

4 PROJECT DESCRIPTION

4.1 Introduction

Majuba Power Station, a coal-fired power generation facility, is located 16 km south of Amersfoort in the province of Mpumalanga. Majuba Power Station currently disposes of ash (produce from the combustion of coal) in a dry format by means of conveyors, a spreader and a stacker system from the station terrace to the ash disposal site. Eskom require an ash disposal facility with an area of 550 ha in order to ash for the next 45 years. The existing ashing facility is located approximately 1.5 km west of the station terrace. **Figure 4.1** provides an overview of the where the ash disposal activities fit within the power generation process.

Ideally, Majuba Power Station envisages the continuation of dry ash disposal over the remaining portion of Eskom owned land. Such land was purchased before the commencement of environmental laws, the Environment Conservation Act, in particular (i.e. prior to 1989). As part of its planning processes, Eskom developed designs which were approved internally. With the promulgation of the environmental laws, and the National Environmental Management Waste Act, Act 59 of 2008, in particular, Eskom would like to align its continued ashing activities with the requirements of the waste licensing processes.

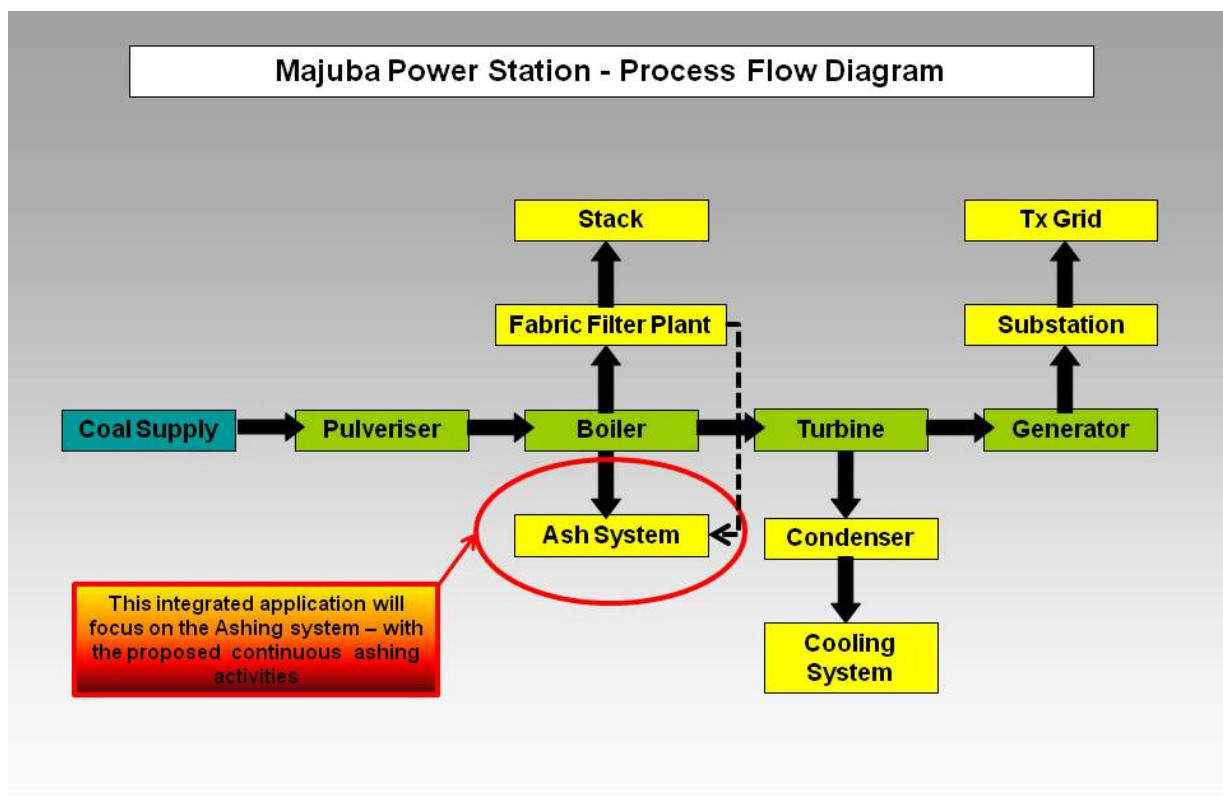


Figure 4.1: An overview of the activities on site and where this project fits within the power generation process

4.2 Location of the Proposed Site for Expansion

Majuba Power Station is located approximately 16 km southwest (SW) of Amersfoort and approximately 40km northnorthwest (NNW) of Volksrust in the Mpumalanga Province . The power station falls within the Pixley Ka Seme Local Municipality which falls within the Gert Sibande District Municipality .

