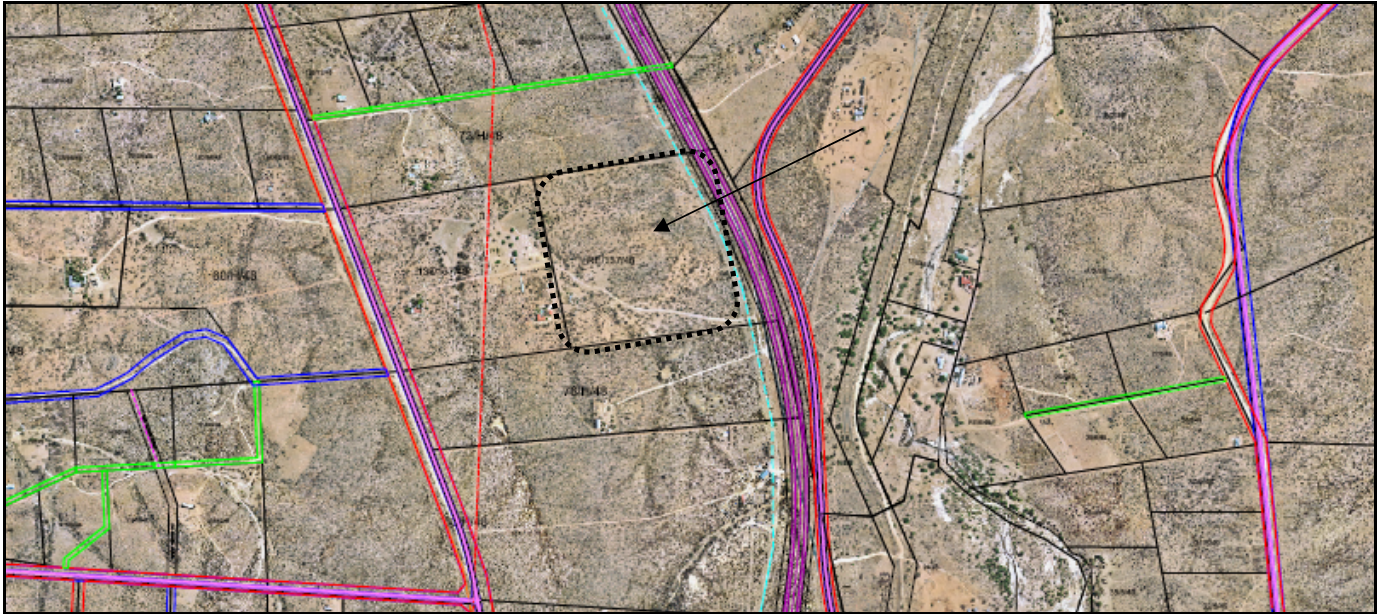


REMAINDER 137 OF FARM BRAKWATER NO. 48

BACKGROUND INFORMATION DOCUMENT FOR ENVIRONMENTAL IMPACT ASSESSMENT



Source: Brakwater Bulk Services Master Plan (2010)

THE PURPOSE OF THIS DOCUMENT

The purpose of this Background Information Document (BID) is to brief Interested and Affected Parties (I&APs) and stakeholders about an Environmental Impact Assessment (EIA) being undertaken for the Remainder 137 of the Farm Brakwater No. 48 for the proposed development of an Industrial Park by rezoning and subdividing the mentioned Portion into 16 to 20 erven of which the exact type of industrial activity is not known at this stage.

Besides supplying information about the proposed Remainder 137 of the Farm Brakwater No. 48, this BID also provides an opportunity for people to register as I&APs in the public participation process and to submit any initial comments they may have. Such comments will ensure that all the issues of relevance to the proposed development are evaluated in the EIA.

BACKGROUND

Portion Re/137 of the Farm Brakwater No. 48 is situated in the central parts of the larger Brakwater, just west of the existing Motocross Track on Portion H/48 and the B1 highway from Windhoek to Okahandja (see Figure 1-3). The portion is 21,5616 ha in extent and is being used for 'residential' purposes with a density of 1 dwelling unit per 5 hectares as stipulated by the Windhoek Town Planning Scheme.

