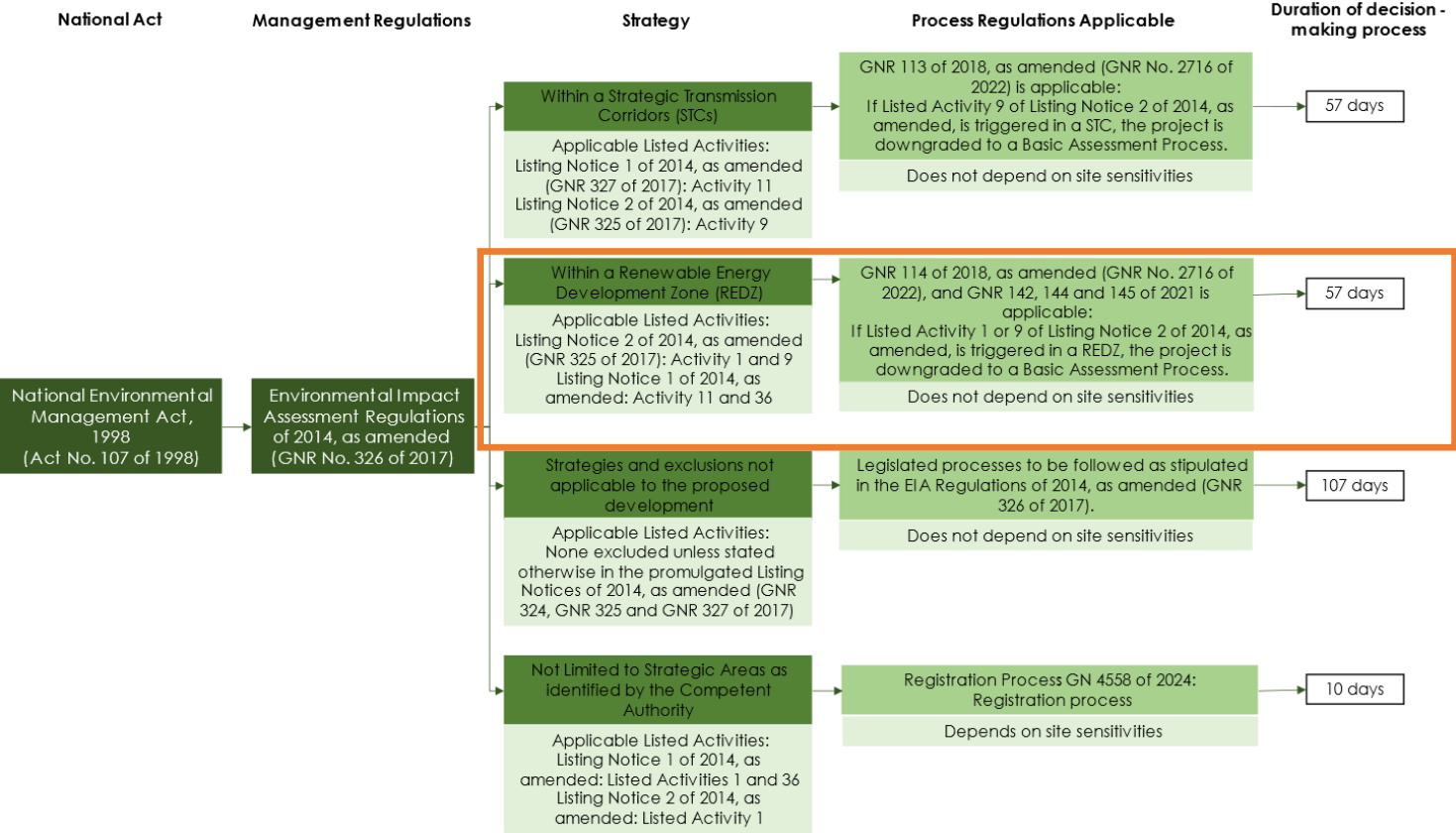
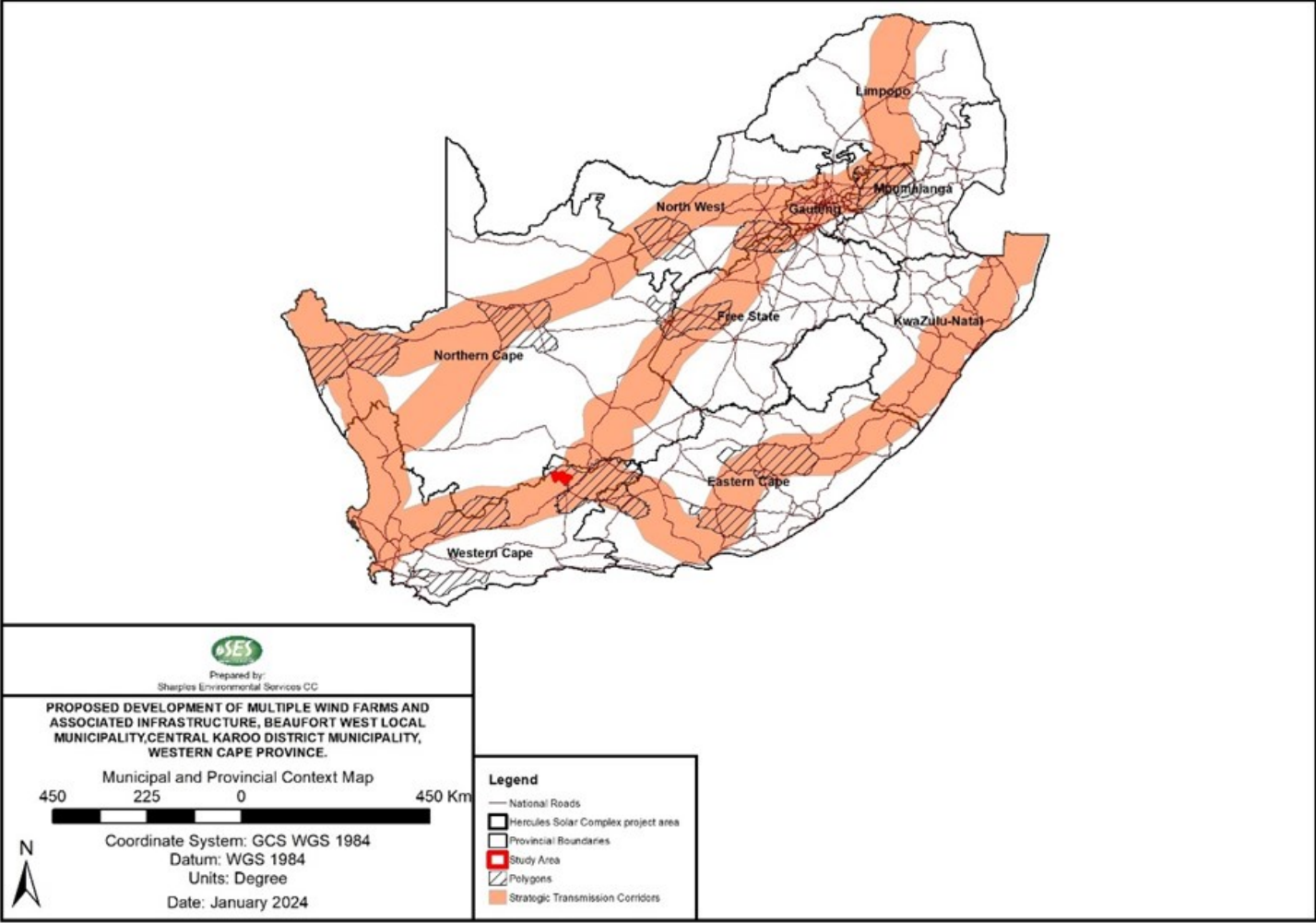


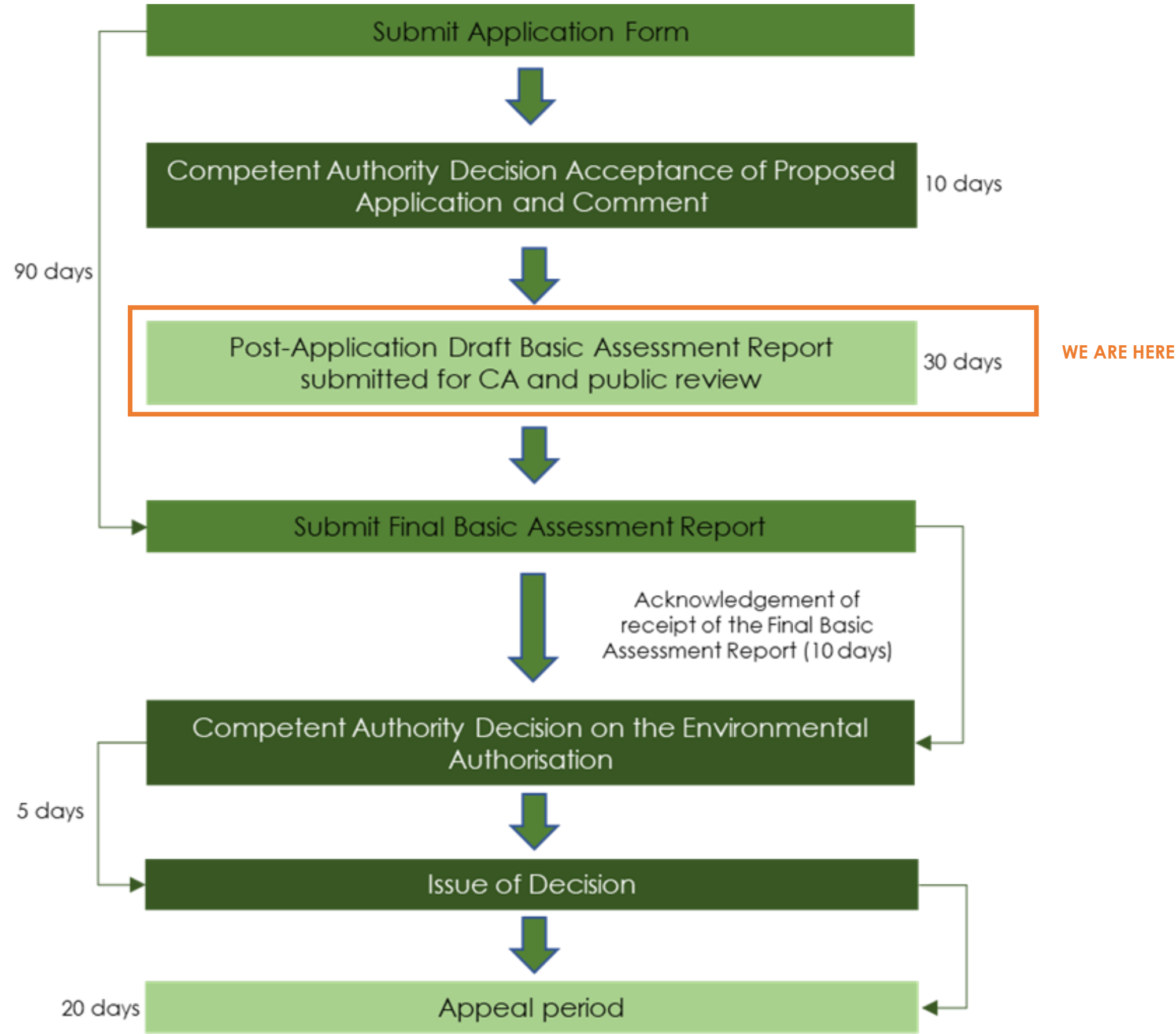
MULILO KAROO WIND POWER CLUSTER, NEAR BEAUFORT WEST

