

29 March 2022

Our Ref. No.: 22ENW01 – Air Quality

Enviroworks

Attention: Elana Mostert

COMPLIANCE STATEMENT - AIR QUALITY - INZALO CRUSHING AND AGGREGATES – ERMELO - MPUMALANGA

Airshed Planning Professionals (Pty) Ltd was appointed by Enviroworks to provide an air quality compliance statement for the proposed Inzalo Crushing and Aggregates (Pty) Ltd stone aggregate and gravel mine on a portion of Portion 15 of Farm Rietspruit 437, IS, Msukaligwa Local Municipality, Mpumalanga Province. The proposed mining will take place on a 4.9 ha undisturbed area of the farm. The mining method will make use of blasting to loosen hard rock, whereafter material will be loaded and hauled to a crushing and screening plant. Different sized products will be transported off site with tipper trucks. The expected mining rate is 65 000 tonnes per month for double-shift operations and 40 000 tonnes per month for day shift operations only.

The mine location is approximately 4 km southwest of the town of Ermelo. Air quality sensitive receptors within 5 km radius from the operations include scattered farmsteads and the southwestern suburbs of Ermelo (Figure 1). The closest schools are approximately 5 km to the northeast and east, with no clinics or hospitals within 5 km radius. The closest air quality sensitive receptors are farmsteads 0.8 km to the northwest, 1.3 km to the east-northeast, 2.3 km to the southwest and 2.3 km to the west of the proposed operations.

The mine is located within the Highveld Priority Area (HPA) airshed and all requirements of the HPA air quality management plan (AQMP) will need to be met. This includes the objectives of Goal 2 of the HPA AQMP, aimed at reducing industrial emissions to achieve full compliance with the national ambient air quality standards. Some of the objectives included under Goal 2 of the HPA AQMP that will require consideration include establishment of an emissions inventory, submission of emissions inventory reports as per the reporting regulations, development of a fugitive emission management plan, development and implementation of a maintenance plan, implementation of a dust reduction program in line with industry best practise, regular fleet maintenance, and installation of appropriate air pollution abatement technologies. The full HPA AQMP should be consulted to ensure the operations comply with the requirements, the document can be accessed on <https://www.gov.za/documents/national-environmental-management-air-quality-act-highveld-priority-area-air-management> .

As far as could be ascertained from the information provided by Enviroworks, no listed activities, as per Section 21 of the National Environmental Management : Air Quality Act (NEM:AQA), will be conducted at the site. The facility will, however, be required to report annual emissions on the National Atmospheric Emissions Inventory System (NAEIS) as a Group C (Mines – any person that holds a mining right or permit in terms of the Mineral and Petroleum Resources Development Act) data provider as per the National Atmospheric Emission Reporting Regulations (Gazette 38633, 2 April 2015). If standby generators in excess of 10MW_{thermal} capacity are installed, the facility will need to be registered as per the National Greenhouse Gas Emission Reporting Regulations (Gazette 44190, 19 February 2021).