THE PROPOSED REZONING AND SUBDIVISION

Locality:

Portion Re/137 of the Farm Brakwater No. 48 is situated in the central parts of the larger Brakwater, just west of the existing Motocross Track on Portion H/48 and the B1 highway from Windhoek to Okahandja (see Figure 1-3).



Figure 1 Locality map (Sub-regional Scale)



Figure 2 Locality map (Local Scale)



Figure 3 Locality plan

Rezoning and subdivision:

It is the intention of the owner of Portion Re/137 of the Farm Brakwater No 48 to subdivide the land into 16-20 erven as well as to rezone the property from residential to industrial in order for the establishment of an Industrial Township. The overriding land use in the surrounding area of Portion Re/137 has changed from residential to industrial with most plots conducting industrial / business activities already.

This land use change is in line with the Policy Guidelines of the City of Windhoek for the area and it is anticipated that all properties in the area will eventually be rezoned to industrial use.

Infrastructure:

In terms of the Brakwater Bulk Services Master Plan (2010), the provision of bulk infrastructure capacity is regarded as being of critical importance on a city wide scale, but also considering the immediate and downstream implications of future urban expansion expected to house 184 000 residents and 3 150 industries.

Brakwater is not an established township, therefore the provision of services (i.e. water, electricity and sewer, roads, waste removal) from the side of the City of Windhoek was initially not provided. Over time the CoW however took responsibility in delivering some services, for instance the maintenance of roads.

Some of the properties, situated close to the existing municipal infrastructure (Nubuamis) have been linked to the municipal water supply network, although limited in capacity, while the others make use of boreholes. NamWater has appointed a Consultant to evaluate the NamWater scheme including pump stations and the pipelines. The future demand of Brakwater has been considered in their design evaluation. For the purpose of the Engineer's study, it is assumed that there will be sufficient capacity in NamWater's scheme to supply in the future demand of the Brakwater area.

Electricity to the larger number of properties is provided by NAMPOWER, the national bulk service provider. Septic tanks and french drains are almost exclusively used by all residents in the area.

The proposed Industrial Township Establishment are still being assessed in terms of their infrastructure development and all site plans and building plans, as well as supporting infrastructure will be designed in accordance with municipal building standards and safety regulations. Access is proposed from a service road via an existing ROW servitude from the adjacent property. All plans will be submitted to the City of Windhoek for approval once any industrial activity commences on the plot.

THE PERCEIVING ENVIRONMENT

Land Uses of Surrounding area

From the Brakwater Bulk Services Master Plan (2010) the physical characteristics of the larger Brakwater area played a prominent role in the allocation of different types of activities, prior and after incorporation as part of the larger Windhoek. Development was further guided by the availability of supporting infrastructure.

The larger area can be grouped into two areas of development, the central development corridor and the peripheral zones. As identified during the 1993 Land Use Survey (TRP Associates) non-agricultural activities (industrial and commercial) concentrated along the central spine (undulating areas of Brakwater, and Klein Windhoek river floodplains) characterised by the flatter topography and better supporting infrastructure (roads, water, electricity). The property in question (portion 35/48) falls within this industrial and commercial spine of Brakwater. Agricultural, residential and consent activities are located more to the west and east of this central spine (hilly areas of Nubuamis, Döbra and Elisenheim).

The larger area still has a prominent rural like character (density and activities). Since incorporation a variety of economic activities established throughout the larger area as expected of an area falling within the City's peri-urban interface. Similar to the findings of the 1993 Land Use Survey (TRP Associates) the majority of properties are however still used and developed for residential purpose, with some smallholdings engaged in small or medium scale agricultural activities such as raising livestock (cattle, sheep, goats, horses, and poultry) or small scale cropping or vegetable production. Commercial activities are few with the Brakwater Shopping Centre being most prominent. Industrial land uses (manufacturing & servicing) include taxidermy, the Bokomo mills, sand mining, brick manufacturing, and automotive engineering. Industrial and

commercial like activities concentrates along the B1 National Highway (Windhoek-Okahandja) and Klein Windhoek River, stretching north-south through the Brakwater area.

