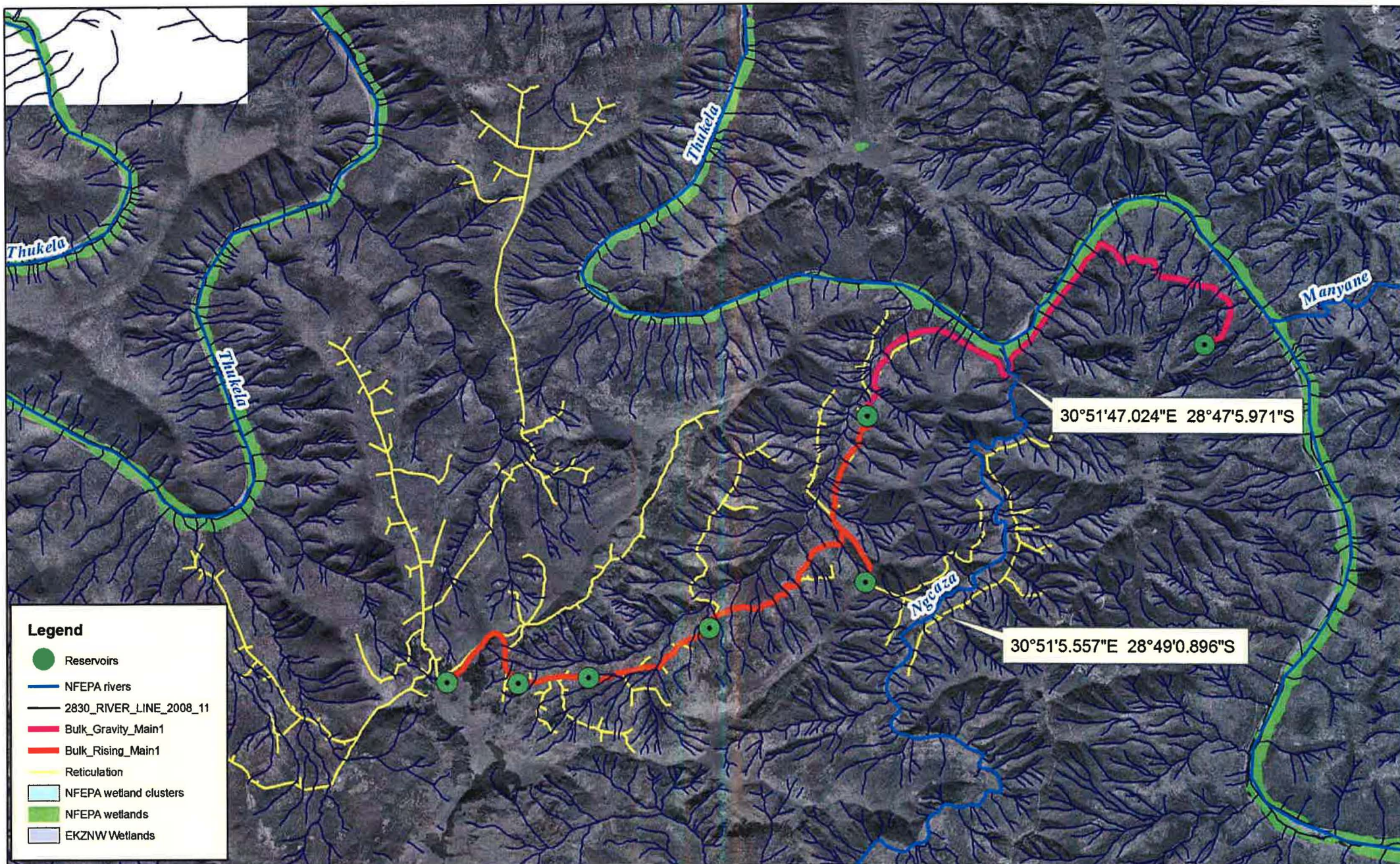
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**HERITAGE SURVEY OF THE PROPOSED
MAKHABELENI REGIONAL WATER SUPPLY SCHEME
INCLUDING BULK RETICULATION AND STORAGE
INFRASTRUCTURE, KWA-ZULU NATAL