LEGISLATIVE COMPONENTS OF THE PROPOSED DEVELOPMENTS



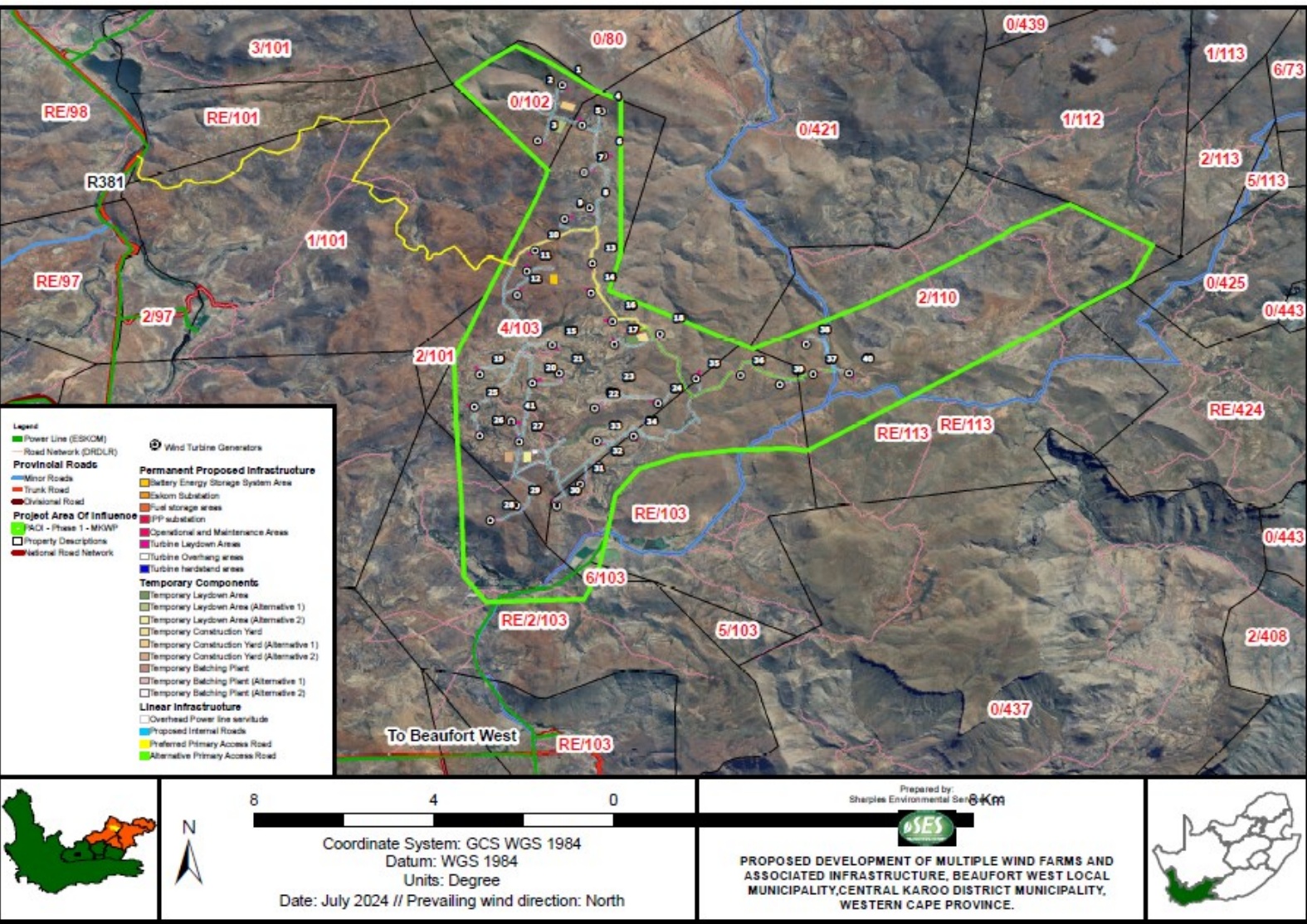
The proposed developments are all located within the Beaufort West Renewable Energy Development Zone (as promulgated in GNR 144 of 2021), as well as the Central Transmission Corridor (as promulgated in GNR 113 of 2018). Therefore, the provisions of GNR 142 of 2021 applies to the Wind Energy Facilities and a Basic Assessment Process in terms of the EIA Regulations of 2014, as amended was followed.

The BA process for the proposed development is informed by the EIA Regulations of 2014, as amended (GNR 326 of 2017; GNR 517 of 2021) as well as GNR 114 of 2018, and typically follows two main phases, namely, an Application Phase and a Basic Assessment (BA) Phase (including its associated Public Participation Process)



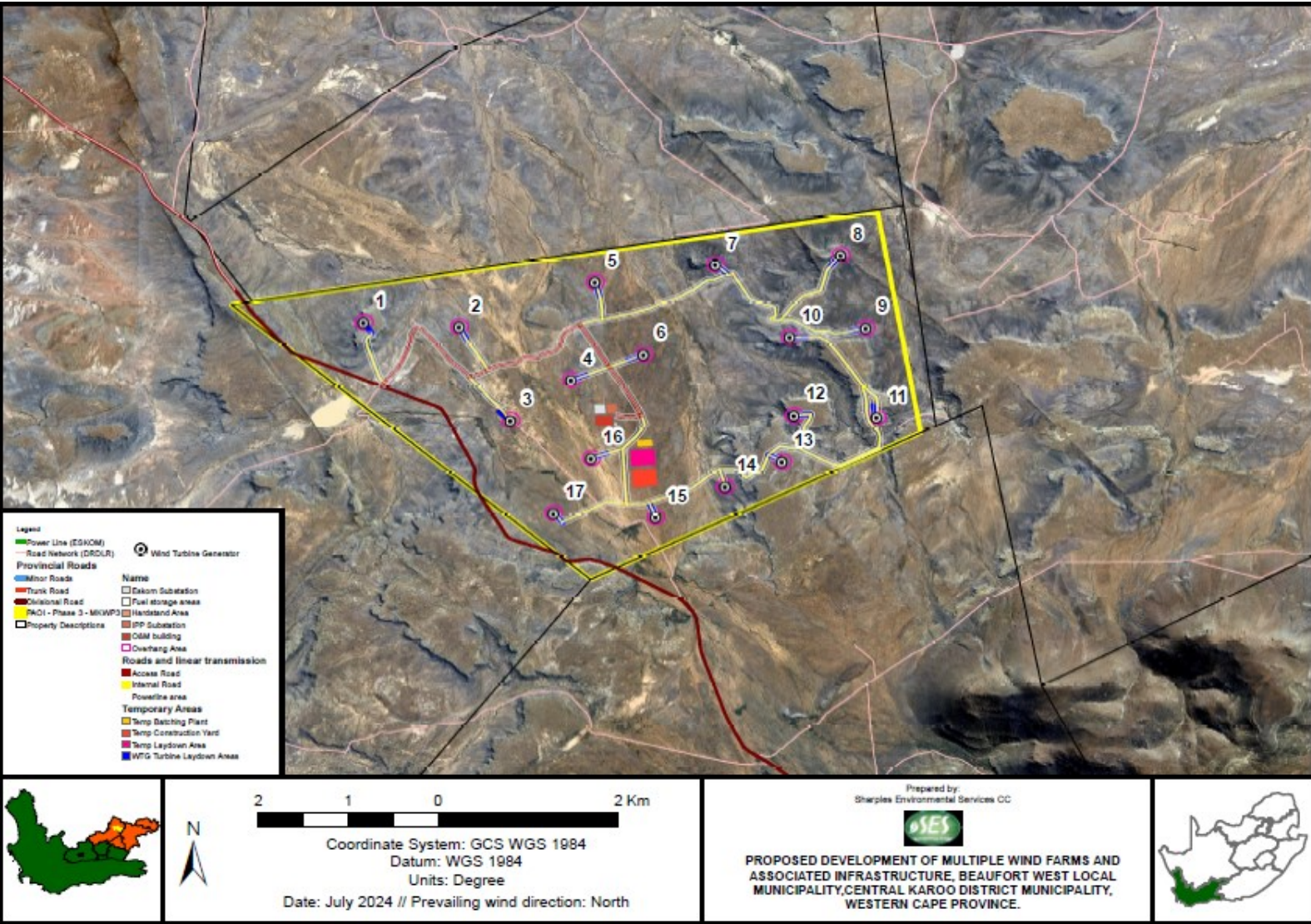
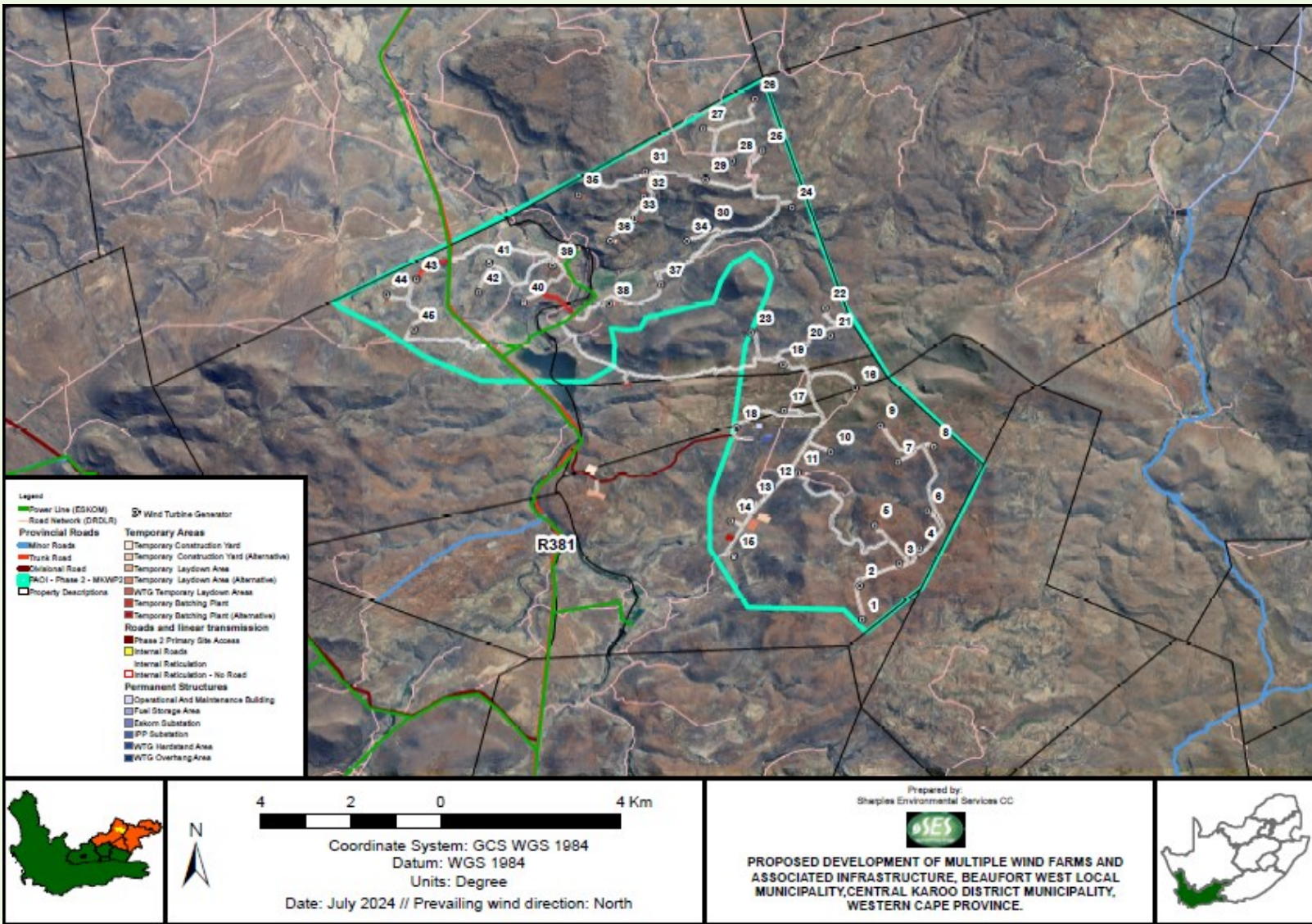
MULILO KAROO WIND POWER CLUSTER, NEAR BEAUFORT WEST

