

# PROPOSED DEVELOPMENT OF FOXWOOD DAM



water & sanitation

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA

MARCH 2015

## BACKGROUND INFORMATION DOCUMENT

### CONTENT

1. Purpose of this document
2. Background & Introduction
3. Project Location & Catchment Context
4. Irrigation Development
5. Project Overview
6. Environmental Assessment
7. Contact Details

### 1. PURPOSE OF THIS DOCUMENT

The purpose of this **Background Information Document** (BID) is as follows:

1. It serves to provide an overview of the proposed development of Foxwood Dam;
2. It provides an outline of the Environmental Impact Assessment (EIA) process that will be undertaken for the project; and
3. It grants the opportunity to be registered as an Interested and Affected Party (I&AP) and allows for comments to be made on the proposed project (refer to attached Reply Form).

The purpose of the EIA is (1) to identify and evaluate potential impacts, (2) to recommend measures to avoid or reduce negative impacts and (3) to enhance positive impacts.

### 2. BACKGROUND & INTRODUCTION

The Department of Water and Sanitation (DWS) is investigating the feasibility of developing a multi-purpose dam on the Koonap River outside of Adelaide in the Eastern Cape. The proposed site is known as the Foxwood Dam site. The feasibility study is being undertaken at sufficient detail to provide reliable information to support high level decision-making regarding approval of the proposed development.

Investigations into the potential development of the water resource within the Koonap River Valley date back to the 1960's. The project is once again being considered due to the potential for the development of the water resource in this area to provide stimulus for development in the region in line with the objectives of the National Development Plan and the National Water Resource Strategy 2. The development of Foxwood Dam could provide additional assurance of domestic water supply within the region. In addition, Foxwood Dam could provide assurance of supply of water for irrigation development which may provide stimulus for socio-economic development when combined with agriculture and land reform policies.

**Project Team:**

Proponent -



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

Technical  
Feasibility Study -

**ARUP**

EIA -



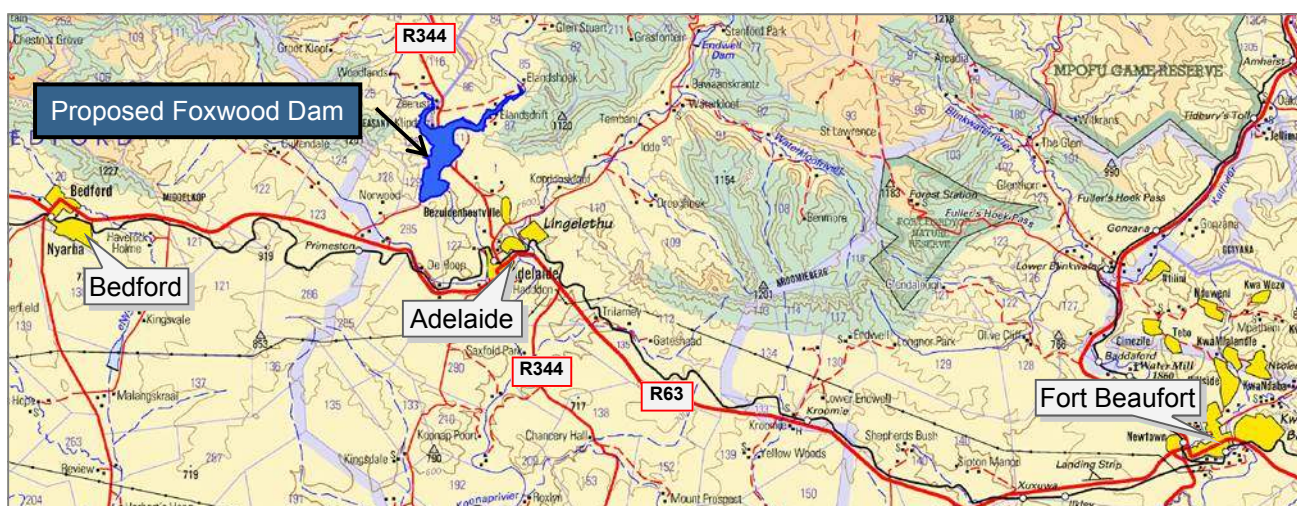


### 3. PROJECT LOCATION & CATCHMENT CONTEXT

The project area is situated in central part of the Eastern Cape, in the Amatole District Municipality and Nxuba Local Municipality (see **Figure 1**).

