

**PROPOSED AUGMENTATION OF THE KWAZAKHELE BULK SEWER
MAIN PIPELINE (PHASE 3), NELSON MANDELA BAY MUNICIPALITY,
EASTERN CAPE PROVINCE:**

BACKGROUND INFORMATION DOCUMENT

EIA REF: PENDING

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1. INTRODUCTION

Terratest (Pty) Ltd has been appointed by Afri-Coast Engineers SA on behalf of the Nelson Mandela Bay Municipality (NMBM) to provide the required professional environmental services required to obtain all authorisations / licenses / permits required in terms of the current Environmental Legislation, for the undertaking of the proposed augmentation of the Kwazakhele Bulk Sewer Line.

To this end, Terratest (Pty) Ltd performed a Screening Assessment of the development proposal, the receiving environment and the current, applicable, environmental legislation. The results indicate that the proposed development requires Environmental Authorisation from the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as well as a Water Use License from the Department of Water and Sanitation (DWS) in line with the requirements of the National Water Act, 1998 (Act No. 36 of 1998) (NWA).

The role players in the project are:

APPLICANT	Nelson Mandela Bay Municipality
DESIGN ENGINEERS	Afri-Coast Engineers SA
ENVIRONMENTAL ASSESSMENT PRACTITIONER	Terratest (Pty) Ltd
COMPETENT AUTHORITY	Eastern Cape Department of Economic Development, Environmental Affairs and Tourism

2. AUTHORISATION REQUIREMENTS

2.1 Environmental Authorisation

The proposed development triggers activities listed in the Environmental Impact Assessment (EIA) Regulations (2014), published in terms of the NEMA. A summary of the activities triggered is contained in Table 1.

Table 1: Summary of Listed Activities triggered by the proposed development

NOTICE	ACTIVITY	DESCRIPTION
GN R983 4 December 2014 Listing Notice 1	19(a)	<i>The infilling or depositing of any material of more than 5 cubic meters into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic meters from...a watercourse...</i> Sections of the proposed pipeline will run through wetland areas which are, in

		terms of the NEMA, included in the definition of watercourse. Construction activities will require the excavation and removal of material from these watercourses to allow for the installation of the pipeline. As the volume of material to be excavated will exceed 5 m ³ , this listed activity is triggered.
GN R985 4 December 2014 Listing Notice 3	12(a)(ii)	<i>The clearance of an area of 300 square meters or more of indigenous vegetation...in Eastern Cape... within critical biodiversity areas identified in bioregional plans...</i> The proposed development will require the clearance of in excess of 300 m ² of vegetation on a site which falls within an area identified in the Final NMBM Bioregional Plan (dated 14 November 2014) as a Critical Biodiversity Area (CBA).
GN R985 4 December 2014 Listing Notice 3	14(xii)(a)(c) (c)(i)	<i>The development of infrastructure or structures with a physical footprint of 10 square meters or more, where such development occurs...within a watercourse...or...within 32 meters of a watercourse, measured from the edge of the watercourse...In Eastern Cape...in an estuarine functional zone....</i> The footprint of the proposed pipeline will exceed the 10 m ² threshold. The pipeline is routed within the functional zone of the Swartkops Estuary, as delineated in the National Biodiversity Assessment, 2011.

As the activities triggered are listed in Listing Notices 1 and 3, the proposed development requires **Environmental Authorisation** subject to a **Basic Assessment** process.

2.2 Water Use License

The proposed development is subject to the provisions of Section 21 of the NWA. This section lists Water Uses for which a General Authorisation or Water Use License are required.

The proposed development will require engaging in two identified water uses, namely:

- (c) Impeding or diverting the flow of water in a watercourse; and
- (i) Altering the bed, banks, course or characteristics of a watercourse.

As per the provisions contained in Section 6(b) of GN 1199 of 18 December 2009, as the proposed water uses will be undertaken within a 500 m radius of a wetland area, they are excluded from General Authorisation and require an application for a Water Use License. This will need to be confirmed, however, through consultation with the DWS.

3. SITE LOCATION AND DESCRIPTION

The proposed pipeline comprises a section of the Kwazakhele Bulk Sewer Main Line, measuring approximately 830 m in length and running from an existing manhole, located along Access Road, within the existing foulwater servitude located adjacent to Grahamstown Road, crossing beneath the John Tallent Road (MR 443) and terminating at a connection point within the Fishwater Flats WWTW.