PROJECTS LOCATIONS AND COORDINATES



MULILO KAROO WIND POWER (PTY) LTD	
Province	Western Cape
District Municipality	Central Karoo District Municipality
Local Municipality	Beaufort West Local Municipality
Ward number(s)	Ward No. 7
Nearest town(s)	Beaufort West
Portion name(s) and numbers	Wind Energy Facility Portion 4 of Farm Matjes Valie 103 Remainder of Farm Matjes Valie 103 Remainder of Portion 2 of Farm Matjes Valie 103 Portion 2 of Farm Matjes Kloof 110 Annex Waterval 102 Access Road Remainder of Farm Waterval 101 Portion 1 of Farm Waterval 101
Extent of Site (Development Footprint / Disturbed Area)	The combined area of the properties to be affected by the proposed wind energy facility is 9 761 ha. Whereas the project area of interest (PAOI) of the proposed development will have an extent of 5 523 ha. The area of disturbance will however be only 179.16 ha.
SG Code	Wind Energy Facility C00900000000010300004 C00900000000010300000 C00900000000010300002 C00900000000011000002 C00900000000010200000 Access Road C00900000000010100000 C00900000000010100001
Physical Address	The sites are accessible via farm roads leading from the Regional Road (R) 381, leading north from Beaufort West.
Centre point co-ordinates of the proposed development	32° 6'3.24\"S 22°32'54.41\"E

MULILO KAROO WIND POWER 2 (PTY) LTD	
Province	Western Cape
District Municipality	Central Karoo District Municipality
Local Municipality	Beaufort West Local Municipality
Ward number(s)	Ward No. 7
Nearest town(s)	Beaufort West
Portion name(s) and numbers	Remainder of the Farm Middle Kraal 98 Portion 1 of the Farm Waterval 101 Portion 3 of the Farm Waterval 101 Remainder of the Waterval 101
Extent of Site (Development Footprint / Disturbed Area)	The combined area of the abovementioned properties is 10 326 ha. Where the proposed development's project area of interest/influence will have an extent of 5 521 ha. The area of disturbance will however be only 160.1 ha.
SG Code	C00900000000009800000 C009000000000101000000 C00900000000010100001 C00900000000010100003
Physical Address	The site is accessible via a farm road branching from the Regional Road (R) 381, leading north from Beaufort West.
Centre point co-ordinates of the proposed development	32° 1'40.63\"S 22°30'13.21\"E

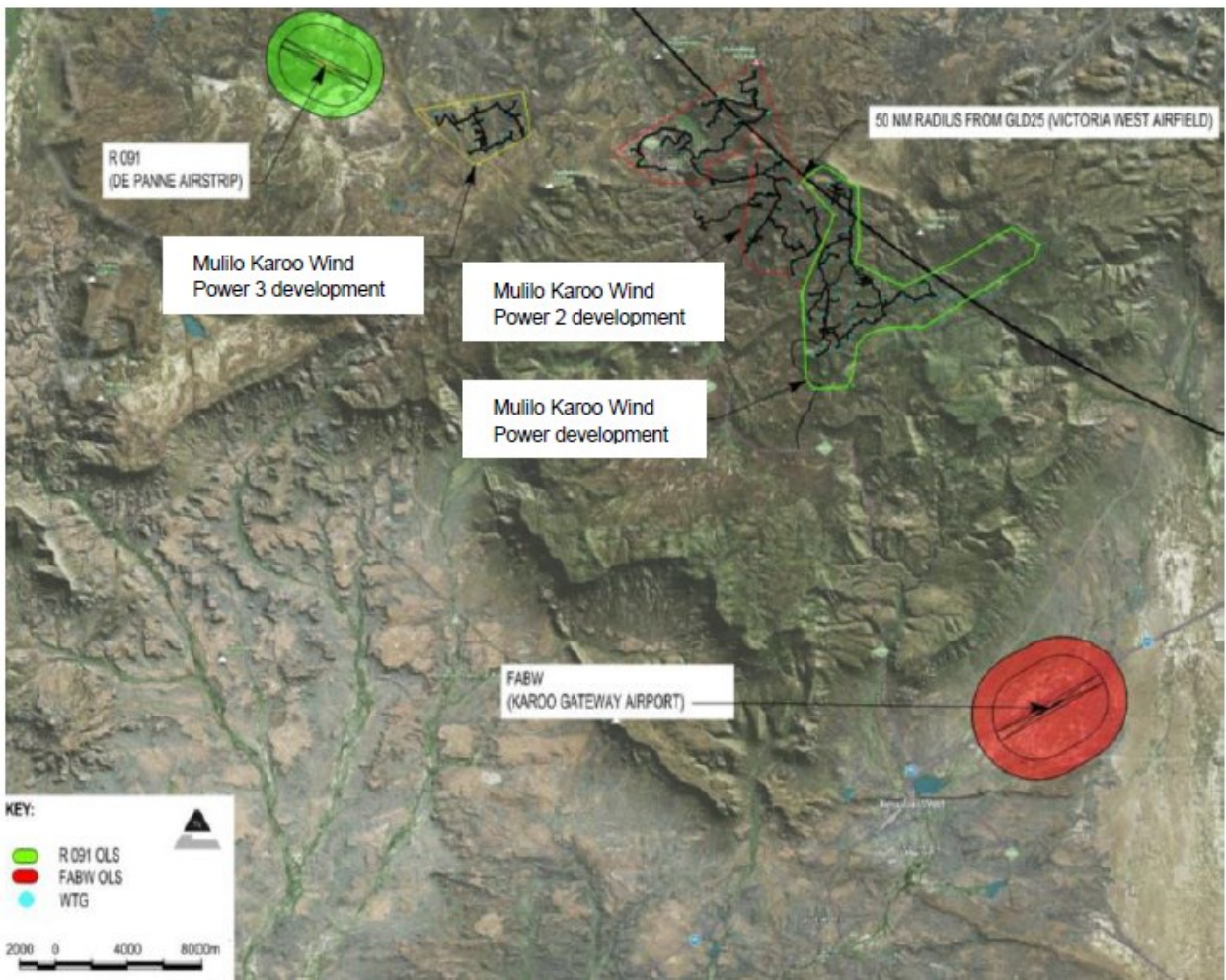


MULILO KAROO WIND POWER 3 (PTY) LTD	
Province	Western Cape
District Municipality	Central Karoo District Municipality
Local Municipality	Beaufort West Local Municipality
Ward number(s)	Ward No. 7
Nearest town(s)	Beaufort West
Portion name(s) and numbers	Portion 1 of Farm Adjoining Quaggas Fontein 83
Extent of Site (Development Footprint / Disturbed Area)	The combined area of the abovementioned properties is 1 518 ha. Where the proposed development's project area of interest/influence will have an extent of 1 518 ha. The area of disturbance will however be only 56 ha.
SG Code	C00900000000008300001
Physical Address	The site is accessible via a farm road branching off of the DR02312 leading from the Regional Road (R) 381, leading north from Beaufort West.
Centre point co-ordinates of the proposed development	32° 0'38.61\"S 22°20'4.81\"E

MULILO KAROO WIND POWER CLUSTER, NEAR BEAUFORT WEST

CIVIL AVIATION / DEFENSE / RADIO FREQUENCY INTEFERENCE

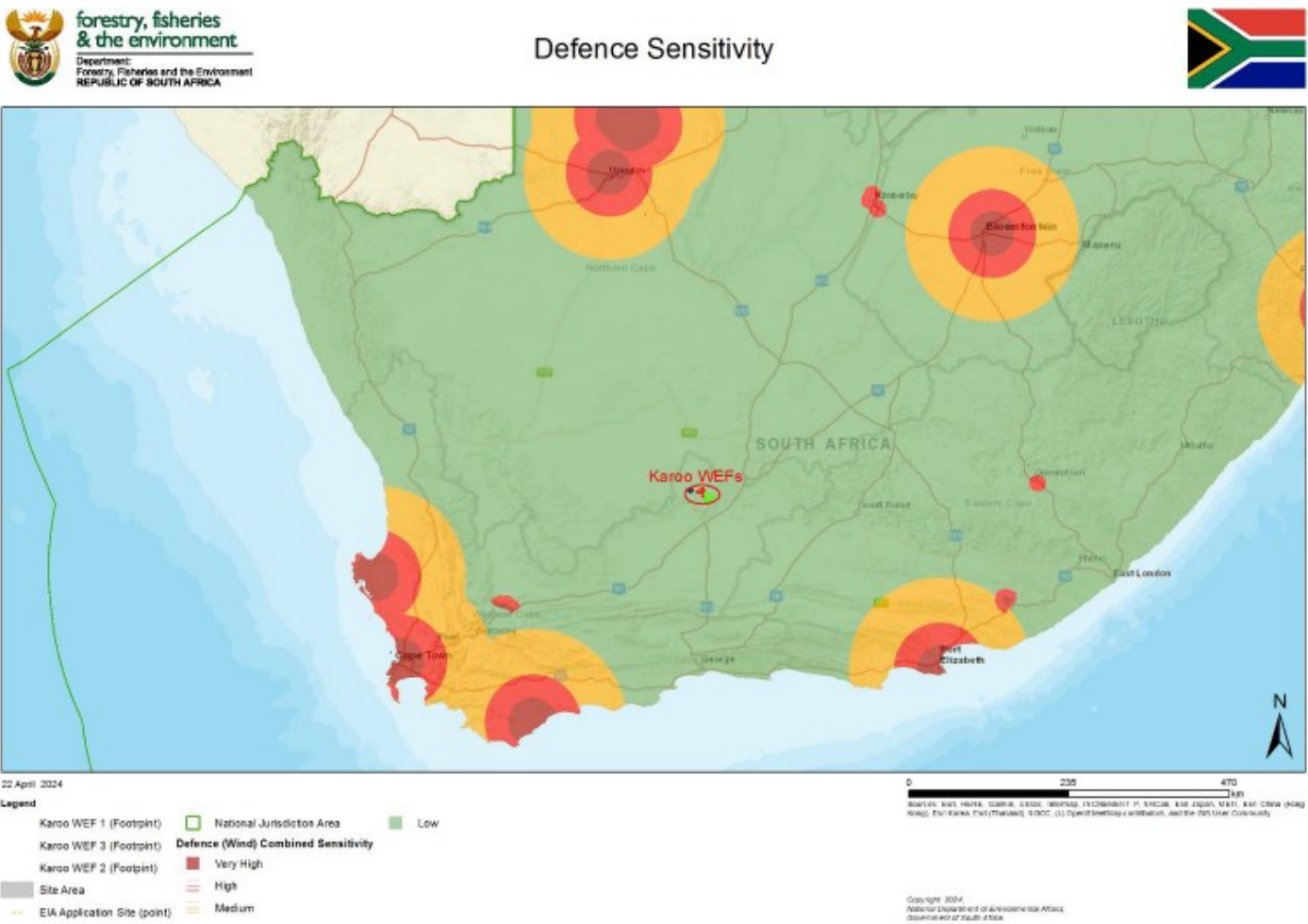
FINDINGS OF THE CIVIL AVIATION ASSESSMENTS