The Koonap River is a tributary of the Great Fish River, within the Fish-Tsitsikamma Water Management Area (WMA). The area of the Foxwood Dam catchment is 1 091 km<sup>2</sup> which is 33% of the total catchment area of the Koonap catchment.

The Foxwood Dam catchment is rural in nature with agriculture representing a major land use. The small towns of Adelaide and Bedford are located within the lower Koonap catchment. Water related infrastructure is dominated by run of river abstractions or diversions for domestic use and for the irrigation of crops.



**Figure 1: Regional map of project area**

### 4. IRRIGATION DEVELOPMENT

A strategic intent of the project is to mobilize the water resources in the area for irrigation development downstream of the proposed Foxwood Dam.

As part of the technical Feasibility Study for the project, the locality and extent of irrigable land that can be supplied from releases from the proposed Foxwood Dam were investigated based on aerial survey, soil depth and type data, minimum slope criteria and verified through consultation with current commercial farmers. Historic and current cropping trends were reviewed and verified through consultation with local farming stakeholders through the establishment of an Agricultural Technical Working Group.



The study identified 1 250 ha of irrigated agriculture on suitable soils along the Koonap River, which at present comprises portions of privately owned farms, that can be utilized for the irrigation development associated with the proposed Foxwood Dam. It is estimated that 13 000 ha of land would need to be purchased to allow for the proposed irrigation scheme. Note that this scheme does not form part of the scope of the EIA and a separate process will be undertaken to further pursue this venture.

### 5. PROJECT OVERVIEW

#### 5.1 PROJECT COMPONENTS

The infrastructure associated with the overall project includes the following (refer to map attached in **Appendix A**):

- ◆ Major storage dam (Foxwood Dam)
- ◆ Bulk water pipeline & pump station
- ◆ Gauging weir
- ◆ Access roads (construction & operation)
- ◆ Quarries & borrow areas
- ◆ Power supply
- ◆ Relocate water supply canal
- ◆ Relocate R344
- ◆ Relocate MR00369
- ◆ Relocate Telkom telephone line
- ◆ Relocate Eskom power line
- ◆ Construction camp