A greater part of the study area has agricultural, mining and power generation activities. The proposed study area, utilised in the screening study is a 12 km radius from the source of ash, being the Majuba Power Station Site (**Figure 4.2. and 4.3**).



Figure 4.2: Majuba Power Station forms the centre point of the study area

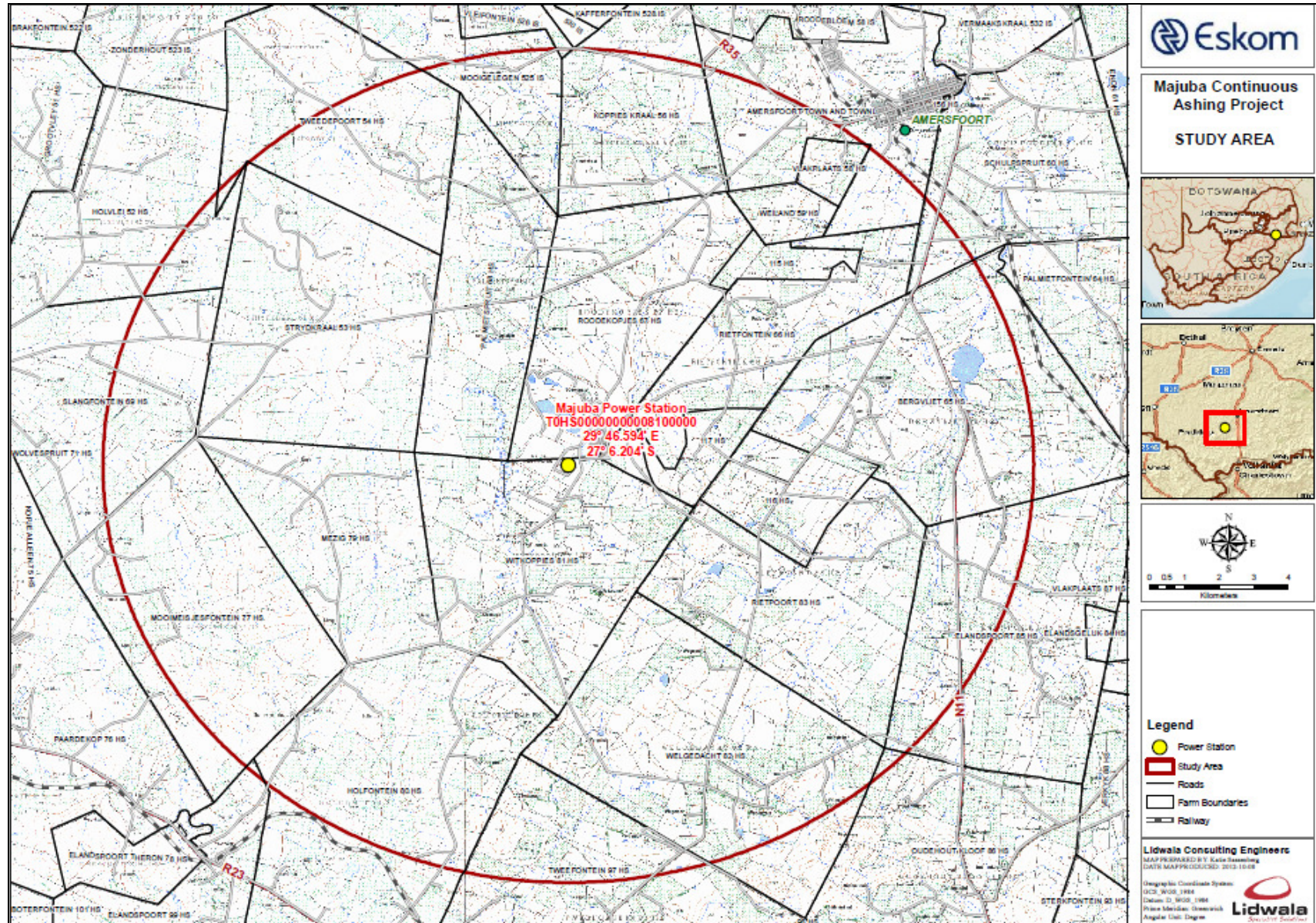


Figure 4.3: The greater study area overlaid onto a topographical map background

4.3 Detailed Description of the Project

The project involves the proposed continuous ashing of the ash disposal facilities at the Majuba Power Station in the Mpumalanga Province.