- The following was noted by the specialist:
 - The projects are situated outside the Transitional Surfaces for R091 and FABW. Thus, no protrusions are anticipated in the Transitional Surfaces.
 - The projects are situated outside the Approach and Take-off Climb Surfaces for R091 and FABW. Thus, no protrusions are anticipated in the Approach and Take-off Climb Surfaces.
 - The projects are situated outside the Inner Horizontal Surface for R091 and FABW. Thus, no protrusions are anticipated in the Inner Horizontal Surface..
 - No protrusions to the Conical Surface are anticipated as there are no protrusions anticipated in the Inner Horizontal Surfaces for R091 and FABW.
 - ICAO Annex 14 Clause 4.2.10 stipulates that new objects or extensions of existing objects shall not be permitted above an approach surface within 3000m of the inner edge or above a transitional surface except with authorization from the regulatory authority. No protrusion expected.
- All three proposed developments are located in an area of Low Sensitivity . This has been confirmed by the specialist.
- The proposed Mulilo Karoo Wind Power WTG does not protrude the OLS of the Karoo Gateway Airport.
- The proposed Mulilo Karoo Wind Power 2 WTG does not protrude the OLS of the Karoo Gateway Airport (FABW) nor De Panne airstrip (R091)
- The planned infrastructure for Mulilo Karoo Wind Power 3 WTG is not foreseen to impact the OLS of De Panne Airstrip.

FINDINGS OF THE DEFENSE ASSESSMENTS

- The proposed site is currently used for extensive agriculture (grazing of livestock) and wilderness areas .
- A desktop review of the location of defence installations and airfields confirms the low sensitivity of the project development area from a defence perspective.
- The N1 highway, to the south, and the Central Transmission Corridor, as well as the Droerivier sub-station near Beaufort West (a national key point), are of strategic importance to the Country, but the key functions of these facilities will not be significantly impacted by the project .
- No other features of significance identified.
- Site sensitivity confirmed to be Low and no further assessment was required.



FINDINGS OF THE RADIO FREQUENCY ASSESSMENTS

	Confirmed Sensitivity	MKWP	Confirmed Sensitivity	MKWP2	Confirmed Sensitivity	MKWP3
Nearest SKA Receptor	Very High	113.11 km	Very High	103.6 km	Very High	92.72 km
Nearest Weather Radar Installation	Low	205.5 km	Low	204.37 km	Low	215.1 km
Distance from edge of Radio Astronomy Ad-	Very High	27.82 km	Very High	18.7 km	Very High	8.09 km
Proximity to nearest telecommunications facility	Low Sensitivity		Low Sensitivity		Low Sensitivity	

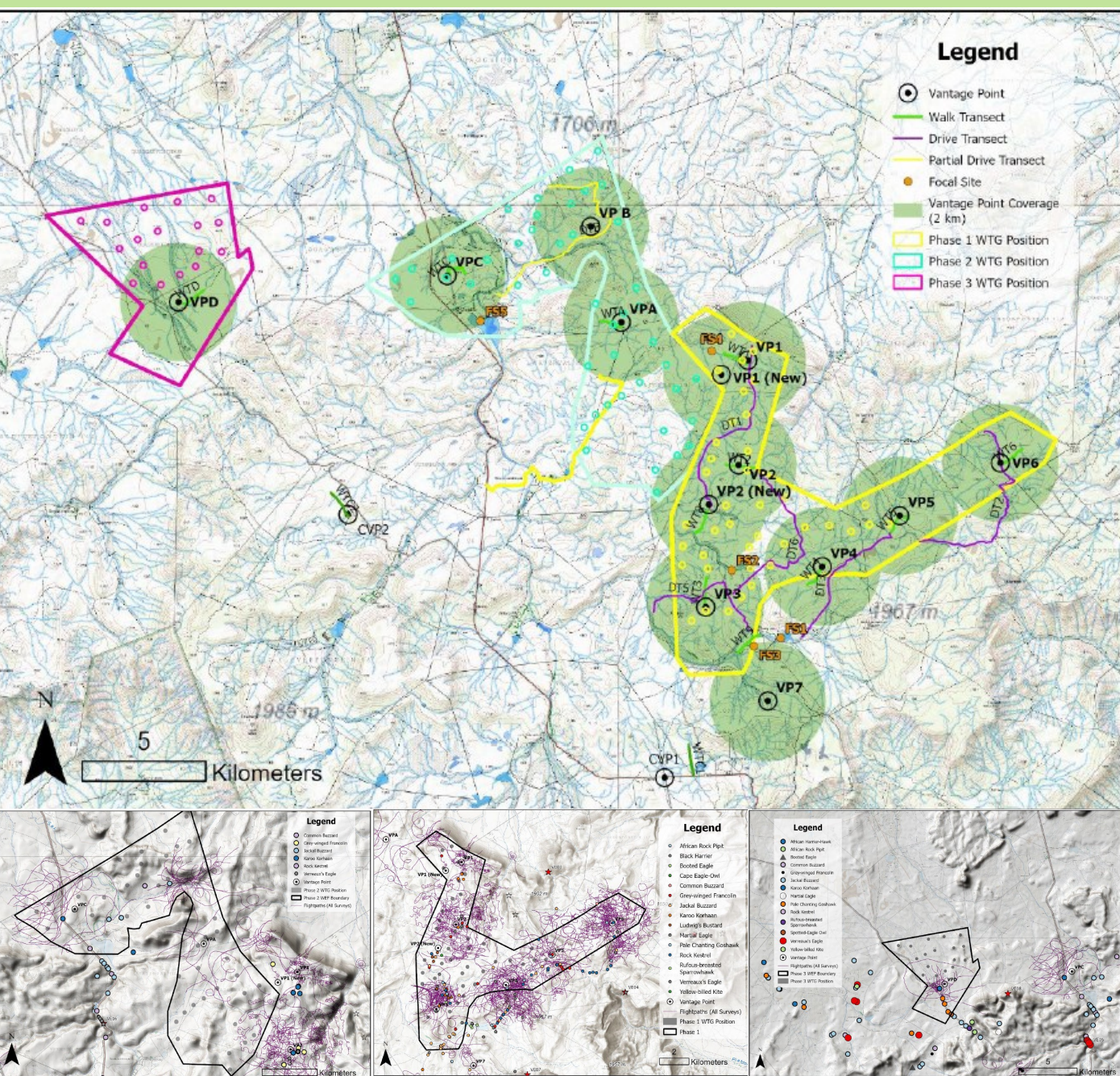
For the purpose of evaluating the impact on the sensitive receptors, four separate wind turbines were selected for this study within the developments. These turbines include the following:

- The closest turbine to the SKA infrastructure in the spiral.
- The turbine with the highest elevation above sea level.
- The turbine with the lowest pathloss to the SKA infrastructure in the Spiral.
- The turbine with the lowest pathloss to the SKA infrastructure in the Core.

- Due to the pathloss observed between the respective developments and SKA131, which represent the two points with the lowest pathloss between the SKA and the WEFs, a degradation in performance is anticipated unless the radiated emissions from each turbine installation can be reduced to 11dB below the CISPR 11/32 Class B limit across the 100MHz to 6GHz band.
- Due to the distance between the proposed WEF and the Weather Radar, further investigation was deemed unnecessary, concluding that the WEFs will have no RFI impact on the Weather Radar.
- No LTE tower was located in the vicinity of the proposed WEF sites. No further investigation into potential RFI effects was pursued.

MULILO KAROO WIND POWER CLUSTER, NEAR BEAUFORT WEST

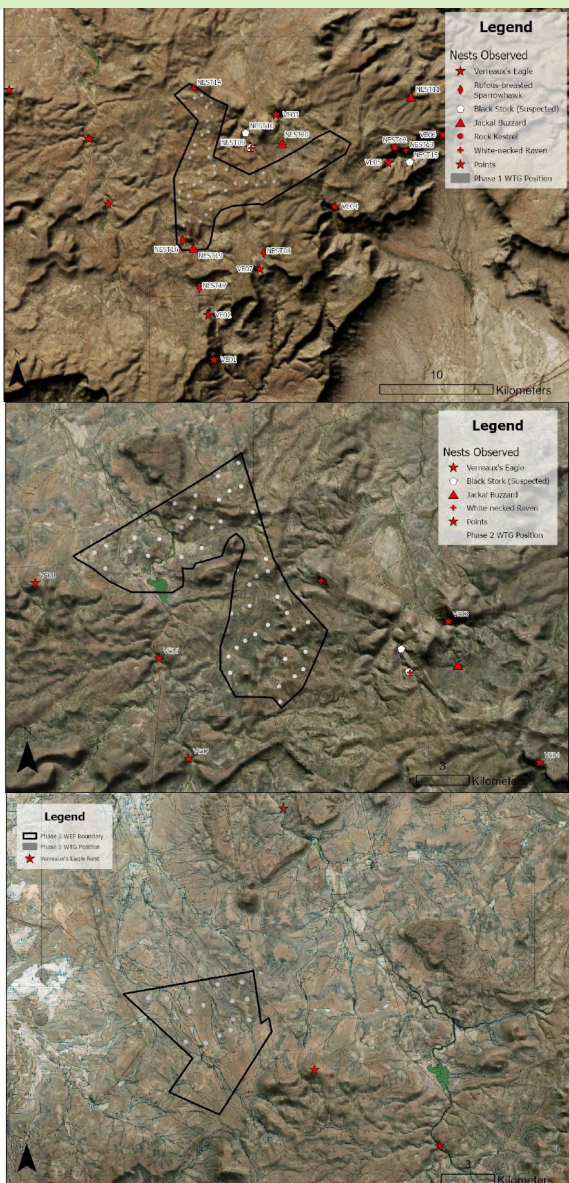
AVIFAUNAL ASSESSMENT



Observation points and flight paths recorded during pre-application monitoring.