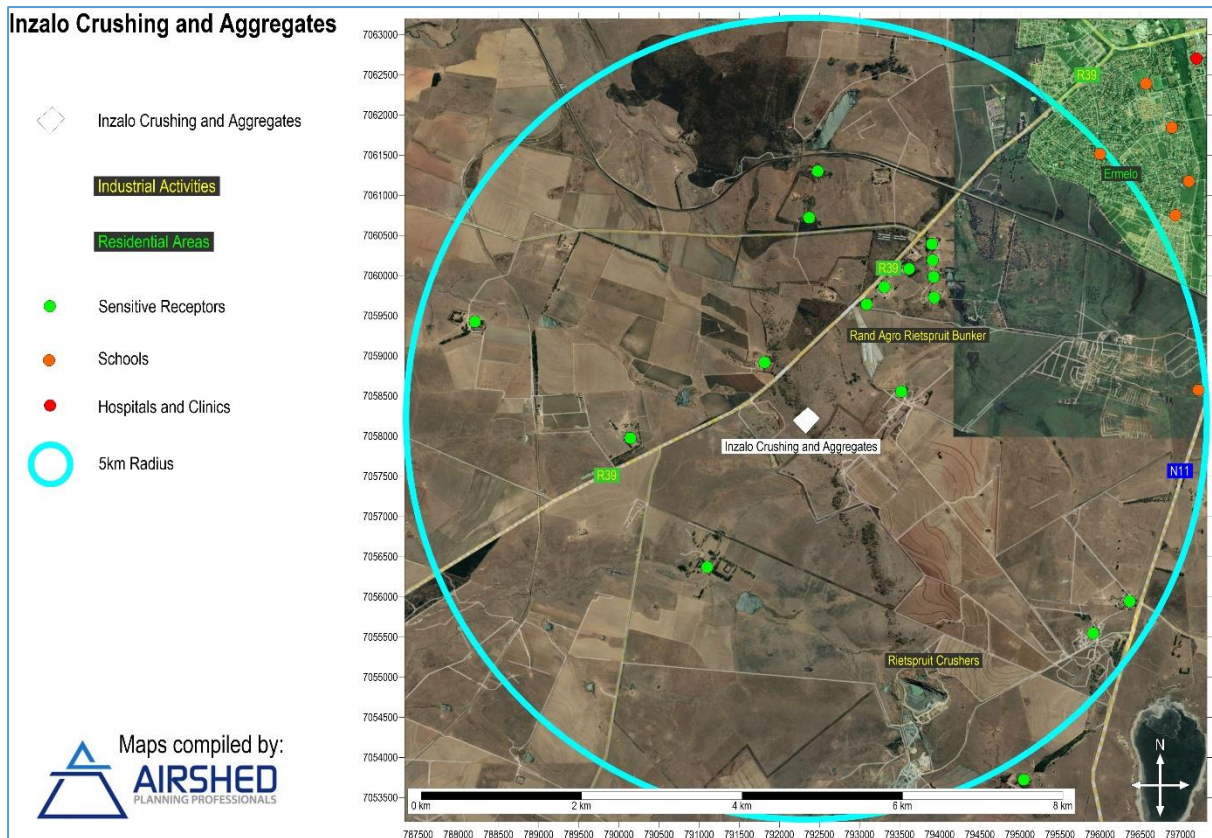


Figure 1: Project Location and Sensitive Receptors

Particulate emissions are expected to be the main pollutant of concern from the activities, with emissions from mining, loading, hauling, crushing, screening and material handling expected to be the main sources of air pollution arising from the facility. Since particulate emissions are expected to be mostly mechanically generated dust (as opposed to smoke), the impact of coarse particulates on ambient PM_{10} concentrations and dust fallout are expected to be much more pronounced compared to that of fine particulates ($PM_{2.5}$). Gaseous emissions are expected to be limited to vehicle tailpipe emissions.

The wind field (Figure 2) in the area is mainly from the northern sector, with more frequent winds from the northwest during the winter and spring and slightly more frequent winds from the northeast during summer and autumn. Rainfall, providing not only natural mitigation for dust generating sources but also washout of airborne particulates, occurs mainly from November to March, with the area receiving approximately 900 mm of precipitation per year.