The coal-fired power generation process results in large quantities of ash, which are disposed of in an ash disposal facility. With regards to ash management, the station uses dry methods of ash disposal. This process involves ash being transported from the power station by conveyors and disposed of on an ash disposal facility by means of a stacker (**Figure 4.4**).



Figure 4.4: Stacker being used to dispose of ash at the Majuba Power Station

The proposed development has the following specifications:

- Capacity of airspace of 174 million m³; and
- Ground footprint of 912 ha (362 ha: 0 – 15 year (existing) + 550 ha: 15 – 60 year (proposed) (Fenced area including pollution control dams)

This ash disposal facility will be able to accommodate the ashing requirements of the power station for the next 48 years, to 2060 (these timelines are based on an annual ash production rate of 3.579 million tonnes). In line with its historical plans, mentioned above, Eskom proposes to utilise a portion of 550 ha located on the southern portion of the current Majuba Power Station ash disposal facility footprint. Ideally, the proposed progressive portion of the ash disposal facility will continue from the existing ash disposal facility. This will all take place on Eskom's land within the originally planned ashing area. In order to ensure that the EIA allows for a robust environmental process, all land within a radius of 12km was assessed in order to identify potential alternative sites for ash disposal.

Figure 4.5 below illustrates the ash disposal facility layout as currently constructed and outlines the footprint of the currently proposed future extent of the facility. It should be noted that alternatives to this proposed footprint have been identified and will be assessed during the EIA phase. The identification of alternative sites is discussed in **Chapter 7**.

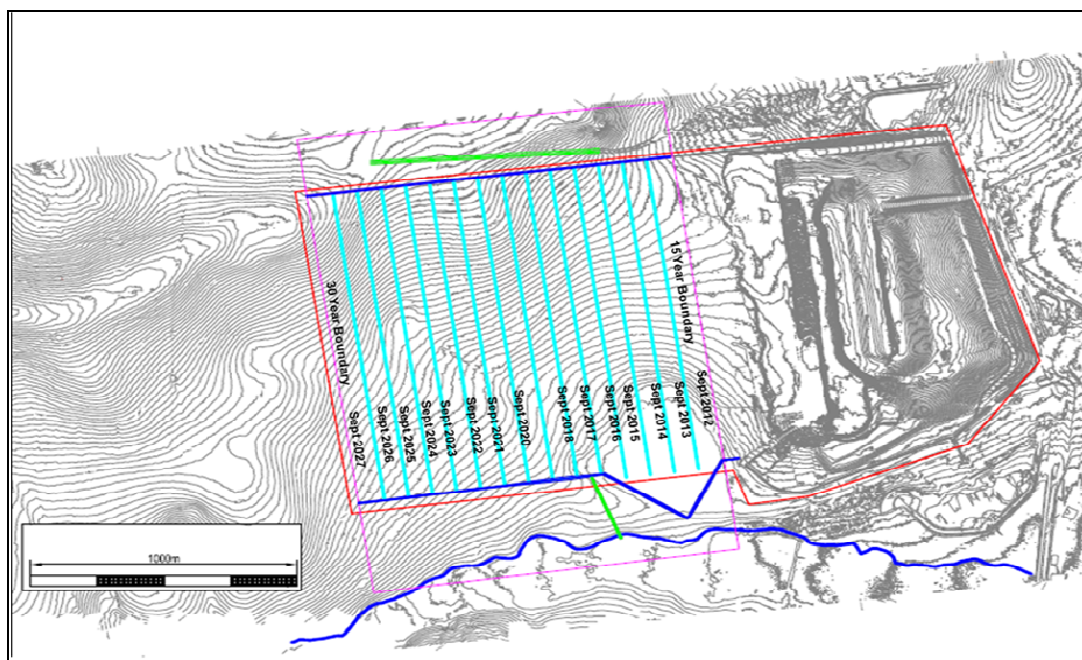


Figure 4.5: The ash disposal facility layout as currently constructed and the footprint of the Eskom's proposed future extent of the facility (blue) (It should be noted that alternatives to this proposed footprint have been identified and will be assessed during the EIA phase)

4.4 Associated Infrastructure

Depending on the outcome of the final layout and positioning of the proposed continuous ashing project, the following relevant associated infrastructure may be required to be expanded / upgraded:

- Ash water return dams
- Seepage water dams
- Conveyor belts
- Stormwater trenches
- Power lines
- Access roads