Geology and Soils

From the Brakwater Bulk Services Master Plan, 2010, the bedrock geology of the Brakwater area consists of Kuiseb Formation (Swakop Group) rocks. The dominant lithologies are biotite schist and quartz biotite schist. Other lithologies include micaceous quartzites and amphibole schist, metagreywacke, migmatites and minor serpentinite. Surficial deposits are generally thin over much of the area. Along the larger drainages, such as the ephemeral Klein Windhoek and the Döbra rivers, where the property is situated, thick alluvial deposits have developed particularly where the rivers are incised into the bedrock. Excavations for sand from these areas have revealed alluvial thickness of up to 4m.

Hydrogeological

From the Brakwater Bulk Services Master Plan, 2010 the Klein Windhoek River alluvium was found to contain saline groundwater in past studies by the CoW and is also confirmed by water quality information in the DWAF borehole records. There are few drilling records or water chemistry data of the alluvial deposits to assess the distribution or origin of the saline water.

Groundwater flow is northwards towards the Swakop River, in a similar direction to the surface water flow. Taking a range of hydraulic conductivity values for igneous and metamorphic rocks from literature and groundwater levels from the DWA database, approximate range of groundwater flow rates have been calculated from the project area to the Swakop River. The groundwater flow time for this distance (approximately 40kms) through the Kuiseb schist is large - in the order of several hundred years to thousand years. Flow through fractured schist and in the alluvial sediments is likely to be more rapid.

A site specific Hydrogeological study will still be compiled by Dynamic Water Resources Management to be included in the EIA.

Surface Water Systems

The surface run-off in the Brakwater area flows mainly from the south to the north over the site due to higher mountainous areas occurring in the southern and eastern regions of Brakwater. The general topography of the land, with the City of Windhoek falling within a valley, forms a natural catchment basin where all the water is collected and from which it is transported to the north (City of Windhoek, 2006).

Vegetation and Flora

From other Biophysical Flora studies compiled by Mr Peter Cunningham of the Brakwater area the actual as well as potential flora associated with the general area commonly referred to as the Thornbush Savannah – Tree and Shrub Savannah – (Giess 1971) or Thornbush Shrubland (Mendelsohn *et al.* 2002). This is the dominant vegetation type in Namibia and although varies the typical form is grassveld interspersed with trees and large shrubs (Giess 1971).

A site specific Biophysical Flora study will still be compiled by Mr Peter Cunningham to be included in the EIA.

Cultural Heritage Aspects

The area of Brakwater is not known to have any historical significance prior or after Independence in 1990. The area also does not host any National Monuments (Vogt, 2004).

Visual Aesthetics

The natural somewhat rural like character of the immediate Brakwater area has some scenic value, particularly in the context of the urban development sprawling northward along the B1 following the last remaining developable land. The hills to the east forming part of the Otjihavera Mountains which is approximately 2 000 m above sea level, take on an additional prominence in the landscape and provide for valuable viewing.