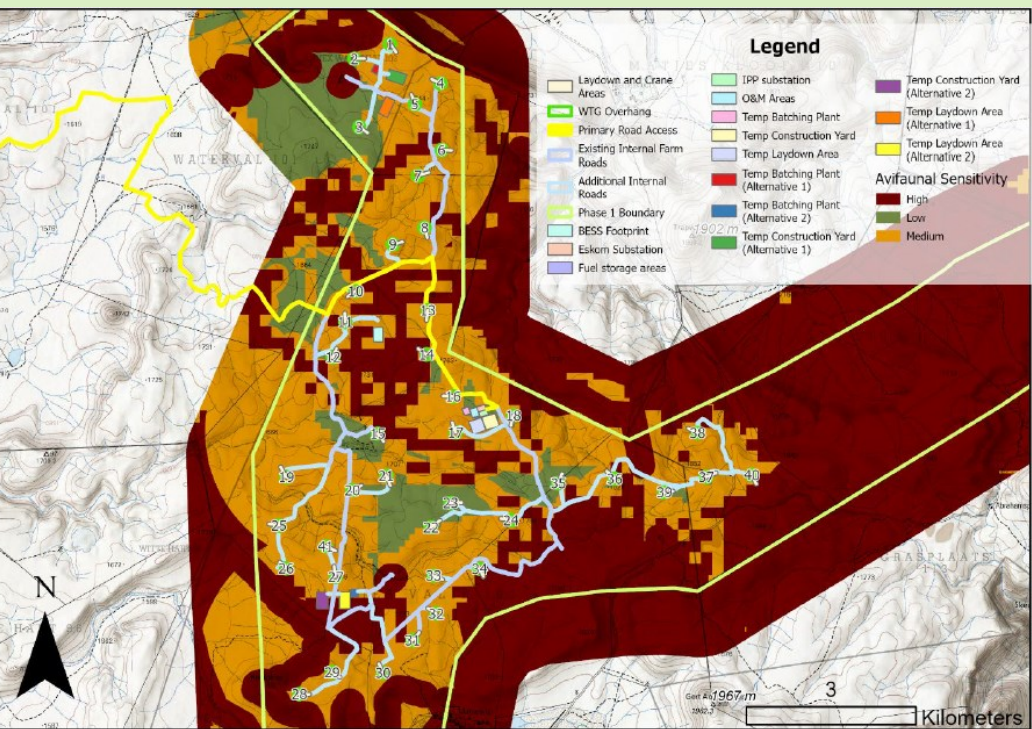
RECONNAISSANCE AND PRE-APPLICATION MONITORING

- A combination of vantage points, driven transects, walked transects and incidental records were used to determine the sensitivity of the sites.
- The Site Ecological Importance (SEI) was based on the occurrence of eight species. These species include Black Harrier, Black Stork, Lanner Falcon, Ludwigs Bustard, Martial Eagle, Rufous-breasted sparrowhawk, Verreaux's Eagle and Black Sparrowhawk.
- Numerous Endangered, Near Threatened and Vulnerable Avifaunal Species were identified within the sites.
- The images on the right-hand side indicate the locations of the observed nests within proximity to the proposed developments. Observed nests of priority species included:
 - Verreaux's Eagle
 - Black Stork
 - Jackal Buzzard
 - White Necked Raven
 - Rufous-breasted Sparrowhawk
 - Rock Kestrel
- No vultures were observed in the study areas during the 144 hours of observation.

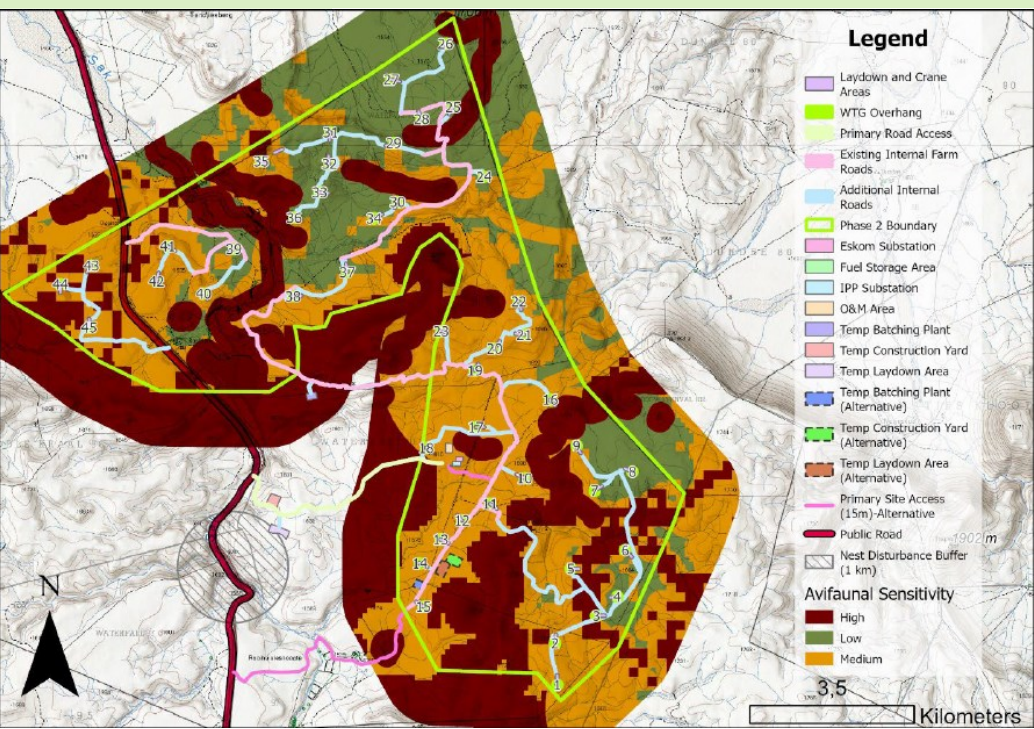


Nests observed

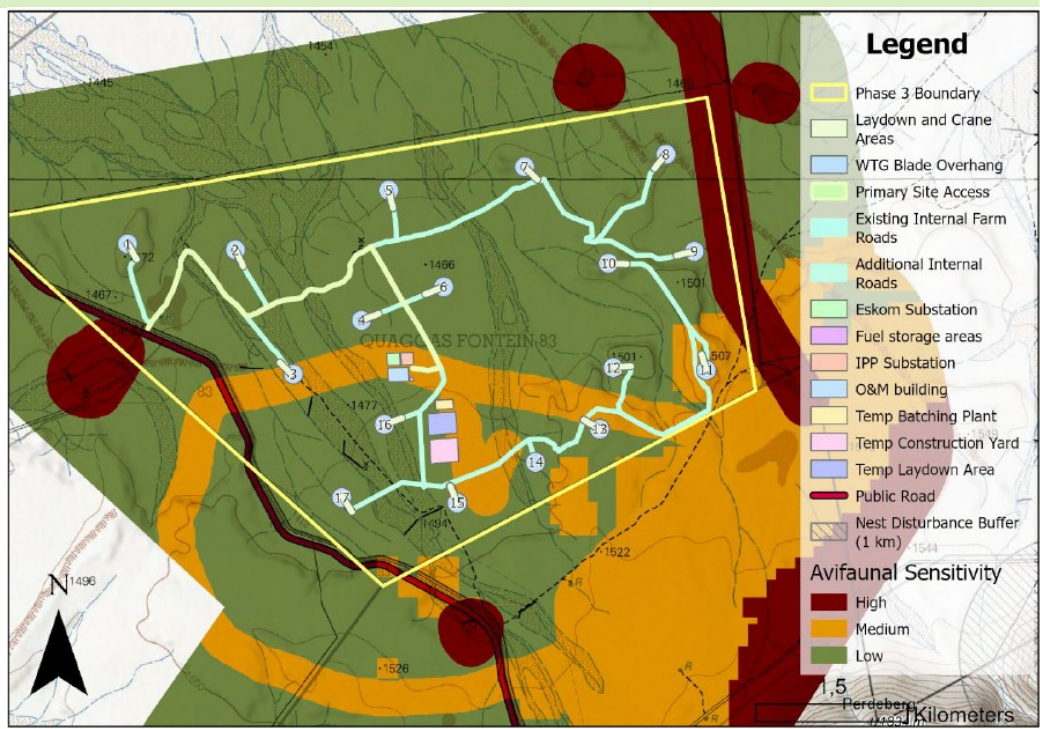
OVERALL SENSITIVITY RATING OF THE PROPOSED DEVELOPMENTS



Mulilo Karoo Wind Power Development—Avifaunal Sensitivity



Mulilo Karoo Wind Power 2 Development—Avifaunal Sensitivity



Mulilo Karoo Wind Power 3 Development—Avifaunal Sensitivity

From an avifaunal perspective, the relatively small total area of habitat destruction, resulting from permanent infrastructure associated with the proposed development, is unlikely to pose a significant impact on the long-term persistence or viability of avifaunal species in the area if High sensitive areas are avoided. While no WTG have been placed with High sensitive areas, the internal electrical reticulation poses a challenge from an avifaunal perspective, given the susceptibility of powerline collisions of species such as Ludwig's Bustard and Blue Crane.

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From an avifaunal perspective, the relatively small total area of habitat destruction, resulting from permanent infrastructure associated with the proposed development, is unlikely to pose a significant impact on the long-term persistence or viability of avifaunal species in the area if High sensitive areas are avoided. Low sensitivity areas are preferred for development, which have been utilized across the majority of the proposed Karoo Phase Three area in this final layout iteration.