FOR AFZELIA ENVIRONMENTAL CONSULTANCY**

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FIG. 1 GENERAL LOCATION OF THE PROPOSED MAKHABELENI RBWSS

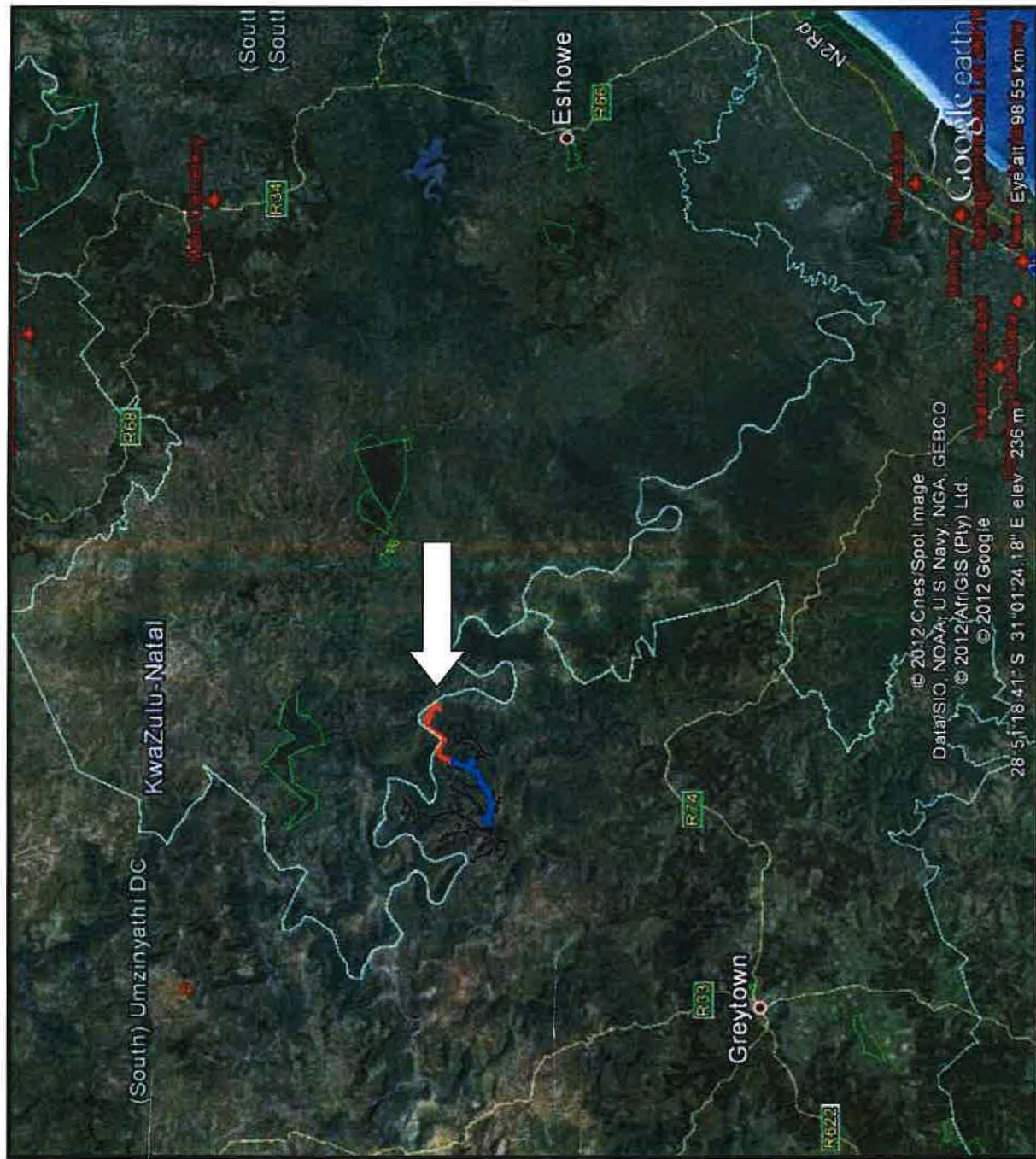
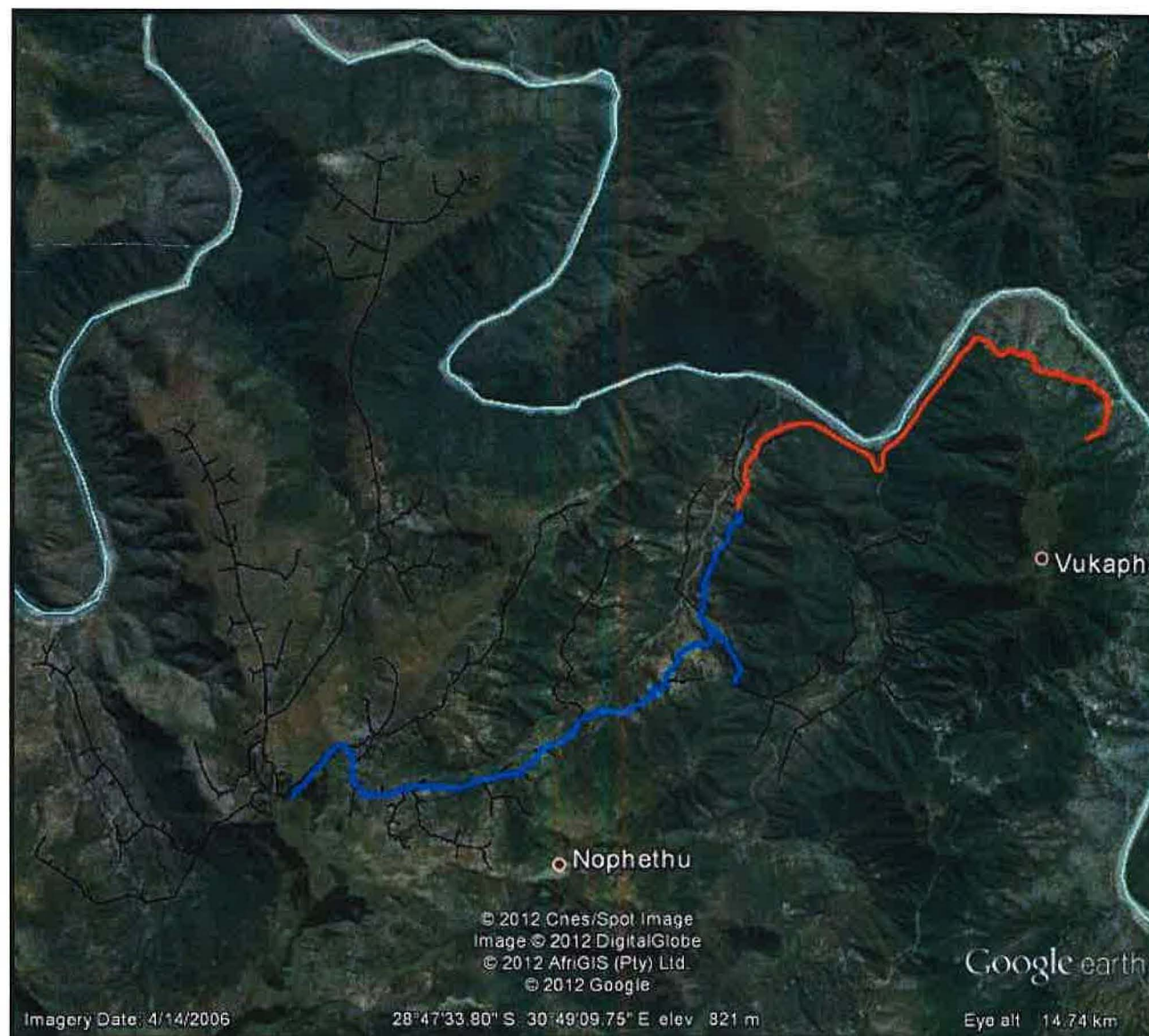
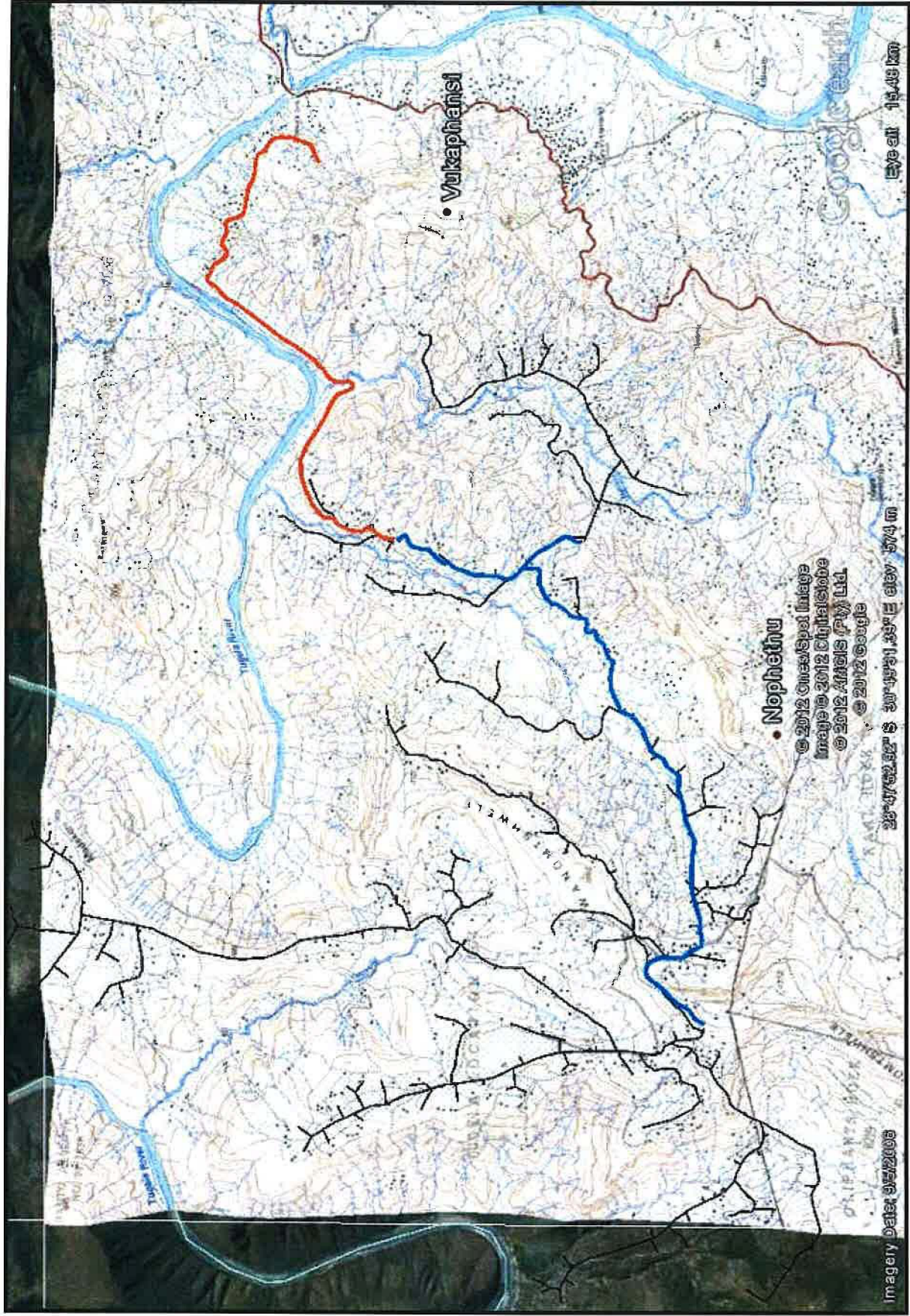


