

# FINAL BASIC ASSESSMENT REPORT

Proposed Development of a 132 kV Overhead Power Line and Supporting Infrastructure for the Proposed Vhuvhili Solar Photovoltaic Energy Facility, near Secunda in the Mpumalanga Province

## APPENDIX D.7

### Civil Aviation Compliance Statement

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### Appendix D.7: Compliance Statement

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#### 1. Background

This report serves as the Compliance Statement for the Civil Aviation Theme for the Draft Basic Assessment Report for the proposed development of a 132 kV Overhead Power Line and Associated Electrical Grid Infrastructure (EGI) to support the Proposed Vhuvhili Solar Photovoltaic Energy Facility, near Secunda in the Mpumalanga Province. The EGI is being proposed by Vhuvhili Solar RF (Pty) Ltd.

#### 2. Introduction

On 20 March 2020, in Government Gazette 43110, Government Notice (GN) R320, the then Department of Environment, Forestry and Fisheries (now operating as the Department Forestry, Fisheries and the Environment (DFFE)) published procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) when applying for an Environmental Authorisation (EA). GN R320 prescribes general requirements for undertaking a Site Sensitivity Verification, as well as protocols for assessment and minimum report content requirements of environmental impacts associated with specified environmental themes for activities requiring EA. GN R320 was enforced within 50 days of publication of the notice i.e., on 9 May 2020.

GN R320 specifically includes a protocol that provides the criteria for the specialist assessment and minimum report content requirements for impacts on civil aviation installations for activities requiring EA. This protocol replaces the requirements of Appendix 6 of the 2014 NEMA EIA Regulations (as amended).

This specific protocol states that prior to commencing with a specialist assessment, the current use of the land and the potential environmental sensitivity of the site under consideration as identified by the National Web-Based Environmental Screening Tool (Screening Tool) must be confirmed by undertaking a Site Sensitivity Verification according to the requirements specified in this protocol.

Then, based on the outcome of the Site Sensitivity Verification undertaken in terms of this protocol, a proposed development that occur on sites identified as Very High, High or Medium sensitivity, as it relates to Civil Aviation and is depicted on the Screening Tool, must include a Civil Aviation Compliance Statement. It also states that there are no further requirements if the proposed development occur on sites identified and verified as Low sensitivity on the Screening Tool, as it relates to Civil Aviation.

Therefore, since the proposed Vhuvhili EGI project requires an EA in terms of the 2014 NEMA EIA Regulations (as amended), and Civil Aviation was identified as a relevant theme for the Solar Methodology on the Screening Tool, as well as a required study, GN R320 must be complied with.

#### 3. Details of the Environmental Scientist

GN R320 states that prior to commencing with a specialist assessment, the current use of the land and the potential environmental sensitivity of the site under consideration as identified by the Screening Tool must be confirmed by undertaking a Site Sensitivity Verification.

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This Site Sensitivity Verification has been undertaken by Lizande Kellerman. Lizande Kellerman is registered with the South African Council for Natural and Scientific Professions (SACNASP), with Registration Number 400076/10. Inputs to the Site Sensitivity Verification Report were also provided by Dhiveshni Moodley (Cand.Sci.Nat.), Willan Adonis, and Helen Antonopoulos of the CSIR.