The property across which the proposed pipeline will run is Erf 419, Swartkops, which is owned by the NMBM.

Maps indicating the route of the proposed pipeline are included, labelled as Figures 1 and 2.

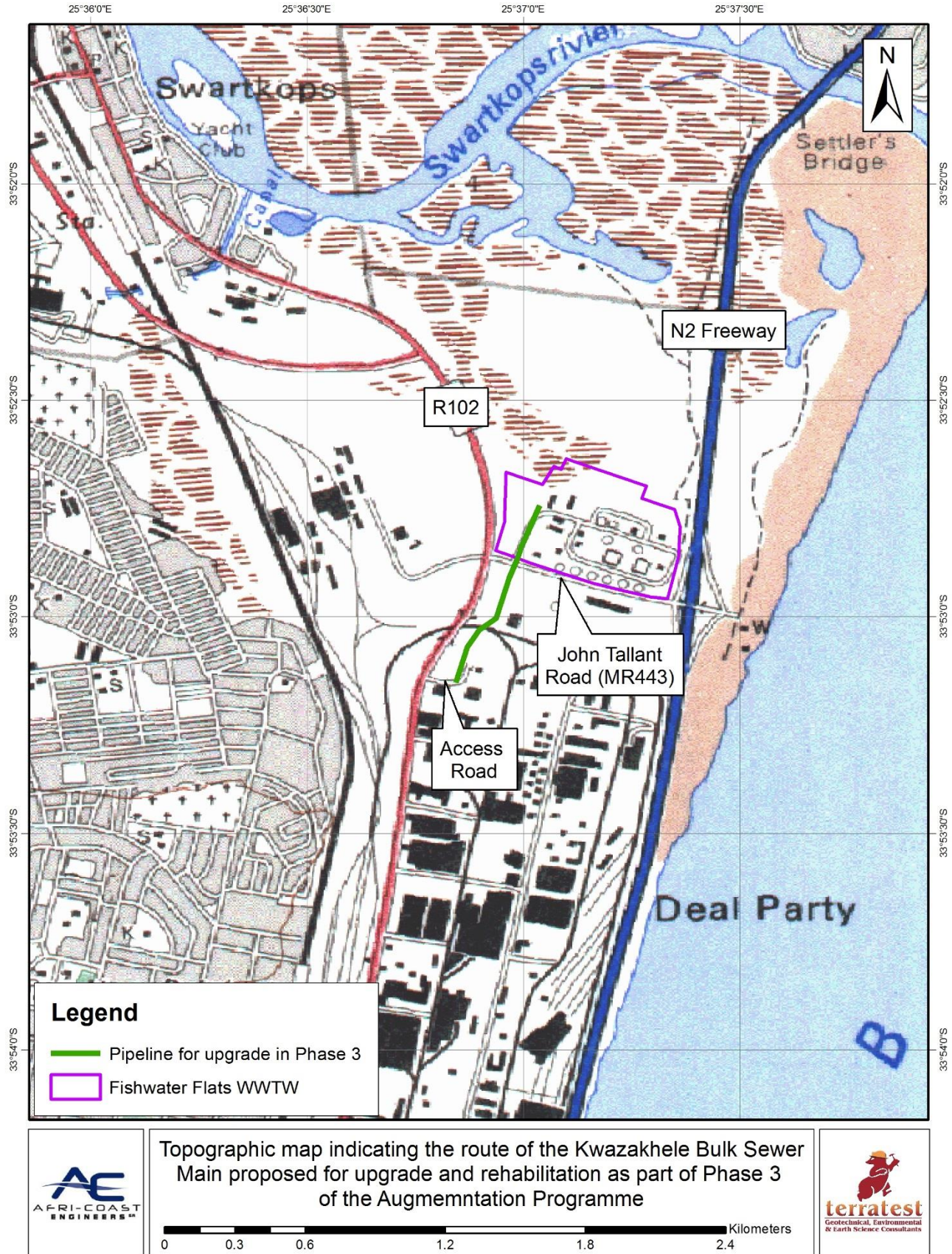


Figure 1: Topographic map indicating the route of the section of the Kwazakhele bulk sewer main line which is proposed for upgrade and rehabilitation as part of Phase 3 of the NMBM's Augmentation Programme.