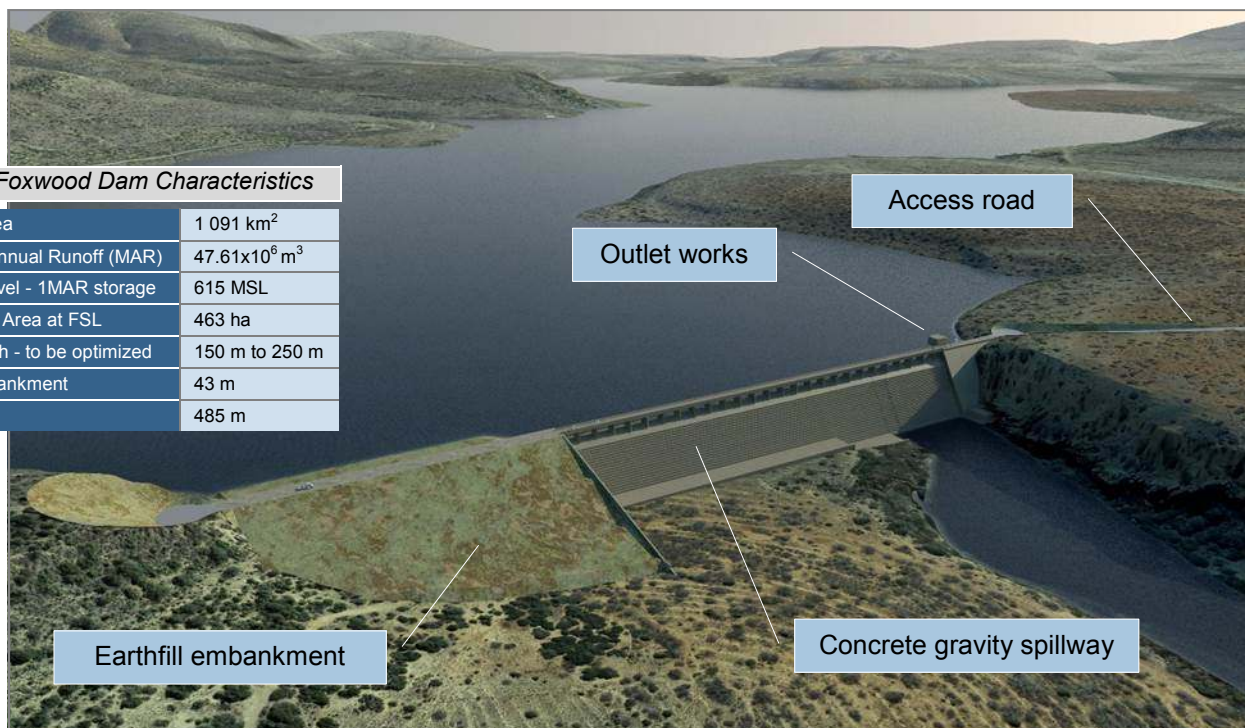


## 5.2 DAM CHARACTERISTICS

The proposed dam is a composite concrete gravity and earth embankment dam. The concrete gravity section is made up of a spillway section and a non-overflow section. Refer to **Figure 2**. Further characteristics of the dam are provided in **Table 1**.

**Table 1:** Foxwood Dam Characteristics

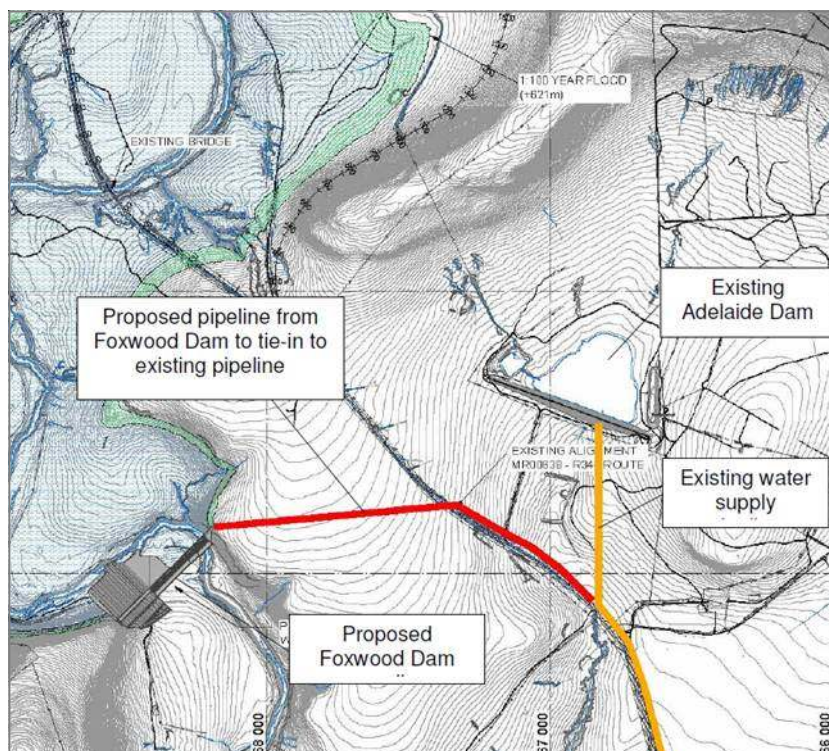
Catchment Area	1 091 km <sup>2</sup>
Gross Mean Annual Runoff (MAR)	47.61x10 <sup>6</sup> m <sup>3</sup>
Full Supply Level - 1MAR storage	615 MSL
Water Surface Area at FSL	463 ha
Spillway Length - to be optimized	150 m to 250 m
Height of Embankment	43 m
Crest length	485 m