ASSESSMENT OF THE IMPACTS ON THE AVIFAUNAL RECEPTORS AND CONCLUSION

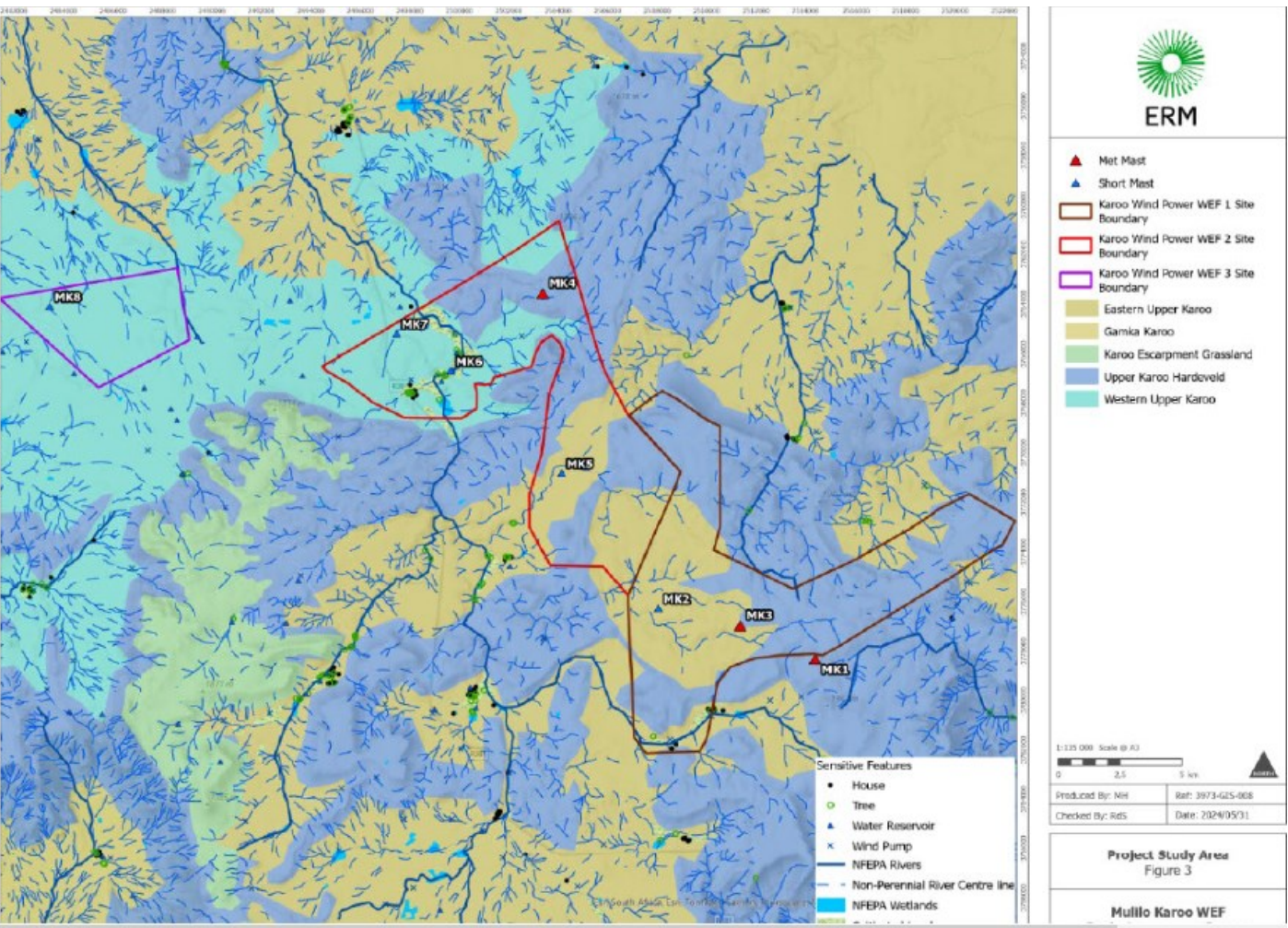
- Of the 21 avifaunal Species of Conservation Concern (SCCs) expected to occur in the area, 12 were recorded during the pre-application avifaunal monitoring plan.
- Verreaux's eagle, Jackal Buzzard and Booted Eagle were the priority species most recorded on site, with peak activity recorded during summer and spring.
- High Verreaux's Eagle activity areas were excluded from the potential development footprint and designated as No-Go areas for Wind Turbine Generators (WTGs).
- Passage rates of avifaunal SCCs recorded across the remaining areas were generally low.
- Internal electrical reticulation poses a collision risk in areas where burying is unfeasible and must be fitted with anti—perch devices and bird-flight-diverters along the entirety of their above-ground lengths.
- The avoidance of areas of elevated avifaunal sensitivity, removal of any blade encroachment into High sensitive areas, prevention of on-site habitat provision, combined with shut-down-on demand (observer-based or technology-led) for specific turbines, and blade painting applied to all WTGs, throughout the life-cycle of the proposed development, are considered mandatory to reduce the potential impacts to acceptable level for birds.
- An acceptable level of impacts are expected to occur on condition that all mitigations are implemented.

Impact Ratings AFTER mitigation measures have been applied			
	Mulilo Karoo Wind Power	Mulilo Karoo Wind Power 2	Mulilo Karoo Wind Power 3
Construction Phase			
Direct Habitat Destruction	Medium	Medium	Medium
Disturbance / Displacement	Medium	Medium	Low
Direct Mortality	Low	Low	Low
Operational Phase			
Disturbance / Displacement	Medium	Low	Low
Direct Mortality	Low	Low	Low
Internal Medium Voltage lines: Collision / Electrocution	Medium	Medium	Low

MULILO KAROO WIND POWER CLUSTER, NEAR BEAUFORT WEST

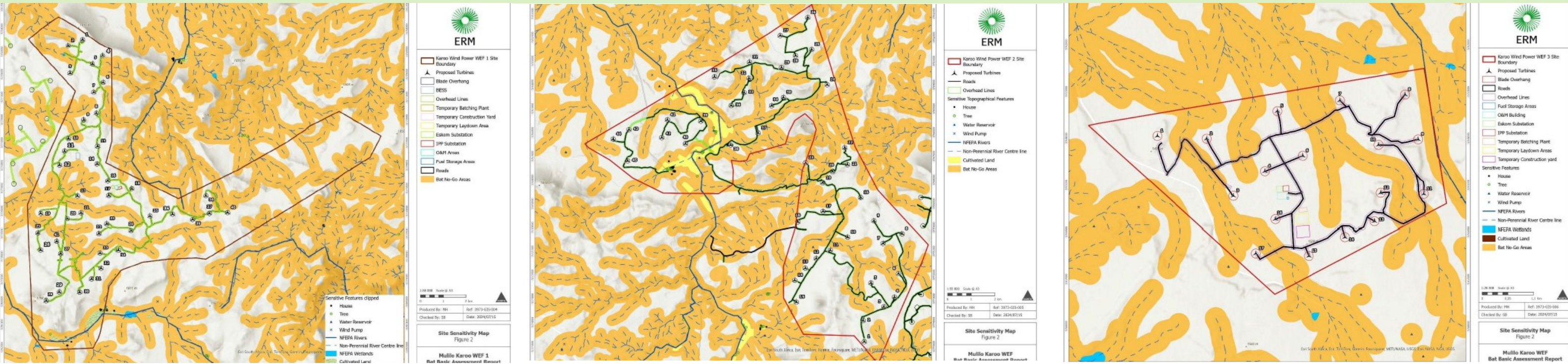
BATS ASSESSMENT

PRE-APPLICATION MONITORING



- Nine (9) bat species identified within the study area, are all insectivorous and have been grouped in accordance with their foraging type: open-air, clutter-edge and clutter foragers.
- It is also consistent with respect to other projects in the area, where the Egyptian free-tailed bat was the most recorded species, followed by the Cape serotine.
- Several other bat species also susceptible to WEP impacts are present in the study area. This includes one recorded high-risk species (Natal long-fingered bat) and one recorded medium-high-risk species (Temminck's hairy bat).
- The Long-tailed serotine was the only medium-risk species recorded within the study area.
- All of the species mentioned above have a Global IUCN Red List conservation status of "Least Concern".
- Due to the predominantly moderate activity levels recorded across the study area, significant negative effects on bats are not anticipated.
- Medium to high collision-risk species were recorded.

OVERALL SENSITIVITY RATING OF THE PROPOSED DEVELOPMENTS



Sensitive features such as houses, trees, water reservoirs and cultivated lands, drainage lines and riparian vegetation identified on the site were buffered and classified as No-Go areas. Dilapidated buildings and ruins on site were inspected to survey their importance to bats. None of the buildings on site were deemed suitable for bats for roosting and buffers around these dwellings were removed.

ASSESSMENT OF THE IMPACTS ON THE RECEPTORS AND CONCLUSION

- Bat activity was particularly high and posed a high risk to bats during spring, summer, and autumn, with peaks observed in the summer season.
- The assessment of potential impacts relevant to bats at the proposed WEP indicated that impacts are likely to occur during all phases of the project — construction, operation, and decommissioning.
- The prevalence and ecology of the Egyptian free-tailed bat suggests that they are likely to face the highest risk of impacts at the proposed site, making it crucial to implement sensitive design and mitigation measures to reduce risks to these and other bat species.
- All WTGs are located outside of the No-Go Areas as provided by the specialist.
- All associated infrastructures (i.e. laydown areas, construction camps, O&M buildings etc.) are recommended to avoid sensitive areas. In the current layout, O&M areas, laydown areas, construction yards and substations avoid highly sensitive areas. Access roads are permissible within no-go areas, provided that all construction, operational and decommissioning activities adhere to the mitigation measures defined.
- Implementing blade feathering up until the manufacturers cut-in speed (to prevent free-wheeling) is considered mandatory for all wind turbines from the start of operation. Curtailment, acoustic deterrents or any other appropriate mitigation measures recommended by a suitably qualified bat specialist (during the project's operational phase) must be implemented in the event that bat fatality threshold limits are reached/exceeded.

Impact Ratings AFTER mitigation measures have been applied			
	Mulilo Karoo Wind Power	Mulilo Karoo Wind Power 2	Mulilo Karoo Wind Power 3
Construction Phase			
Habitat Modification	Low	Low	Low
Disturbance / Displacement	Low	Low	Low
Operational Phase			
Disturbance / Displacement	Low	Low	Low
Direct Mortality	Medium	Medium	Medium

MULILO KAROO WIND POWER CLUSTER, NEAR BEAUFORT WEST

AQUATIC BIODIVERSITY ASSESSMENT

FINDINGS OF THE SITE VERIFICATION SURVEY AND ASSESSMENT

The study area is in the upper reaches of several tributaries of the Sak River in the lower Orange River System. The Screening Tool map for the Aquatic Biodiversity Combined Sensitivity at the site indicates most of the wider area to be of low sensitivity, with only the main channels of the unnamed tributaries. The very high sensitivity is linked to those rivers and wetlands mapped as an aquatic Critical Biodiversity Area as well as aquatic Ecological Support Areas included in the WCBSP.