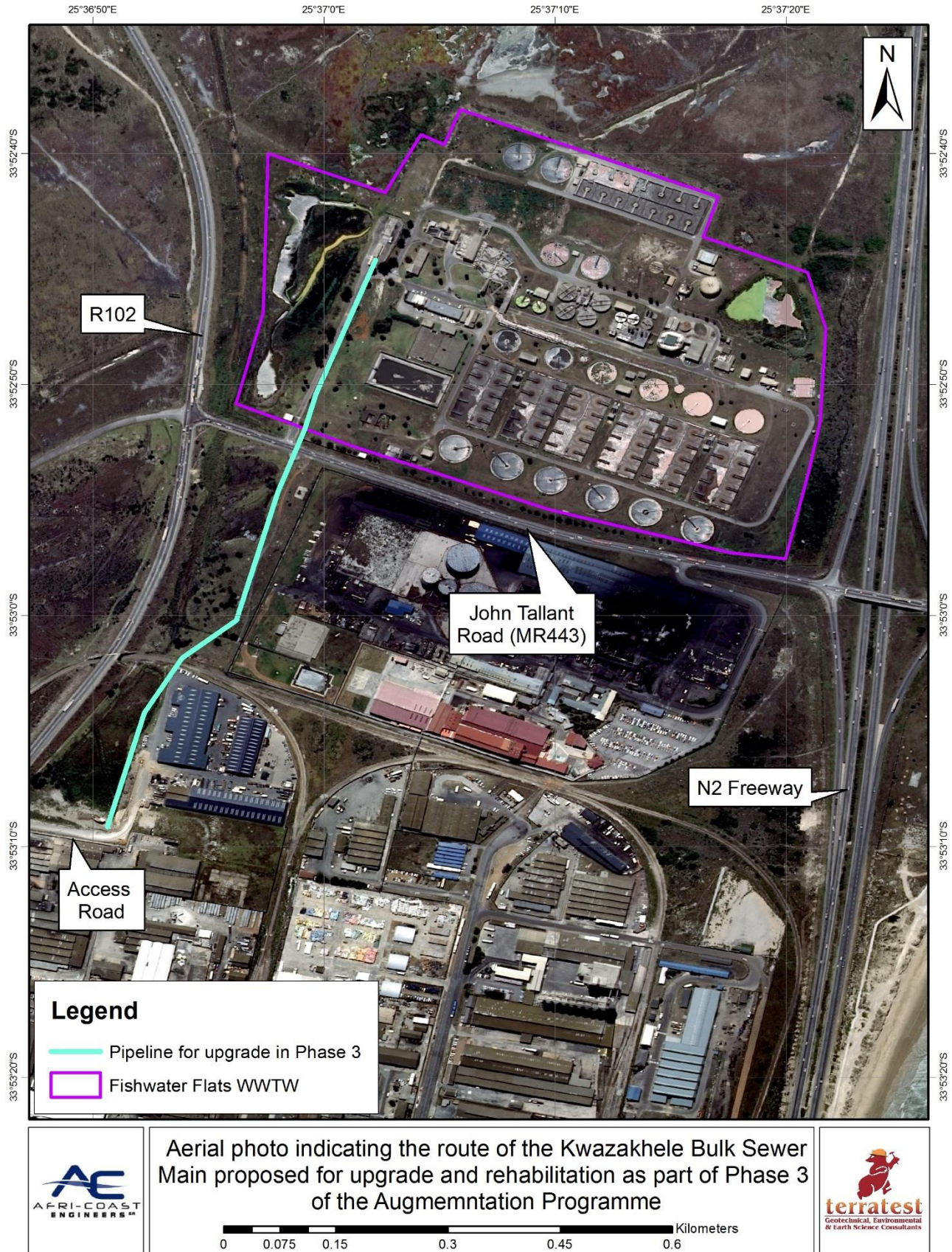


Figure 2: Aerial photo indicating the route of the section of the Kwazakhele bulk sewer main line which is proposed for upgrade and rehabilitation as part of Phase 3 of the NMBM's Augmentation Programme.