**Figure 2:** Proposed dam's primary structures (artistic impression)

## 5.3 WATER SUPPLY & BULK INFRASTRUCTURE

Water supply from Foxwood Dam to Adelaide will be via a pressurised pipeline routed from the dam and tying into the existing supply pipeline from Adelaide Dam to the Adelaide Water Treatment Works. See **Figure 3** for the proposed pipeline route.



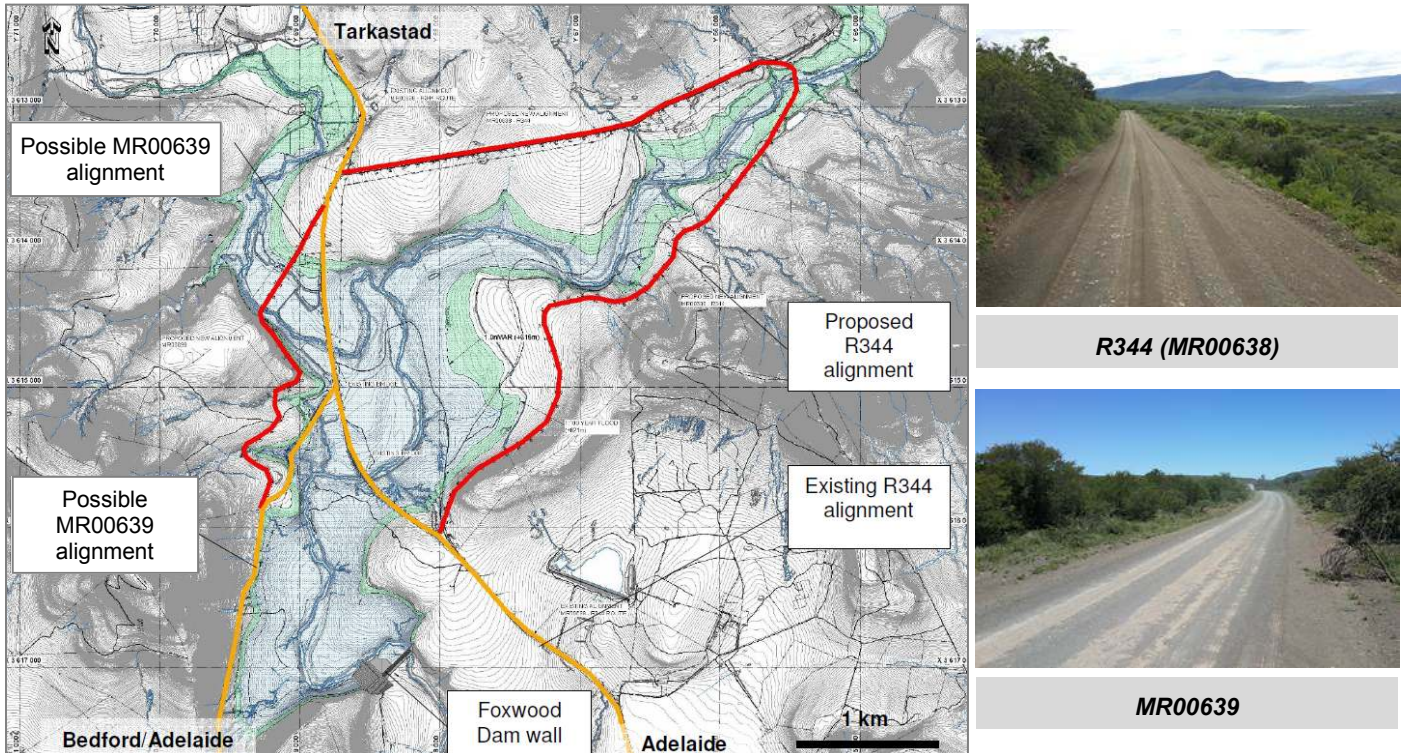
**Figure 3:** Proposed pipeline from Foxwood Dam