Below is a summary of the aquatic ecological condition, ecological importance and sensitivity and recommended ecological category, as well as the sensitivity and associated buffers for the aquatic features, based on the field assessment

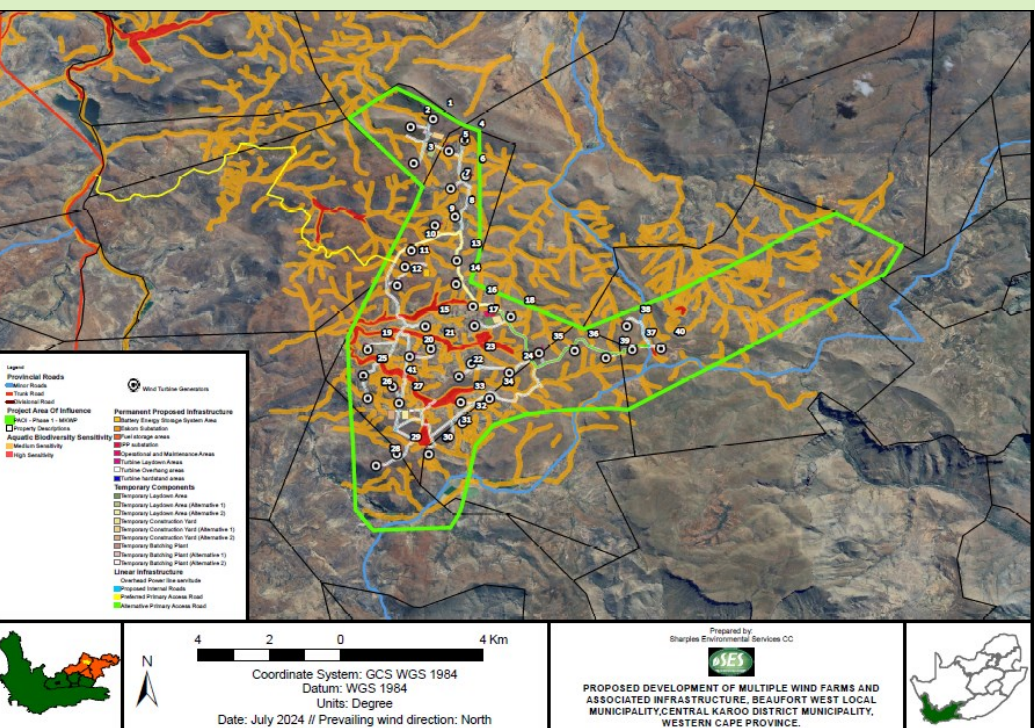
Mulilo Karoo Wind Power Development					
Aquatic feature	Present Ecological Status (PES)	Ecological Importance and Sensitivity (EIS)	Recommended Ecological Category (REC)	Sensitivity	Recommended buffer
Tributaries	B /C	Moderate	B	Medium	50m from the centre line of the stream
Valley Bottom wetland and associated larger watercourses	B	High	B	High with a medium surrounding valley floor.	50m from the delineated edge of the wetland

Mulilo Karoo Wind Power 2 Development					
Aquatic feature	Present Ecological Status (PES)	Ecological Importance and Sensitivity (EIS)	Recommended Ecological Category (REC)	Sensitivity	Recommended buffer
Tributaries	B /C	Moderate	B	Medium	50m from the centre line of the stream
Valley Bottom wetland and associated larger watercourses	B	High	B	High with a medium surrounding valley floor.	50m from the delineated edge of the wetland

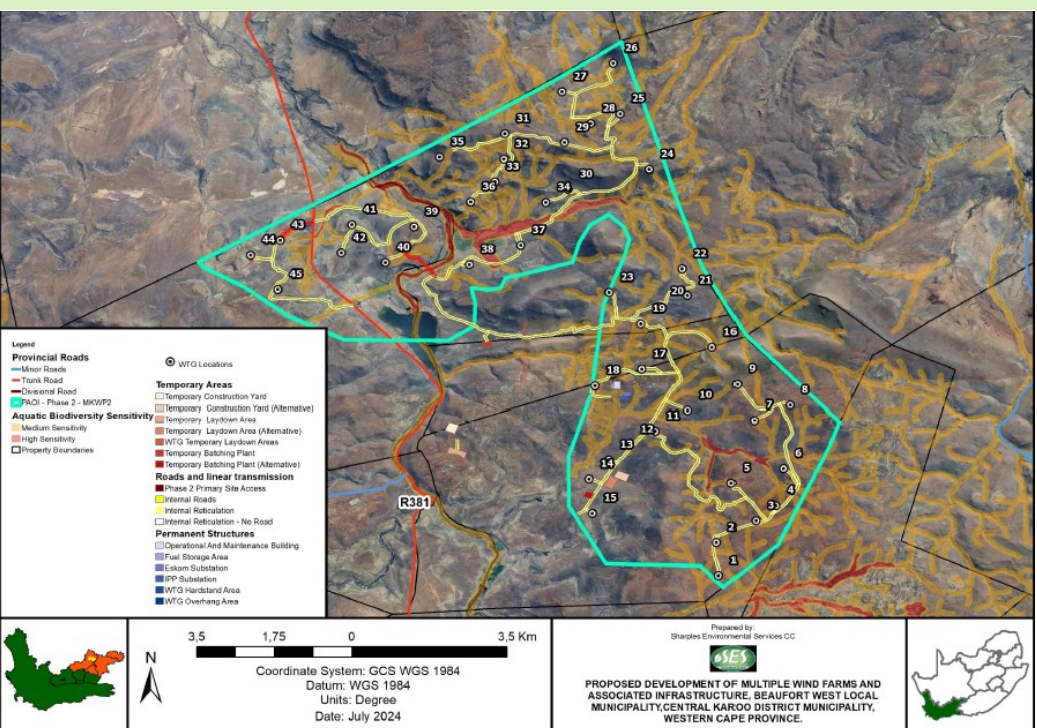
Mulilo Karoo Wind Power 3 development					
Aquatic feature	Present Ecological Status (PES)	Ecological Importance and Sensitivity (EIS)	Recommended Ecological Category (REC)	Sensitivity	Recommended buffer
Tributaries	B	Moderate	B	Medium	50m from the centre line of the stream
Riverine and depression wetlands	B	Moderate	B	Medium	50m from the delineated edge of the wetland

Based on the PES, EIS and REC above, aquatic sensitivity and recommended buffers have been mapped to protect these ecosystems. The recommended buffer area between the aquatic features and the project components is 50m from the centre of the smaller streams or along the delineated edge of the valley floor features.

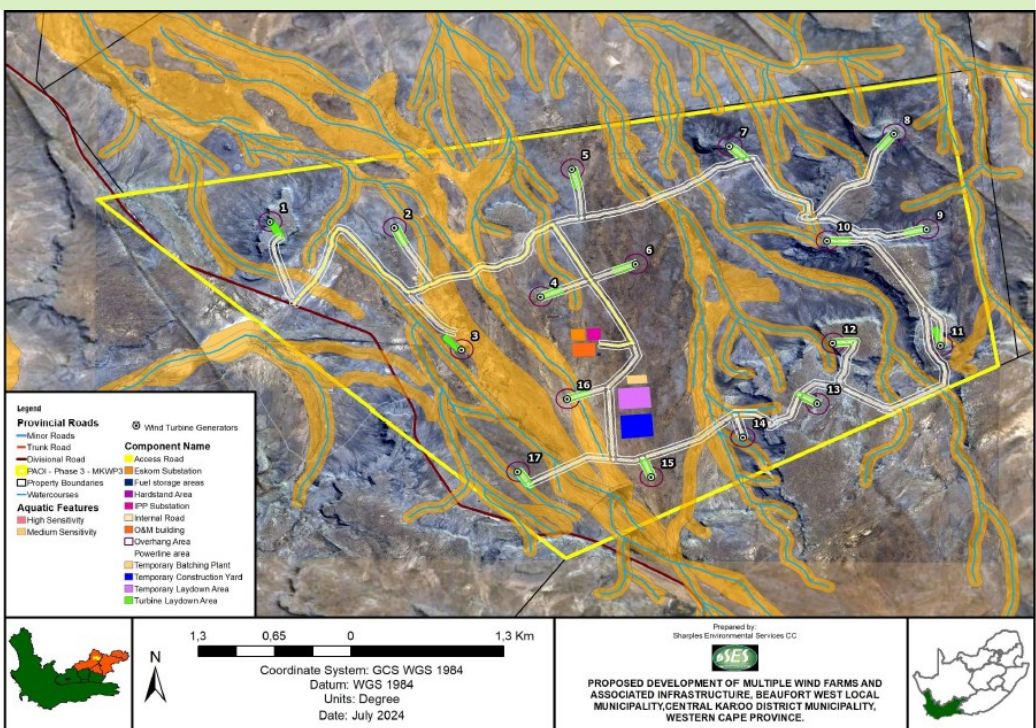
OVERALL SENSITIVITY RATING OF THE PROPOSED DEVELOPMENTS



Mulilo Karoo Wind Power Development—Aquatic Sensitivity



Mulilo Karoo Wind Power 2 Development—Aquatic Sensitivity



Mulilo Karoo Wind Power 3 Development—Aquatic Sensitivity

Some minor watercourses would need to be crossed by associated linear infrastructure (roads and internal powerlines). These watercourses are deemed of moderate sensitivity and the potential impact of the proposed activities is likely to be of low significance that they would not pose a constraint to the proposed development if mitigated. Where new internal roads need to be established down steep slopes that are drained by watercourses, they will pose an erosion risk and a higher risk of impacting the adjacent watercourses.

Where the road crossings over the high-sensitivity larger watercourses are existing roads that will need to be upgraded.

With regards to the placement of the turbines as well as the associated infrastructure, all the turbines occur outside of the aquatic features and recommended buffer areas.

Specifically regarding the proposed Mulilo Karoo Wind Power Development, some of the associated infrastructure and activities (Eskom and IPP substations, O&M buildings, temporary construction yard, alternative temporary construction yards and laydown area) are also located where there are minor watercourses of medium sensitivity that it is recommended be shifted slightly.

ASSESSMENT OF THE IMPACTS ON THE RECEPTORS AND CONCLUSION

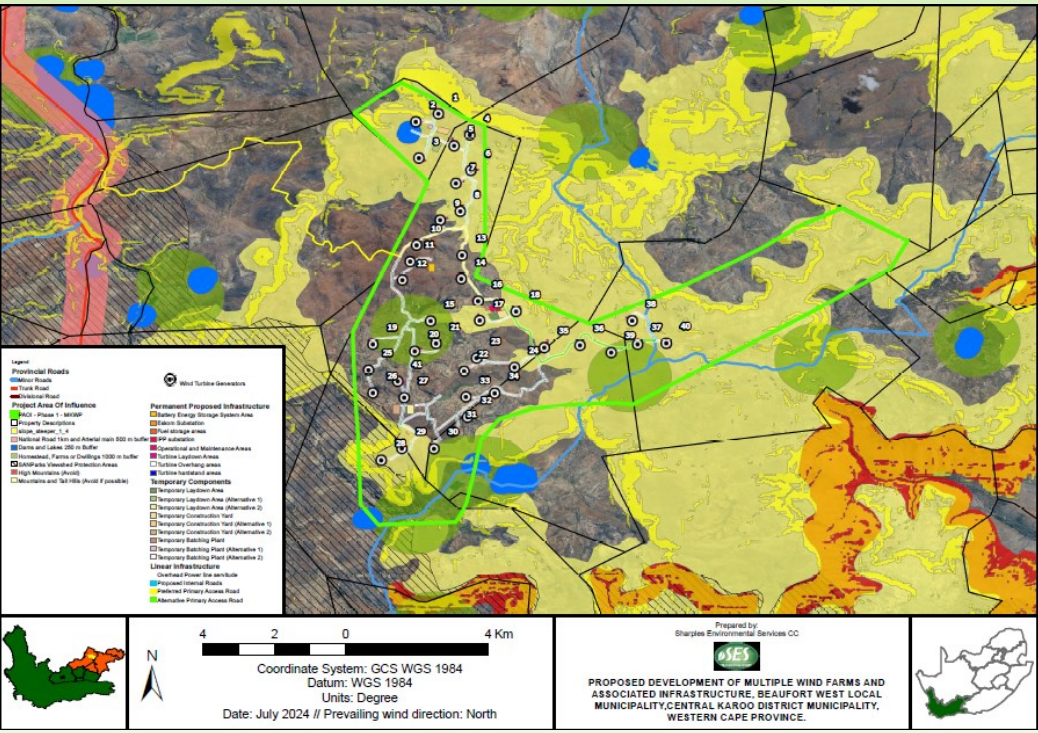
- Based on the PES, EIS and REC, aquatic sensitivity and recommended buffers have been mapped to protect these ecosystems. The recommended buffer area between the aquatic features and the project components is 50m from the centre of the smaller streams or along the delineated edge of the valley floor features.
- Based on the findings of this specialist assessment, there is no reason, from a freshwater perspective, why the proposed development (with the implementation of the above-mentioned mitigation measures) should not be authorized.
- The risk assessment determined that the proposed project poses a low risk of impacting aquatic habitat, water flow and water quality. The water use activities associated with the proposed project could potentially be authorised through the general authorisations for Section 21(c) and (i) water uses.