### 4. Proposed Project Location

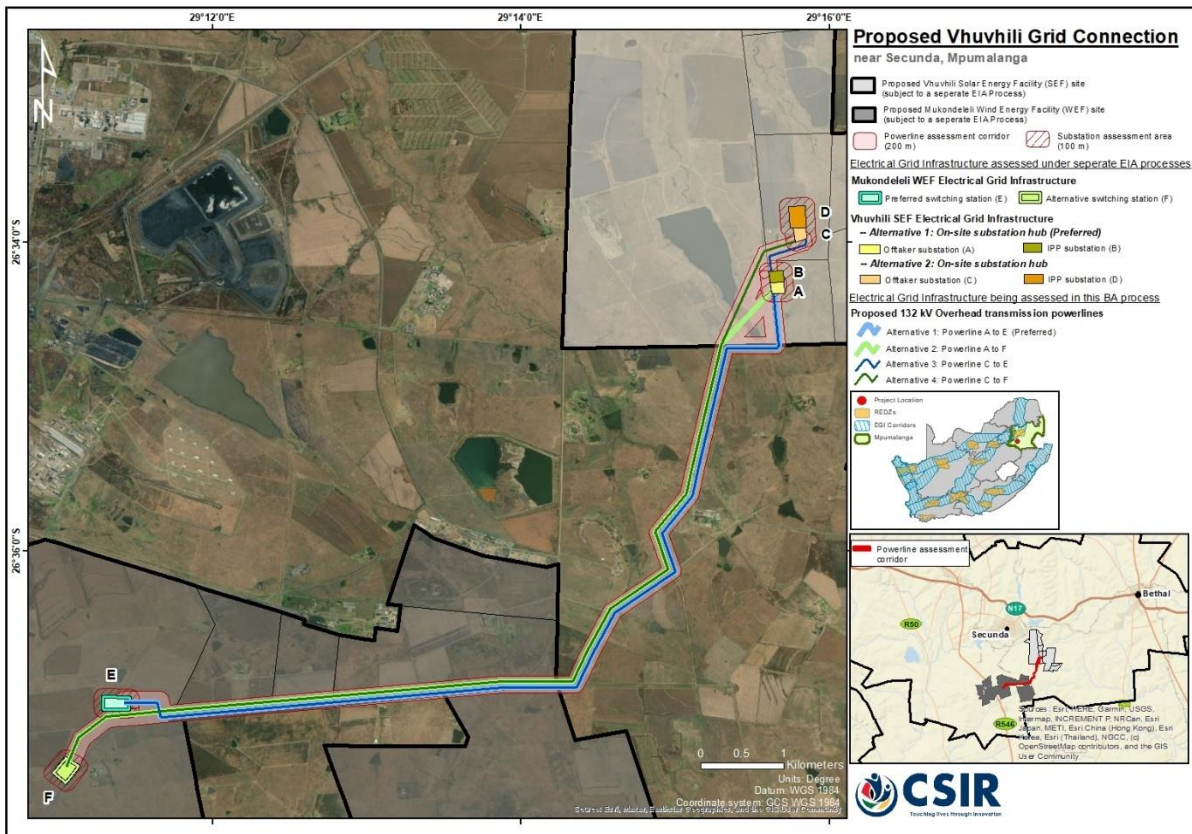
The proposed Vhuvhili EGI assessment corridor is located near Secunda, which falls in the Govan Mbeki Local Municipality and the Gert Sibande District Municipality in the Mpumalanga Province (Figure D.7-1).

**Table D.7-1. Affected farm portions and SG codes associated with the preferred Vhuvhili EGI assessment corridor**

Farm	Portion	SG Code
Grootvlei No.584	RE/584	TOIS00000000058400000
Grootvlei No. 293	20/293	TOIS00000000029300020
Vlakspruit No.292	RE/292	TOIS00000000029200000
Vlakspruit No.292	20/292	TOIS00000000029200020
Vlakspruit No.292	19/292	TOIS00000000029200019
Vlakspruit No.292	14/292	TOIS00000000029200014
Vlakspruit No.292	15/292	TOIS00000000029200015
Vlakspruit No.292	13/292	TOIS00000000029200013
Vlakspruit No.292	3/292	TOIS00000000029200003
Vlakspruit No.292	2/292	TOIS00000000029200002
Vlakspruit No.292	16/292	TOIS00000000029200016
Vlakspruit No.292	18/292	TOIS00000000029200018
Knoppies No.314	RE/314	TOIS00000000031400000
Brandwacht No.316	3/316	TOIS00000000031600003
Bosjesspruit No. 291	3/291	TOIS00000000029100003
Bosjesspruit No. 291	6/291	TOIS00000000029100006
Bosjesspruit No. 291	13/291	TOIS00000000029100013
Bosjesspruit No. 291	10/291	TOIS00000000029100010
Bosjesspruit No. 291	11/291	TOIS00000000029100011
Tondershoek No. 317	2/317	TOIS00000000031700002
Tondershoek No. 317	12/317	TOIS00000000031700012