FIG. 2: AERIAL OVERVIEW OF THE PROPOSED MAKHABELENI RBWSS¹



¹ Blue = Bulk Rising Main; Red = Bulk Gravity main; black = Reticulation

FIG. 3: TOPOGRAPHICAL MAP OF THE PROPOSED MAKHABELENI RBWSS



KWAZULU-NATAL HERITAGE ACT NO. 4 OF 2008

1. General protection: Structures.—
 - a. No structure which is, or which may reasonably be expected to be older than 60 years, may be demolished, altered or added to without the prior written approval of the Council having been obtained on written application to the Council.
 - b. Where the Council does not grant approval, the Council must consider special protection in terms of sections 38, 39, 40, 41 and 43 of Chapter 9.
2. The Council may, by notice in the *Gazette*, exempt—
 - a. a defined geographical area; or
 - b. defined categories of sites within a defined geographical area, from the provisions of subsection where the Council is satisfied that heritage resources falling in the defined geographical area or category have been identified and are adequately protected in terms of sections 38, 39, 40, 41 and 43 of Chapter 9.
 - c. A notice referred to in subsection (2) may, by notice in the *Gazette*, be amended or withdrawn by the Council.
3. General protection: Graves of victims of conflict.—No person may damage, alter, exhume, or remove from its original position—
 - a. the grave of a victim of conflict;
 - b. a cemetery made up of such graves; or
 - c. any part of a cemetery containing such graves, without the prior written approval of the Council having been obtained on written application to the Council.
4. General protection: Traditional burial places.—
 - a. No grave—
 - b. not otherwise protected by this Act; and
 - c. not located in a formal cemetery managed or administered by a local authority, may be damaged, altered, exhumed, removed from its original position, or otherwise disturbed without the prior written