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PART 4 SITE INFORMATION

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1. SITE DESCRIPTION AND ACCESS

1.1. Location and Description

The Site of the *works* is on the farms Roodekoppies 67HS and Witkoppies 81HS approximately 15 km south-west of Amersfoort on the road number 979 (now de-proclaimed) from Amersfoort to Beechwick, in Mpumalanga.

1.2. Road Access

The *Contractor* is advised of a surfaced link road linking Routes P97-1 with P26-1 and passing just north of the Majuba rail terminal.

From **Standerton**, take the national route R23 (P4-6) to Perdekop, the P97-1 towards Amersfoort, turning off right onto the link road 12 km before Amersfoort.

From **Volksrust,** travel north along the P26-1 towards Amersfoort, turning left onto the link road 17.5 km before Amersfoort.

From **Amersfoort**, take the Morgenzon road west of Amersfoort, turning southwest onto the P97-1 towards Perdekop, then turning left onto the link road 12 km from Amersfoort.

1.3. Rail Access

At present, the nearest Railway Station to the Majuba rail terminal site is Standerton for heavy loads and containers. From here Transnet will perform road deliveries to Site. All transportation facilities at the stations are arranged by the *Contractor* as required. Should the *Contractor* require additional information regarding rail or road transport, he should contact the Senior Marketing Officer of Transnet.

1.4. Air Access

Majuba Power Station has a surfaced and licensed air strip with parking facility. The air strip is bitumen surfaced and is 1 500 m long and 15 m wide with 25 m wide gravel shoulders each side.

The strip has been designed for a load classification number of 40 and caters for aircraft up to and including the DC3 Dakota. The airstrip has approach and landing lights, and a non-directional radio navigation beacon has been installed. The beacon frequency is 512 KHz at 29° 44' 30" E, 27° 03' 30" S, tone coding 2 K10A2a, recognition code MAJ, radius of operation 100 nautical miles.

Permission to use the air strip facility is sought from the *Employer* at Majuba Power Station.

2. GEOTECHNICAL

Results of previous studies could be made available on request depending on the area of concern.

3. TOPOGRAPHICAL

The average elevation of the Site is approximately 1 700 metres above mean sea level.

Topography may generally be described as rolling countryside interspersed with prominent hills.

The natural flora consists of veld grass with very few scattered non-indigenous trees.

4. WEATHER DATA

4.1. Site geography and climate

The Amersfoort area has a climate of hot summers and fairly cool winters which is typical for that of the Highveld.

The Weather Bureau's general description of the climate in the Highveld includes the following:

The winter months are normally dry and about 85% of the annual rainfall falls in the summer months. On the whole winds are light except for short periods during thunderstorms. Very occasionally tornadoes do occur and cause tremendous damage if they happen to strike a populated area. The annual average number of thunderstorms varies from about 75 in Mpumalanga to 100 in Lesotho. These storms are often violent with severe lightning and strong (but short lived) gusty, south-westerly winds and are sometimes accompanied by hail.

4.2. Barometric Pressure

The mean barometric pressure is 82.42 kPa (Corresponding to 1 709 metres above sea level).

4.3. Temperature

Average daily maximum dry bulb	January	28.2 °C
	July	18.1 °C
Maximum dry bulb recorded	January	37.2 °C
	July	26.1 °C
Average daily minimum dry bulb	January	13.0 °C
	July	- 3.6 °C
Minimum dry bulb recorded	January	3.3 °C
	July	- 12.8 °C

4.4. Precipitation

4.4.1. Rainfall

Average Annual Rainfall of the Highveld, mainly occurring as a result of thunderstorms and showers, ranges from 900 mm in the east to 650 mm in the

west and is approximately 690mm in Amersfoort. The rainy season is generally from October to March with peak rains falling in December and January. Heavy rainfalls of 125 to 150 mm (or more) occasionally fall in a single day.

4.4.2. Hail

This region has about the highest frequency in South Africa. About 4 to 7 occurrences (depending mainly on altitude) may be expected annually at any one spot, whilst occasionally hailstones grow to the size of hen's eggs or tennis balls and can cause tremendous damage

4.4.3. Snow

Snowfalls are experienced during most winters in the Amersfoot area. When snow falls and for some days afterwards working conditions are extremely unpleasant and movement on the Site is difficult

4.5. Relative humidity

Average maximum	83%
Average minimum	22%

4.6. Velocity

Basic design wind speed – 43.5 m/s
Design wind pressure 0.925 kPa at 10 m above ground.

4.7. Seismic

There are no design requirements for seismic activity.

4.8. Flood Plain Studies

A flood plain study report is available from *Employer*'s Head Office, on request.

4.9. The *weather data;*

are the records of past *weather measurements* for each calendar month as stated below:

- **Temperature**
  1:10 year return period data

Month	No. of days with min. temp < 0º
January	0
February	0
March	0
April	2
May	8
June	22
July	21
August	11
September	4
October	2
November	0
December	0

- **Precipitation**
  1:10 year return period data

Month	Cumulative rainfall in (mm)	No. of days with rainfall > 10mm
January	202	7
February	158	7
March	122	5
April	115	4
May	43	3
June	29	2
July	36	2
August	36	2
September	64	3
October	148	6
November	167	8
December	177	7

- **Snow**
  1:10 year return period data

Month	No. of days with snow lying at 08:00 CAT
January	0
February	1
March	1
April	1
May	1
June	2
July	5
August	5
September	3
October	1
November	1
December	1

- **Wind**
  1:10 year return period data

Month	Wind: Ash Fallout Exceeding allowable limit 1200mg/m2
January	0
February	1
March	1
April	1
May	1
June	2
July	5
August	5
September	3
October	1
November	1
December	1

Sources consulted

All weather data has been obtained from records developed by the nearest unofficial weather station situated at Majuba, the climate of which is reasonably representative of the area. Any further specific details of the local climate are obtainable from:

Directorate: Weather Bureau, Private Bag X 097, Pretoria, 0001, who should be contacted directly in this regard.

Wind data has also been reviewed in consultation with the CSIR.

5. EXISTING SERVICES

As shown on drawings

6. EXISTING PLANT AND BUILDINGS

The Station does not have a dedicated coal mine; therefore, coal is received from various sources via road and rail. Coal is received via rail 24 hours/day and is offloaded through the tippler plant. Scheduled outages are used for planned maintenance activities and ad-hoc maintenance activities are performed during non-occupation periods.

The tippler plant infrastructure is situated north-east of the coal stockyard area and east from the security entrance. The current tippler control room is situated on the northern side of the tippler plant with the takeout conveyor system from the tippler feeding coal in a southerly direction to the coal stockyard/station. The assizing complex is situated approximately 600m south from the tippler plant, adjacent to the coal stockyard. Coal is either transferred to the coal stockyard or Station from this plant.

All works will be performed in a barricaded area and all access to and from the area will be controlled by the appointed Contractor.

It will be the responsibility of the Contractor to liaise with Transnet and the Client to plan occupation of the area where work will be performed.