## 5.4 RELOCATION OF ROADS

The following two public roads will be inundated by the Foxwood Dam reservoir (refer to **Figure 4**):

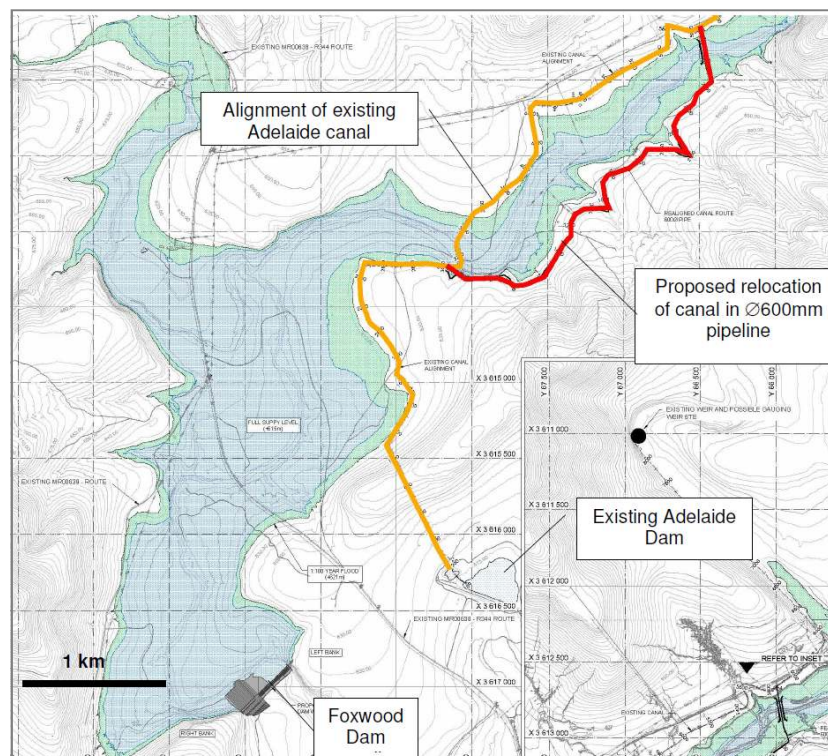
- ◆ Approximately 2 km of the R344 (MR00638), which connects Adelaide and Tarkastad (including two bridges); and
- ◆ Approximately 1 km of the MR00639, which provides a connection from the R63 to the R344.



**Figure 4: Proposed road relocations**

## 5.5 RELOCATION OF ADELAIDE CANAL

Water for domestic use within Adelaide is currently abstracted from the Koonap River at a weir to the north of the town and supplied via a gravity canal which discharges to the Adelaide Dam. The proposed Foxwood Dam basin will inundate a section of the existing gravity canal. The proposed relocation of the canal is shown in **Figure 5**.



**Figure 5: Proposed canal relocation**

## 6. ENVIRONMENTAL ASSESSMENT

### 6.1 EIA TRIGGERS

The proposed project triggers certain activities listed in Government Notice (GN) No. R. 983, R. 984 and R. 985 of 4 December 2014 (listed in **Table 2**), which require environmental authorisation in terms of the EIA Regulations (2014) that were promulgated in terms of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998).