4. THE PROPOSED ACTIVITY

The Kwazakhele Main Sewer line, in its current form, does not provide adequate capacity to convey peak wet weather sewage outflow from the Kwazakhele catchment area to the wastewater treatment works (WWTW) at Fishwater Flats. This has resulted in a number of failures, including surcharge and overflow from existing manholes and the collapse of sections of the pipeline, in particular in Murdoch Street and under Grahamstown Road.

In addition to being insufficient to accommodate stormwater influxes, the pipeline is unable to meet the demand of the Kwazakhele area, which has undergone significant growth since the pipeline was installed.

In order to prevent future disastrous failures, the NMBM has implemented an augmentation programme. This has the dual purpose of increasing the capacity of the existing sewerage system and rehabilitating the system.

Phases 1 and 2 of the augmentation programme have been completed. These included the construction of a permanent bypass sewer to convey the peak dry weather flows from the Kwazakhele Catchment around privately owned land (on which the Tenneco Automotive Industrial site is located). In addition, rehabilitation of the existing sewer under Grahamstown Road, down Murdoch Street and through the Tenneco Automotive site, has been undertaken.

Phase 3 of the augmentation programme, which is the subject of this assessment process, will comprise the construction / extension of the bypass all the way to the Fishwater Flats WWTW. This will require the installation of an 830 m long, 700 mm diameter GRP sewer pipe from the northern boundary of the Tenneco Automotive site to the WWTW. Once inside the fence of the WWTW, the diameter of the pipe will be increased to 1 100 mm.

Phase 4, which is the final phase of the augmentation programme, will comprise the rehabilitation of the existing sewer to Fishwater Flats WWTW, entailing the relining of the existing pipe.

5. BASELINE ENVIRONMENTAL DESCRIPTION

5.1 Vegetation

The vegetation of the development site is predicted by Mucina and Rutherford (2006) to comprise of a combination of Cape Estuarine Salt Marshes (AZe 2), Sundays Thicket (AT 6) and Algoa Dune Strandveld (AZs 1) (see Figure 3).

Cape Estuarine Salt Marsh is described as comprising of estuarine flats and systems of low riverine terraces supporting complexes of low herblands and shrublands dominated by succulent chenopods and other flood-tolerant hydrophytes. Salt marsh meadows tend to be dominated by rushes and sedges.

Sundays Thicket is described as comprising of tall, dense thicket where trees, shrubs and succulents are common, with many spinescent species present. Algoa Dune Strandveld is made up of tall dense thickets, located on dunes which fall outside the influence of salt spray. These are dominated by stunted trees, shrubs, abundant lianas and sparse herbaceous and grassy undergrowth.

All three vegetation types were classified as Least Threatened in the 2004 National Biodiversity Assessment. None of the three is listed as a threatened ecosystem on the list published in GN 1002 (9 December 2011) in terms of the National Environmental Management Biodiversity Act, 2005 (Act No 10 of 2004) (NEMBA).

During the site visit it was noted that the areas through which the pipeline is proposed to be routed have been disturbed or entirely transformed by previous development activities and surrounding land uses. Vegetation in the area does not therefore very closely resemble the vegetation types described above.



Figure 3: Map indicating the vegetation types occurring on and in the areas surrounding the proposed development site (Mucina and Rutherford, 2006).

5.2 Surface Water Features

5.2.1 Wetlands

The SANBI (2008) and National Fresh Water Ecosystem Priority Areas (NFEPA) (2011) databases were queried. These both indicate that a section of the proposed pipeline will run through a wetland area (see Figures 4 and 5). The NFEPA database identifies this as a natural valley-head seep wetland which has been found to be heavily to critically modified as a result of overlap with an artificial inland water body (identified by the Department of Land Affairs: Chief Directorate of Surveys and Mapping (2005 – 2007)). It is likely that the artificial water body referred to is an excavated drainage channel established in the past to drain and dry out the floodplain / estuary area associated with the Swartkops River, and therefore allow development to occur. In addition, it is likely that this channel functions as a stormwater drain for water running off the R102 Road.

According to the NFEPA Database, none of the wetland areas occurring in proximity to the proposed development site are listed as Priority Areas for conservation.