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**Figure D.7-1: Locality map for the proposed Vhuvhili EGI assessment corridor near Secunda in the Mpumalanga Province.**

The proposed Vhuvhili EGI assessment corridor is not located within any of the Renewable Energy Development Zones (REDZs) gazetted in Government Gazette 41445, GN R114 on 16 February 2018 (Phase 1 REDZ), and Government Gazette 44191, GN R144 on 26 February 2021 (Phase 2 REDZ). The proposed EGI assessment corridor is also not located within any of the Strategic Transmission Corridors gazetted in Government Gazette 41445, GN R113 on 16 February 2018; and in Government Gazette 44504, GN R383 on 29 April 2021.

### 5. Findings of the Screening Tool

A Screening Tool Report was generated for the proposed Vhuvhili EGI assessment corridor using the following classification: Utilities Infrastructure → Electricity → Distribution and Transmission → Powerline.

The map of the relative Civil Aviation theme sensitivity generated and included in the Screening Tool depicted that the majority of the proposed EGI assessment corridor is of 'Medium' sensitivity with the classification of "Between 8 and 15 km of another civil aviation aerodrome", whereas the western section of the assessment corridor is of 'High' sensitivity from a civil aviation perspective i.e., it is located within 8 km of another civil aviation aerodrome (Figure D.7-2).

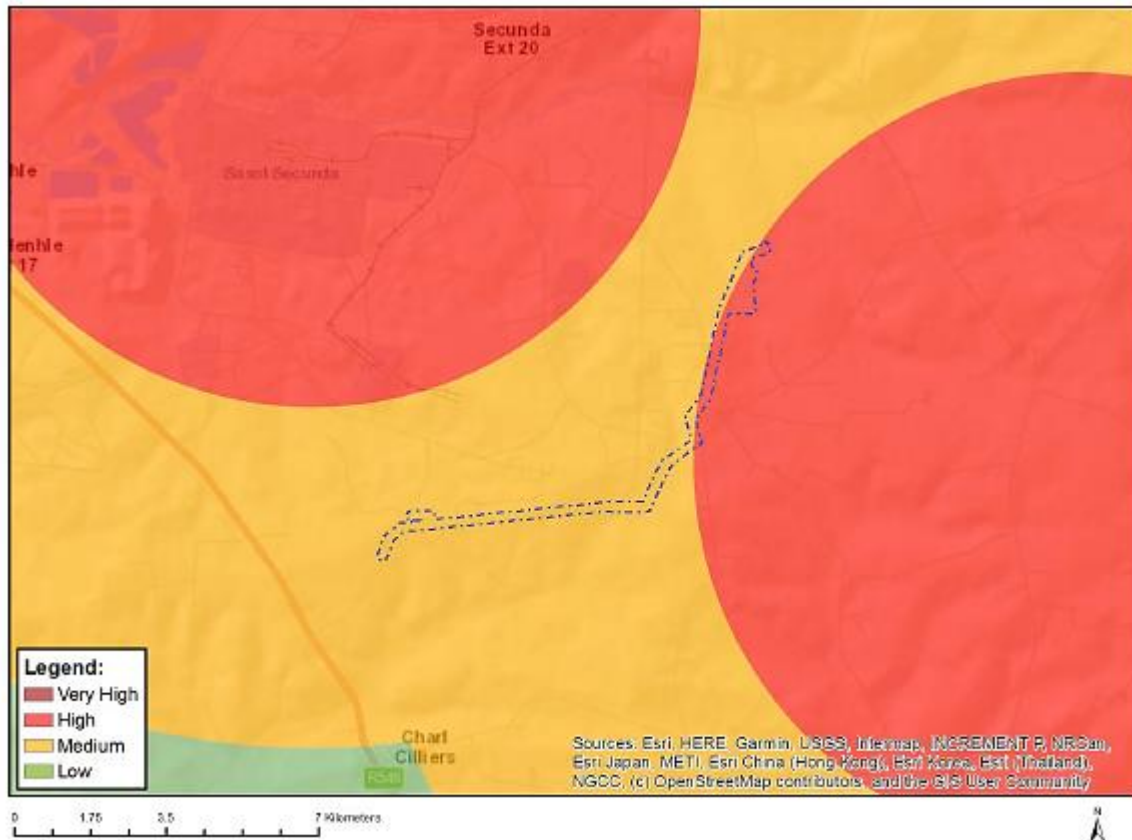
GN R320 states that if any part of the proposed development footprint falls within an area of 'Very High', 'High' or 'Medium' sensitivity, the assessment and reporting requirements prescribed for the 'Very High', 'High' or 'Medium' sensitivity apply to the entire footprint. The development footprint means the area on