Socio Economic Environment

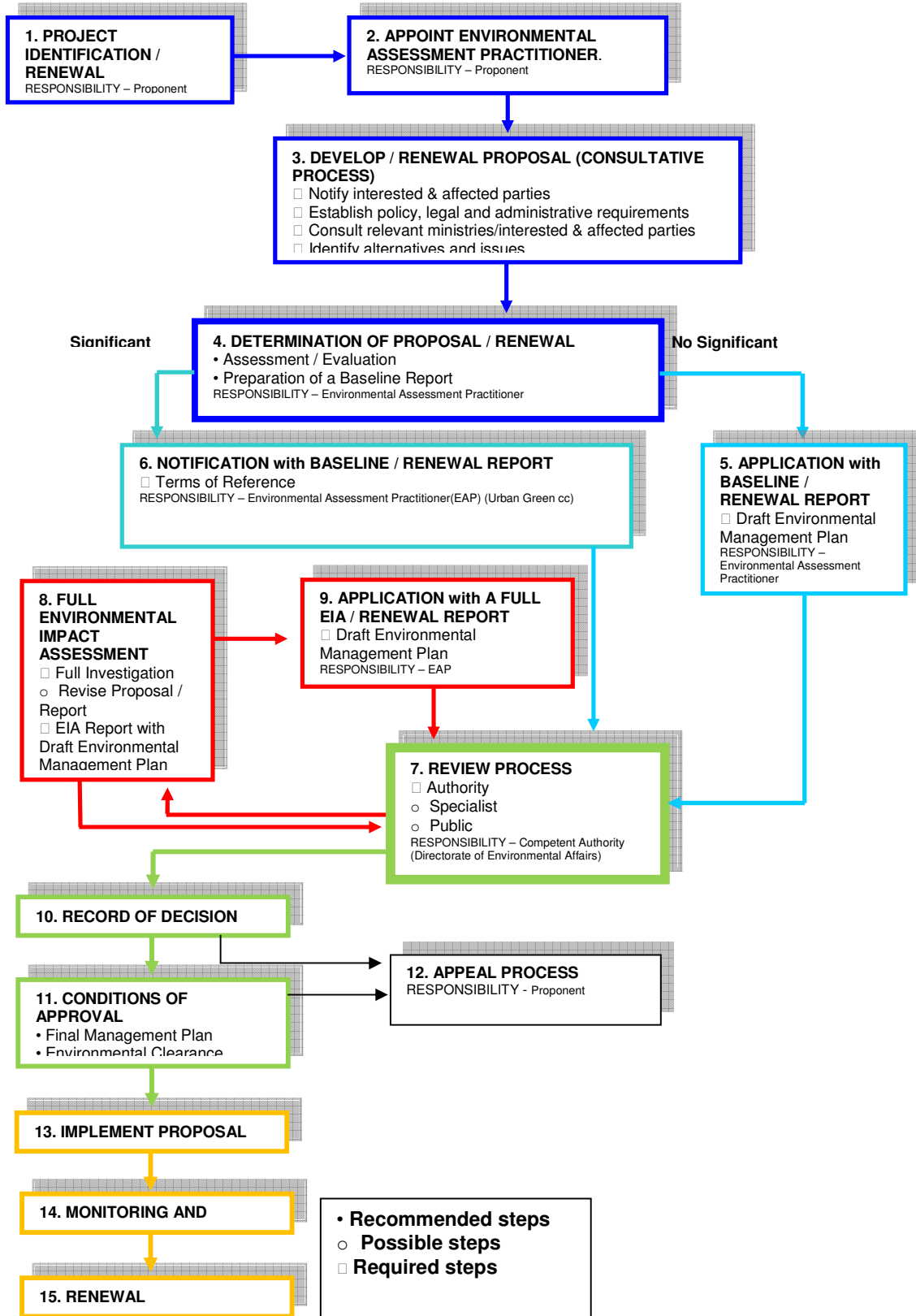
According to the 2006 Population Survey of Windhoek, the population of Brakwater was estimated at 2 021 with an average household size of 3.3 (620 households). The total population given by the 1993 Land Use Survey is 2 300 indicating a decline from 1993 to 2006. This is however expected not to be the case.

According to unofficial information the Mix-Settlement (informal) house 4 000 people alone, being 3 000 more than what was recorded in the 1993 Land Use Survey (TRP Associates). The age structure computed from the returned questionnaires indicates that 82% of the respondents were over 40 but below 70 years of age with a median age of 55 yearsⁱ. However, this is from a sample of only 22 questionnaires and did not include the Mix-informal settlement and is as a result not statistically significant and so no conclusions can be drawn from this information at this stage. No information on the demographics of the larger Brakwater area is available from either the City of Windhoek or the Planning Commission.

The economic profile of the Brakwater residents shows that of those residents who were economically active, 50% were employed in formal jobs while 37% were informally or self-employed. The range of occupational activities included management, engineering, teaching (including horse riding tuition), consulting, construction and maintenance, IT, tourism, legal work, trading, joinery and meat processing. Domestic work, farm work and garden and plot maintenance were listed as occupations where the plot owners employ workers in these occupational categories.

THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

The EIA will be conducted in accordance with Namibia's Environmental Management Act (No. 7 of 2007), and Draft Regulations.



The purpose of this EIA is:

- to support the goals of environmental protection and sustainable development;
- to integrate environmental protection and economic decisions at the earliest stages of planning an activity;
- to predict environmental, social, economic, and cultural consequences of a proposed activity and to assess plans to mitigate any adverse impacts resulting from the proposed activity, and
- **to provide for the involvement of the public and the relevant authorities in review of the proposed activities.**

The long-term objectives of an EIA are to:

- protect human health and safety;
- avoid irreversible changes and serious damage to the environment;
- safeguard valued resources, natural areas and ecosystem components; and
- enhance the social aspects of the proposal.

Legislation relevant to the project includes:

- Environmental Management Act (Act 7 of 2007), and Draft EIA Regulations (2008) regulate the EIA process and requirements for sustainable development.
- Brakwater Bulk Services Master Plan (2010)
- Brakwater Development Policy Plan (1993)
- Water Ordinance (No. 13 of 1932) and Water Act (Act 45 of 1956) provide for the control and management of the Windhoek-Gobabis Underground Water Control Area (Government Gazette, 189 of 1970).
- Water Resources Management Act (Act 24 of 2004) regulates the effluent produced by wastewater treatment plants, and requires this to be of a certain standard.
- REGULATION: Code of Practice for Wastewater-Rev4 – March2010
- REGULATION for Drinking Water-Rev3 – March2010
- Pollution Control and Waste Management Bill (July 1999) relates to preventing and regulating the discharge of pollutants to the air, water and land; and to regulating noise, dust and odour pollution; and to establishing a system of waste planning and management. Licences need to be obtained from the Pollution and Waste Management Agency in the case of excessive pollution as determined by the Bill.
- Hazardous Substances Ordinance controls substances that may cause injury or ill health or death.
- Public Health Act (Act 36 of 1919) controls nuisances' i.e. offensive smells, and effluvia that might be associated with such development, but also the prevention of the pollution of public waters.
- The Forestry Act (Act 27 of 2004) affords protection to any living tree, bush or shrub within 100m from any river, stream or watercourse. The act also affords protection of certain indigenous plant species. Permits are required for the removal of trees, bushes or shrubs, or any indigenous plants.
- Forestry Ordinance No. 37 of 1952 and/or Forest Act No. 72 of 1968
- National Heritage Act 27 of 2004 ensures the protection of cultural and archaeological sites. The Act requires the identification of cultural and archaeological sites within the study area, registration and protection thereof.

- Windhoek Town Planning Scheme, as amended, (Town Planning Ordinance 18 of 1954) regulates the use of land, and controls development within the Windhoek Town Planning Scheme jurisdictional area.

SPECIALIST STUDIES

A team of specialists, as listed below, has been appointed to assess the significance of impacts potentially arising from the proposed project:

- Public Participation Process (Urban Green);
- Geohydrological Study (Dynamic Water Resources Management);
- Floral Assessment (Peter Cunningham);
- Visual (Urban Green); and
- Heritage (Urban Green).

The specialists will help to identify environmental constraints specific to their area of expertise for the site proposed to reduce the negative significance of impacts. The potential issues already identified, as well as those raised by I&APs during the public participation process, will inform the Terms of Reference for these specialists.

PUBLIC INVOLVEMENT?

In line with the public consultation requirements of the Environmental Management Act, No. 7 of 2007 and Draft Regulations, you as a potential Interested and Affected Party (I&AP) are hereby requested to provide Urban Green cc with your registration/comments/concerns/input on the intended Project. This can be done by way of one or more of the following means:

- Fax: 061 – 300 820
- E-mail: urbangreen1@iway.na
- Post: PO Box 11929, Klein Windhoek

It is requested that your registration/comments/concerns/opinion should reach the office of Urban Green cc on or before **8 April 2011**. Please also **confirm** acceptance once submitted. As a registered Interested and Affected Party you will be kept informed throughout the environmental impact assessment process.