5.2.2 Estuaries

The National Biodiversity Assessment (2011) included a detailed assessment of estuarine areas. The Swartkops Estuary and its functional zone were mapped during the assessment (see Figure 6). The current health of the system was categorised as C = moderately modified. The estuary was recommended for partial protection.



Figure 4: Map indicating the location of wetlands occurring on and in the areas surrounding the proposed development site (SANBI, 2008).



Figure 5: Map indicating the location of wetlands occurring on and in the areas surrounding the proposed development site (NFEPA, 2011).



Figure 6: Map indicating the extent of the Swartkops Estuary Functional Zone in relation to the proposed development site.

6. ENVIRONMENTAL SCOPE OF WORK

6.1 Basic Assessment Process

The required Basic Assessment process will be undertaken in accordance with the requirements of NEMA and the EIA Regulations (2014). The EAP is required to conduct the environmental application process and manage the public participation process, which is currently underway. As part of this process, Terratest (Pty) Ltd will perform the following:

1. Identify and notify key stakeholders, authorities and municipalities, environmental groups and interested or affected parties, hereafter referred to as IAPs;
2. Compile a detailed Background Information Document (BID) for the proposed development (this document), providing details to IAPs of:
 - a. The listed activities that trigger the Environmental Authorisation process;
 - b. The scope of work;
 - c. The locality and current land use at the site;
 - d. A detailed site description;
 - e. The Basic Assessment process to be followed; and
 - f. The opportunity for IAPs to comment on the project.
3. Advertise the environmental application in a newspaper applicable to the region;
4. Place a notification poster/posters on and surrounding the site;
5. Obtain consent from the landowner to undertake the application process (if necessary);
6. Attend Public Liaison Committee (PLC) meetings and workshops, where necessary;
7. Host a Public meeting, if necessary, providing details of issues identified by the EAP, stakeholders and IAPs;
8. Record all comments of IAPs and present such comments, as well as responses provided by Terratest (Pty) Ltd, in a full Comments and Responses Report, for inclusion into the Basic Assessment Report which will be submitted to the Competent Authority for decision-making; and
9. Circulate all IAP comments to the project team.

The Basic Assessment Report will be made available to all relevant stakeholders and registered IAPs for comment, before being submitted to the Competent Authority for review and decision-making.

6.2 Water Use Licensing

Terratest (Pty) Ltd will engage with the DWS in a pre-consultation meeting to confirm the need for a General Authorisation or Water Use License for the water uses proposed to be undertaken on this project. The required application process will be conducted in accordance with the requirements of the NWA and its applicable Regulations and will run in parallel to the Environmental Authorisation application process. The intention is to obtain all required approvals at the same time.

7. HOW DO I PARTICIPATE?

Every proposed development has the potential to significantly affect the natural, social and economic environments, both at, as well as surrounding the proposed site. For this reason it is imperative that you as a stakeholder or an IAP comment on the proposed project and **highlight any issues or concerns** that you feel need to be considered during the proposed planning and implementation process.

Should you wish to register as an IAP or should you have any comments regarding the proposed development, please **state your interest** in the proposed development along with any **comments or queries** you may, on the form provided.

Please return these comments, via email, fax or post to details provided, before 30 **April 2015**. Alternatively, the EAP listed below can be contacted directly.

**THE PROPOSED AUGMENTATION OF THE KWAZAKHELE BULK SEWER MAIN PIPELINE
(PHASE 3), NELSON MANDELA BAY MUNICIPALITY, EASTERN CAPE PROVINCE**

REGISTRATION FORM
Name: Surname Postal Address: Postal Code: Tel No: Fax No: Cell No: e-mail :
Please state your interest in the proposed project.
Comments: (add extra pages should you need)
Do you require any additional information?
Other parties which you think should be included in the process:
<i>Your comments are highly appreciated, and will be included in the final report to be submitted to the decision-making authorities.</i>
<u>PLEASE RETURN NO LATER THAN 30 APRIL 2015 TO:</u> Cherize Mattheus c/o TERRATEST (PTY) LTD PO Box 27308 Greenacres Port Elizabeth 6057 Tel: 041 363 4428 Fax: 041 363 1922 email: mattheusc@terratest.co.za