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which the proposed development will take place and includes any area that will be disturbed. In terms of GN R320, this means that a Compliance Statement is required i.e., this Appendix in the BA Report.



**Figure D.7-2: Map showing the proposed Vhuvhili EGI assessment corridor as it relates to Civil Aviation Sensitivity (Source: DFFE Screening Tool, 2022).**

### 6. Details of the Site Visit

The details of the site visit are noted below:

<b>Date of Site Visit:</b>	19 October 2022
<b>Specialist Name:</b>	Lizande Kellerman
<b>Professional Registration Number:</b>	SACNASP Reg. No. 400076/10
<b>Specialist Affiliation / Company:</b>	CSIR Environmental Management Services

### 7. Site Sensitivity Verification

In terms of the requirements set out in the Civil Aviation Protocol (Government Gazette 43110, GN R320 of 20 March 2020), the Site Sensitivity Verification Report and Compliance Statement has been compiled based on the following methodology:

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- Existing spatial databases were used to determine the location of civil aviation installations in relation to the proposed project area, and to identify preliminary areas of concern in terms of impacts to civil aviation installations;
- The proposed EGI assessment corridor and development footprint was plotted on the Screening Tool to identify the sensitivity allocated;
- A site visit was undertaken to confirm the current land-use and the environmental sensitivity as it relates to Civil Aviation; and
- Additional research was undertaken to substantiate the Site Sensitivity Verification process.

The information sources listed in Table D.7-2 were used in the Site Sensitivity Verification process.

**Table D.7-2: Information Sources used for the Site Sensitivity Verification process**

Data / Information	Source	Date	Type	Description
National Web-Based Environmental Screening Tool (Screening Tool)	Department of Forestry, Fisheries and the Environment (DFFE)	2022	Spatial / Online Assessment	The Screening Tool is a geographically based web-enabled application which allows a proponent intending to submit an Application for EA in terms of the 2014 NEMA EIA Regulations (as amended) to screen the proposed site for any environmental sensitivity <sup>1</sup> .
Republic of South Africa (RSA) Airspaces in 3D	Air Traffic and Navigation Services SOC Limited (ATNS)	2020	Google Earth KMZ File	The RSA Airspaces in 3D data KMZ file is an initiative undertaken by the ATNS to illustrate the definitions and complexities of airspace, routes, aerodromes and navigational facilities within South Africa to the public in the interest of safety <sup>2</sup> .
Airport, Airfields and Obstacle Datasets	Civil Aviation Authority (CAA)	2018	Spatial Vector Dataset	Location of airfields in RSA.
Wind and Solar PV Phase 1 Strategic Environmental Assessment (SEA)	Department of Environmental Affairs (DEA)	2015	Report	SEA commissioned by the DEA [now operating as the DFFE] in 2013 for an assessment of wind and solar PV energy in South Africa, with an aim of identifying eight Renewable Energy Development Zones (REDZs) to focus and incentivize such development (i.e. Phase 1 REDZs SEA: CSIR Report Number: CSIR/CAS/EMS/ER/2015/0001/B).
Wind and Solar PV Phase 2 SEA	Department of Environment, Forestry and Fisheries (DEFF)	2019	Report	SEA commissioned by the DEFF in 2016 for an assessment of wind and solar PV energy in South Africa, with an aim of identifying three additional REDZs to focus and incentivize such

<sup>1</sup> <https://screening.environment.gov.za/screeningtool/index.html#/pages/welcome>

<sup>2</sup> <https://www.atns.co.za/rsakmz.php>

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Data / Information	Source	Date	Type	Description
				development (i.e. Phase 2 REDZ SEA. CSIR Report Number: CSIR/SPLA/SECO/ER/2019/0085).