**Table 2:** Possible listed activities triggered and to be assessed as part of the EIA

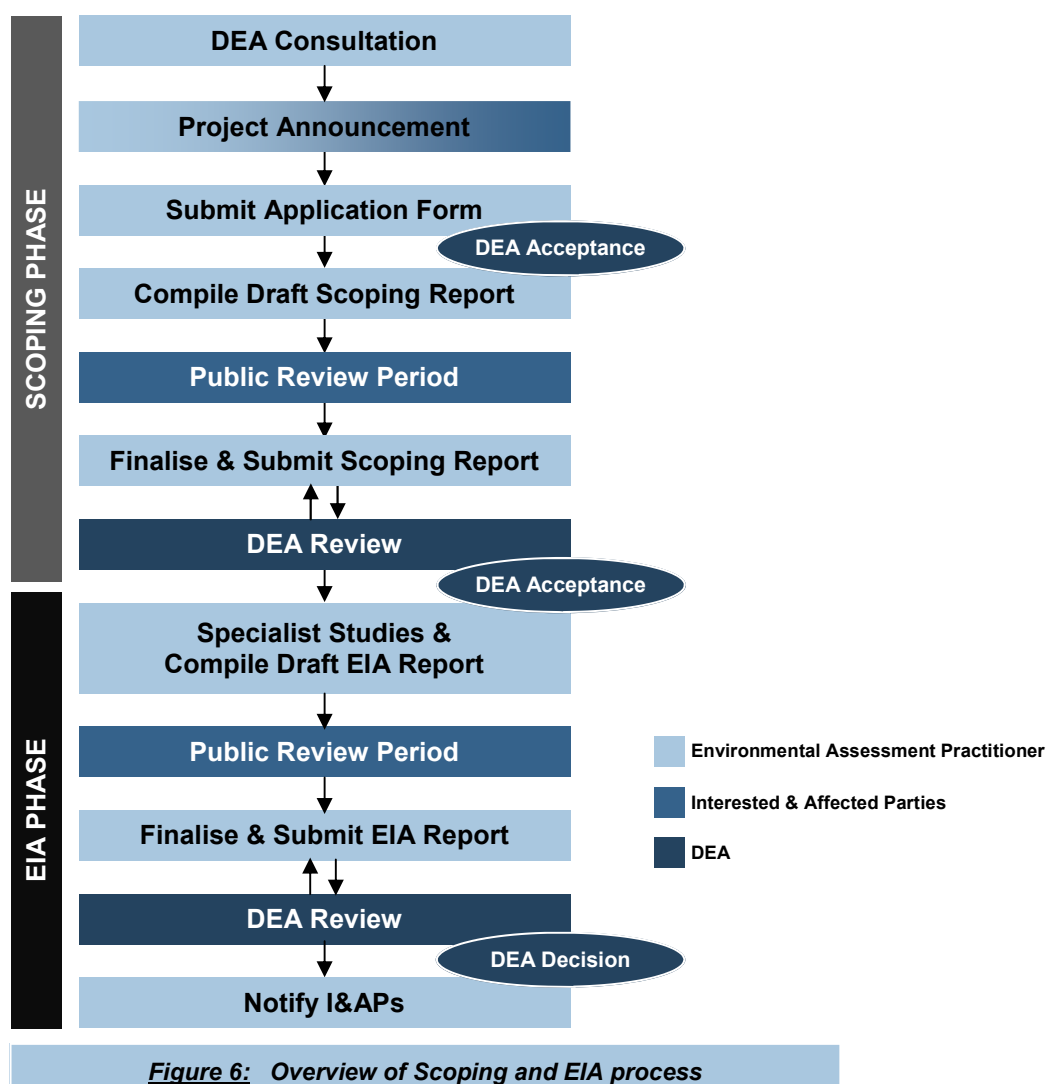
Listing Notice	Activities Triggered
1 (GN No. R. 983)	9; 12; 14; 19; 21; 24; 27; 28; 30; 31; 45; 48; 49; 56; 66; 67
2 (GN No. R. 984)	4; 15; 16; 17; 18; 19; 20; 21; 27
3 (GN No. R. 985)	4(b)(ii); 10(b)(ii); 12(a); 14(c)(ii); 18(b)(ii); 23(b)(ii); 26

Note: The list of activities will be refined as the EIA process unfolds (as necessary).