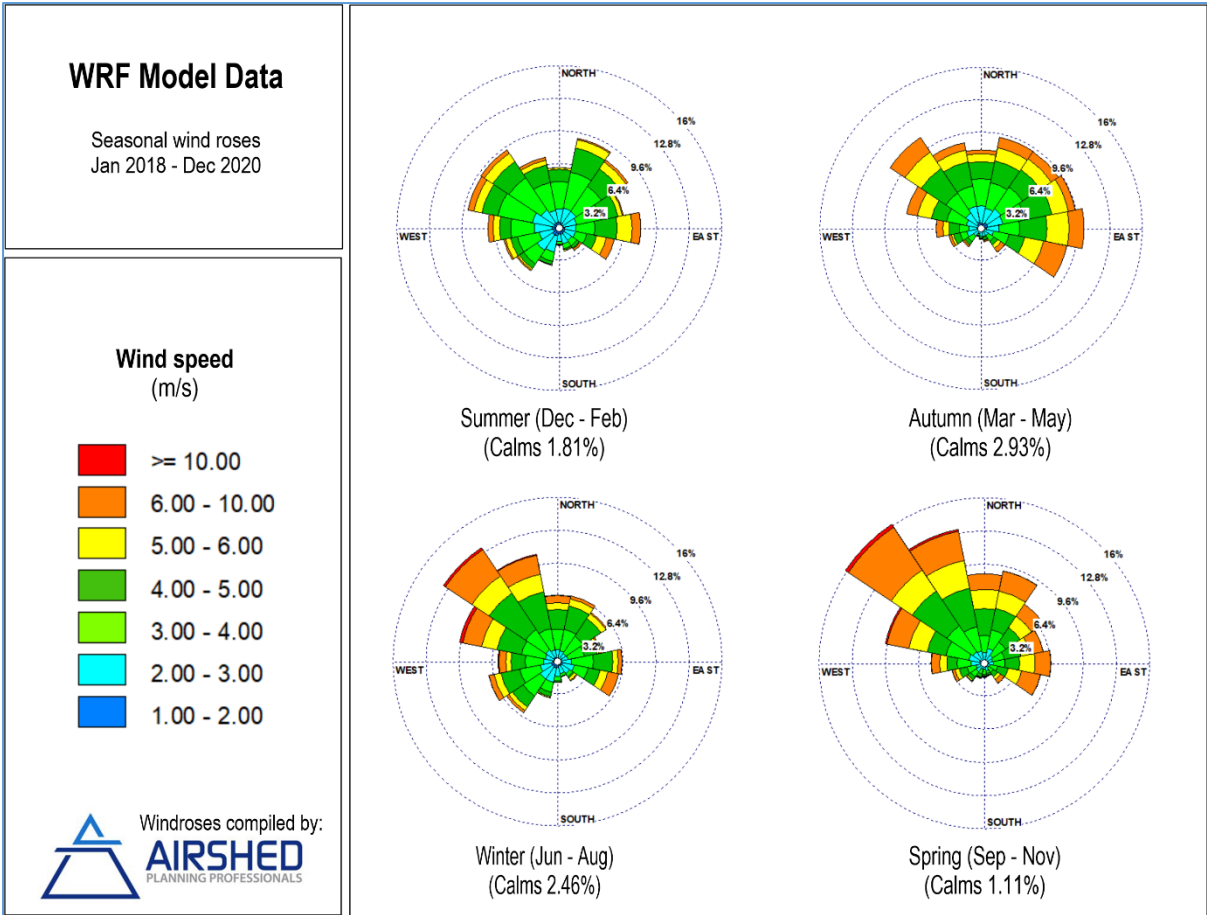


Figure 2: Seasonal Wind Field (Weather Research and Forecasting Model data – 2018 to 2020)

Given the scope of the operations, the fairly low mining, hauling and processing rates, the distance to nearby sensitive receptors as well as the wind field mainly from the north, it is unlikely that the proposed operations will result in significant detrimental impact on air quality in the area, with very low impacts expected at nearby sensitive receptor locations.

It is, however, recommended that best practise mitigation measures, such as regular watering of all on-site unpaved roads, water sprays on crushers and screens, enclosure of conveyers and minimisation of drop heights to stockpiles, be implemented to ensure that particulate emissions, and their consequent impact on the receiving environment, is minimised and that off-site pollutant concentrations and dust fallout is compliant with the South African National Ambient Air Quality Standards (Gazette 32816, 24 December 2009) and the National Dust Control Regulations (Gazette 36974, 1 November 2013).

A complaints register should be kept on-site and all interested and affected parties, including nearby residents but also personnel, be encouraged to report any air quality related issued, no matter how trivial.

If you have any questions, please do not hesitate to contact me.

Yours sincerely,

Nick Grobler

Senior Air Quality and Noise Specialist