Therefore, the Site Sensitivity Verification was undertaken using desktop analysis, satellite imagery, on-site inspection, and other available and relevant information.

### 8. Findings from the Site Sensitivity Verification

The site visit has confirmed that the proposed Vhuvhili EGI assessment corridor currently consists of a mixture of natural grassland and disturbed grassland, as well as grazing pastures and crop fields. The proposed EGI assessment corridor is typified by grassland vegetation characteristic of the Grassland Biome and more specifically of the Mesic Highveld Grassland Bioregion. Refer to Figures D.7-3 and D.7-4 for views of Portion 12 of the Farm Tondershoek No. 317 and the Remainder of Farm Grootvlei No. 584, i.e., two of the affected properties on which the proposed 132 kV power line is to be developed.

**Note that no civil aviation installations were found within the actual proposed development footprint, on the ground, for the proposed project.**



**Figure D.7-3: View from the D826 towards Portion 12 of the Farm Tondershoek No. 317 (SE direction) (Photo: W. Adonis).**



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**Figure D.7-4: View towards the Remainder of Farm Grootvlei No. 584 (N direction) (Photo: W. Adonis).**

### 9. Compliance Statement

GN R320 states that if any part of the proposed development footprint falls within an area of ‘very high’, ‘high’ or ‘medium’ sensitivity relating to civil aviation, the assessment and reporting requirements prescribed for the ‘very high’, ‘high’ or ‘medium’ sensitivity apply to the entire development footprint. In terms of GN R320, this means that a Compliance Statement is required i.e., this Report.

The potential ‘High’ sensitivity of the western portion of the EGI assessment corridor, as well as the ‘Medium’ sensitivity identified for the remainder of the proposed EGI assessment corridor, as it relates to civil aviation and identified by the Screening Tool, was investigated during a site visit (see Section 6 above).

#### **9.1 Aerodromes and Helistops**

The Air Traffic and Navigation Services SOC Limited (ATNS) data (dated October 2022) illustrates that the proposed Vhuvhili EGI assessment corridor is located approximately 10 km south-east (at its closest point) of a licensed aerodrome (i.e., Secunda Airfield - FASC). The site visit confirmed that the Secunda Airfield is indeed operational (as shown in Figures D.7-5, D.7-6, and D.7-7 below) and that is in close proximity to the study site, thereby confirming the ‘Medium’ sensitivity identified by the Screening Tool in the southern portion of the proposed EGI assessment corridor.

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**Figure D.7-5: View of the Secunda Airfield (SE direction) (Photo: Willan Adonis)**



**Figure D.7-6: View of the Secunda Airfield (W direction) (Photo Willan Adonis)**

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**Figure D.7-7: View of the Secunda Airfield (N direction) (Photo: Willan Adonis)**

The ATNS data further indicates that there is an unlicensed aerodrome (i.e., Petrusrus Airfield - FAPW) located approximately 7.5 km south-east (at its closest point) of the proposed Vhuvhili EGI assessment corridor. During the site visit it was concluded that, although mapped, the Petrusrus Airfield does not formally exist at the specified coordinates as it appears to be a two-track gravel road located in between existing crop fields (see Figure D.7-8 below). This finding was confirmed by the site manager at the Secunda Airfield, who stated that they were not aware of an airfield located in the vicinity. Furthermore, Google Earth historical imagery, dating from 1985 to 2022 spanning a period of 37 years shows no airfield present at the mapped location. Although the Screening Tool classified the western portion of the Vhuvhili EGI assessment corridor as 'High' sensitivity with the classification of 'within 8 km of another civil aviation aerodrome', the site visit has confirmed that the Petrusrus Airfield is inactive and will not be impacted upon by the proposed power line. Therefore, the site visit has confirmed and verified the entire EGI assessment corridor to be of Medium sensitivity as it relates to civil aviation due to its proximity to the Secunda Airfield.