### 6.2 EIA PROCESS

In terms of NEMA, the lead decision-making authority for the environmental assessment is the Department of Environmental Affairs (DEA) as the project proponent (DWS) is a national department.

Nemai Consulting was appointed by DWS to act as the Environmental Assessment Practitioner (EAP) to undertake the requisite EIA process for the project, which will be executed in accordance with GN No. R. 982 of 4 December 2014. Based on the listed activities triggered by the project, a Scoping and EIA process will be conducted (outlined in **Figure 6**).





## 6.3 SPECIALIST STUDIES

The nature and extent of the specialist studies to be conducted for the purposes of the EIA will be determined during the Scoping Phases. At this stage, the following environmental specialist studies have been identified:

- ◆ Terrestrial Fauna and Flora Study
- ◆ Heritage Impact Assessment
- ◆ Aquatic and Riverine Assessment
- ◆ Agricultural Impact Assessment
- ◆ Visual Impact Assessment
- ◆ Socio-economic Study
- ◆ Wetland Assessment & Delineation
- ◆ Traffic Impact Study

Additional studies may be identified as the EIA process unfolds. Various technical studies will also be undertaken.

## 6.4 BORROW AREAS

The availability of construction material in the vicinity of the proposed dam was confirmed through geotechnical investigations. Amongst others, a potential quarry site is located approximately 5 km north of the Foxwood Dam site alongside the R344, where unweathered, massive, domed dolerite outcrops at surface.

Under section 106(1) of the Mineral and Petroleum Resources Development Act (MPRDA) (Act No. 28 of 2002) and in terms of GN No. R. 762 of 25 June 2004, DWS is exempt from the provisions of sections 16, 20, 22 and 27 in respect of any activity to remove any mineral for building of dams or other purpose incidental thereto. Although exempted, DWS must still submit Environmental Management Programmes for all borrow areas and quarries for approval by the Department of Mineral Resources (DMR) in terms of Section 106(2) of the MPRDA.

## 6.5 HOW CAN YOU BECOME INVOLVED?

### 6.5.1. Overview of Public Participation Process

The diagram below outlines the Public Participation Process for the Scoping and EIA phases.



**Figure 7: Outline of Public Participation Process**

### 6.5.2. Registration as an I&AP

To register as an I&AP and to raise any comments or concerns, complete the attached Reply Form and return to Nema Consulting by **06 April 2015**.

### 6.5.3. **Public Meeting**

You are invited to attend a public meeting (see details in **Table 3**), which will aim to achieve the following:

- ◆ To introduce the project;
- ◆ To provide an overview of the EIA process;
- ◆ To provide a platform for project-related discussions; and
- ◆ To obtain input from I&APs into the Scoping Phase.

**Table 3:** Details of public meeting

<b>Date:</b>	24 March 2015
<b>Time:</b>	14h00 - 16h30
<b>Venue:</b>	Adelaide Golf Club

***Note:** Provision will be made at the meeting for questions to be asked in the dominant local languages, which include English, Afrikaans and Xhosa. Reply Forms will also be available at the meeting, and any language of choice can be used to complete these forms.*

Targeted meetings will also be held with authorities, stakeholders and I&APs during the course of the EIA, as required.

## 7. CONTACT DETAILS

For any queries pertaining to the project, please contact the Environmental Assessment Practitioner below:



**Contact Person:** Donavan Henning  
**Tel:** (011) 781 1730  
**Fax:** (011) 781 1731  
**Email:** donavanh@nemai.co.za  
**Postal Address:** PO Box 1673, Sunninghill, 2157

For further information , please visit the **Project Website:**

<https://www.dwa.gov.za/Projects/FoxwoodDam/>