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**Figure D.7-8: View of the so called Petrusrus Airfield (E direction). Note the lack of aviation infrastructure, such as a windsock (Photo: Willan Adonis).**

Moreover, the ATNS data illustrates that the EGI assessment corridor is situated approximately 20 km south-west of an unlicensed aerodrome (i.e., Rusticana Airfield – R 028), as well as 20 km north-west of the Tutuka Power Station’s licensed (AIP) Aerodrome, and 37 km south-west of an unlicensed aerodrome (i.e., Kriel - FAKL) at its nearest points, respectively. The ATNS data further notes the presence of two helistops, namely New Denmark Colliery (130) and Steyn City Properties (Pty) Ltd (402), located approximately 14 km south-east and 30 km north-west at its nearest points, respectively, of the proposed EGI assessment corridor. Although these aerodromes and helistops fall within a 30 km radius of the proposed EGI assessment corridor, it is unlikely that they will be impacted on by the proposed power line due to their distance from the proposed EGI assessment corridor.

### **9.2 Flight Information Services (FIS), Controlled Airspaces (CTA) and Area Navigation Routes (RNAV)**

The ATNS also indicates that the proposed Vhuvhili EGI assessment corridor is located entirely within the Johannesburg Flight Information Service (FAJA FIS) region, which is a form of Air Traffic Service (ATS) that is available to any aircraft within a Flight Information Region (FIR), whereas the western portion of the EGI assessment corridor falls within the OR Tambo Airport Controlled Airspace (FAOR CTA). Area navigation routes (RNAV) associated with the OR Tambo Airspace intersect the 30 km radius area surrounding the proposed EGI assessment corridor; however, none intersect the airspace above the proposed EGI assessment corridor, as the RNAVs transect the 30 km site radius at approximately 2.5 km south and 6.5 km west (at its closest points) of the proposed EGI assessment corridor, respectively. As a result, it is unlikely that the RNAVs will be impacted on by the proposed power line.

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#### 9.3 Restricted Airspaces

The ATNS data has also confirmed that the proposed Vhuvhili EGI assessment corridor is located approximately 5 km south-east (at its nearest point) of an identified 'restricted airspace' (i.e., FAR63 Secunda) situated above Sasol in Secunda, which includes features such as the Sasol Synfuels Power Station and Sasol Nitro Explosives. Furthermore, the ATNS data indicates that the proposed EGI assessment corridor is located approximately 28 km south-west (at its nearest point) of the Bethal Explosives Factory, which is classified as a 'dangerous airspace' (i.e., FAD84). Based on their respective locations, the FAR63 and FAD84 will not be impacted on by the proposed power line, nor will the proposed power line impact on these identified airspaces.

Figure D.7-9 indicates the location of the civil aviation features noted above, which informed this Compliance Statement.

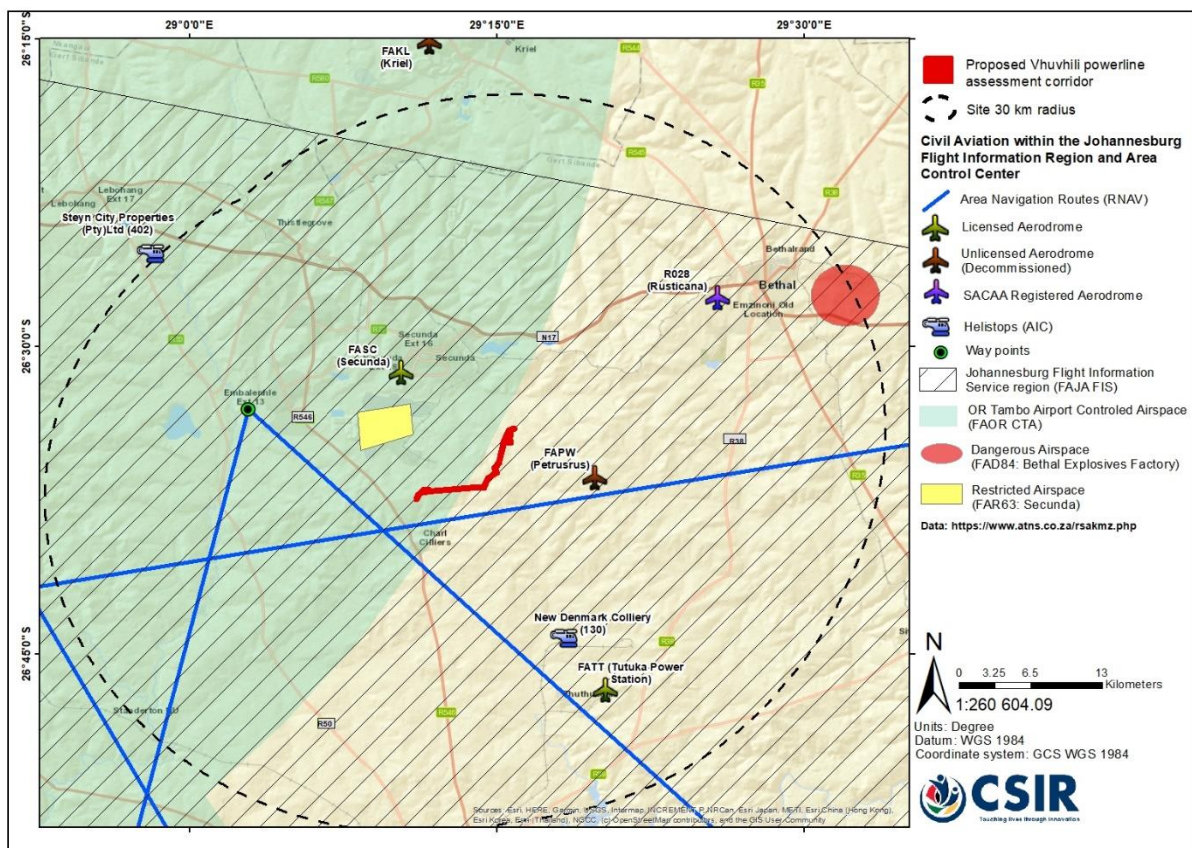


Figure D.7-9: Civil Aviation Features relative to the proposed Vhuvhili EGI assessment corridor.

#### 10. Conclusion and Recommendation

The entire proposed EGI assessment corridor was determined and verified to be of Medium sensitivity (as it relates to civil aviation). This was determined through a site visit and based on an analysis of existing databases.

The 'High' sensitivity identified by the Screening Tool in the western portion of the proposed Vhuvhili EGI assessment corridor was refuted, as it was found that the Petrusrus Airfield seems non-operational, lacks any civil aviation infrastructure, and instead appears to be a two-track gravel road located in between

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existing crop fields. It was therefore confirmed and verified that this portion of the EGI assessment corridor is of 'Medium' sensitivity since this specific portion of the EGI assessment corridor is situated between 8 and 15 km of the Secunda Airfield.

Based on existing databases followed by a site visit to the Secunda Airfield, it was determined and verified that the remainder of the EGI assessment corridor is of 'Medium' sensitivity as it relates to civil aviation, as the assessment corridor is situated between 8 to 15 km of the Secunda Airfield. Based on this finding, in terms of GN R320, a Compliance Statement is required for the Vhuvhili EGI assessment corridor (i.e., this Report).

In conclusion, apart from its proximity to the Secunda Airfield, the EGI assessment corridor and proposed power line infrastructure is not likely to impact negatively on civil aviation installations or air traffic associated with the OR Tambo Airport Controlled Airspace Controlled Airspace (FAOR CTA) or the Johannesburg Flight Information Service (FAJA FIS) region. Therefore, provided that any potential future recommendations from the civil aviation authorities are incorporated into the project design (post EA, should the EA be granted) prior to construction, it is recommended that the EGI project receive EA in terms of the 2014 NEMA EIA Regulations (as amended).