Impact Ratings AFTER mitigation measures have been applied			
	Mulilo Karoo Wind Power	Mulilo Karoo Wind Power 2	Mulilo Karoo Wind Power 3
Construction Phase			
Disturbance of aquatic habitat and the associated impact on sensitive aquatic biota	Very Low	Very Low	Very Low
Removal of indigenous aquatic vegetation and associated loss of aquatic ecological integrity and functionality	Very Low	Very Low	Very Low
Water supply for construction and associated stress on available water resources	Very Low	Very Low	Very Low
Road crossing structures may impede flow in the aquatic features	Very Low	Very Low	Very Low
Alien vegetation infestation may occur within the aquatic features due to disturbance	Very Low	Very Low	Very Low
Increased sedimentation and risks of contamination of surface water runoff may result from construction works	Very Low	Very Low	Very Low
Operational Phase			
Ongoing disturbance of aquatic features and associated vegetation along access roads or adjacent to the infrastructure that needs to be maintained	Very Low	Very Low	Very Low
Modified runoff characteristics from hardened surfaces at the substation and along access roads have the potential to result in erosion of adjacent watercourses	Very Low	Very Low	Very Low
Water supply and water quality impacts (e.g. contamination from sewage) as a result of the operation of the site	Very Low	Very Low	Very Low

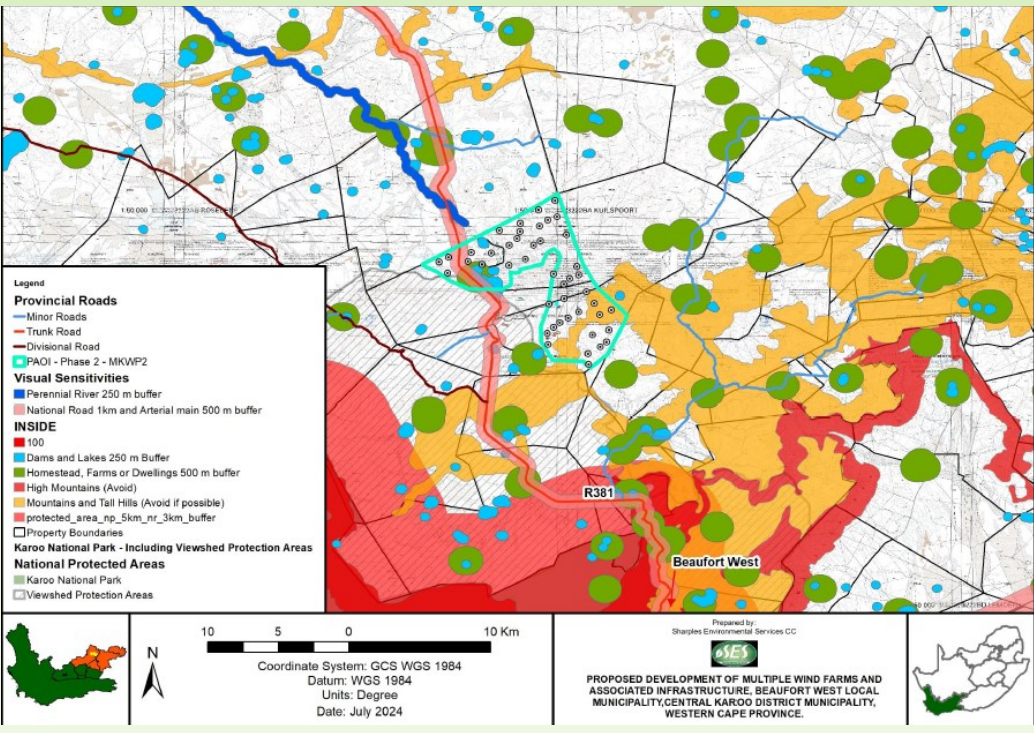
MULILO KAROO WIND POWER CLUSTER, NEAR BEAUFORT WEST

VISUAL LANDSCAPE AND FLICKER ASSESSMENT

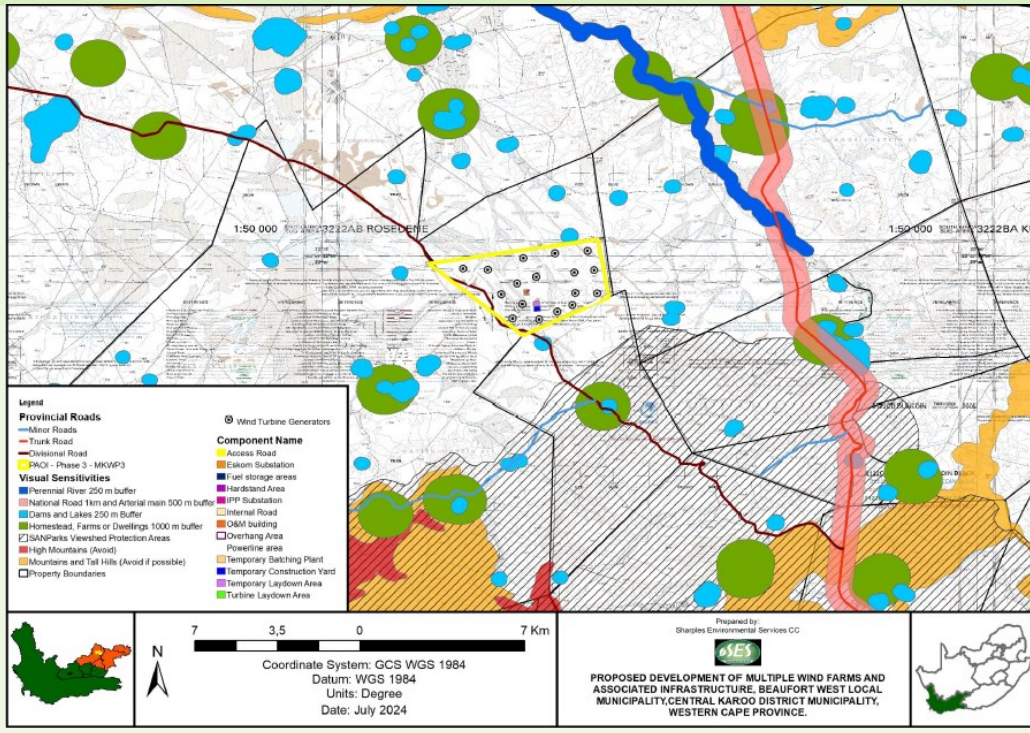
FINDINGS OF THE SITE SURVEY



Mulilo Karoo Wind Power Development—Visual Sensitivity



Mulilo Karoo Wind Power 2 Development—Visual Sensitivity



Mulilo Karoo Wind Power 3 Development—Visual Sensitivity

From the site sensitivity verification process, it was concluded that the sensitivity of the visual receiving environment is **high** due to:

- Topographical features on the proposed site
- Homesteads located within 5km from the proposed site
- Turbines are located on slopes of more than 1:4 (high sensitivity)
- Turbines located on mountains and tall hills (high sensitivity)
- Karoo National Park located within 10-15 Km from the proposed site
- Turbines located within the 500 m road buffers
- Located within the Beaufort West Renewable Energy Development Zone (REDZ)
- Low VAC of the receiving environment
- Limited built infrastructure

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- Homesteads located within 5km from the proposed site
- Turbines are located on slopes of more than 1:4 (high sensitivity)
- Turbines located on mountains and tall hills (high sensitivity)
- Karoo National Park located within 10-15 Km from the proposed site
- Turbines located within the 500 m road buffers
- Located within the Beaufort West Renewable Energy Development Zone (REDZ)
- Low VAC of the receiving environment
- Limited built infrastructure

From the site sensitivity verification process, it was concluded that the sensitivity of the visual receiving environment is **moderate** due to:

- One homestead located within 5km from the proposed site, however, it has been determined to be uninhabited
- No turbines are located on slopes of more than 1:4 (high sensitivity)
- Karoo National Park located within 10-15 Km from the proposed site
- No turbines located within the 500 m road buffers
- Located within the Beaufort West Renewable Energy Development Zone (REDZ)
- Low VAC of the receiving environment
- Limited built infrastructure

ASSESSMENT OF THE IMPACTS ON THE RECEPTORS AND CONCLUSION

- It is expected that the construction and operation of the proposed developmets, will have an overall high to moderate visual impact on the study area, especially within (but not restricted to) a 0 – 10km radius (and potentially up to a 20km radius) of the proposed facility.
- Tourists both travelling through the region and visiting tourist facilities, as well as, residents of homesteads will likely experience visual impacts where the wind turbine structures are visible.
- The cumulative visual impact of the developments, together with the other authorised WEFs within a 30 km radius is expected to be very high. This is considered to be within acceptable limits owing to its location within the Beaufort West REDZ.
- The greater environment is largely natural in character with limited built infrastructure.
- Unblemished night skies are a key attribute to the study areas sense of place and night time visual character.
- Light sources in the area are limited to isolated farm and homesteads and fleeting light from passing cars travelling along the R381 and other secondary roads. Therefore, the introduction of new light sources into a relatively dark night sky, will have an impact on the visual quality of the study area at night.
- It is recommended that the proposed developments be supported from a visual perspective should all the best practice mitigation measures, as provided in this report are implemented and adhered to.
- In terms of the Mulilo Karoo Wind Power development, Turbines labelled WTG 28, 29, 30, 24, 35, 36, 37, 38, 39, 40, 17, 18, 1, 2, 3, 4, 5, 6, 7, 8 and 9 were noted to be located on mountains and tall hills identified as having a high sensitivity and areas to be avoided if possible. Similarly, the three (3) turbines labelled 26, 28 and 29 are to be moved back away from the Karoo National Park viewshed protection zone during micro siting.

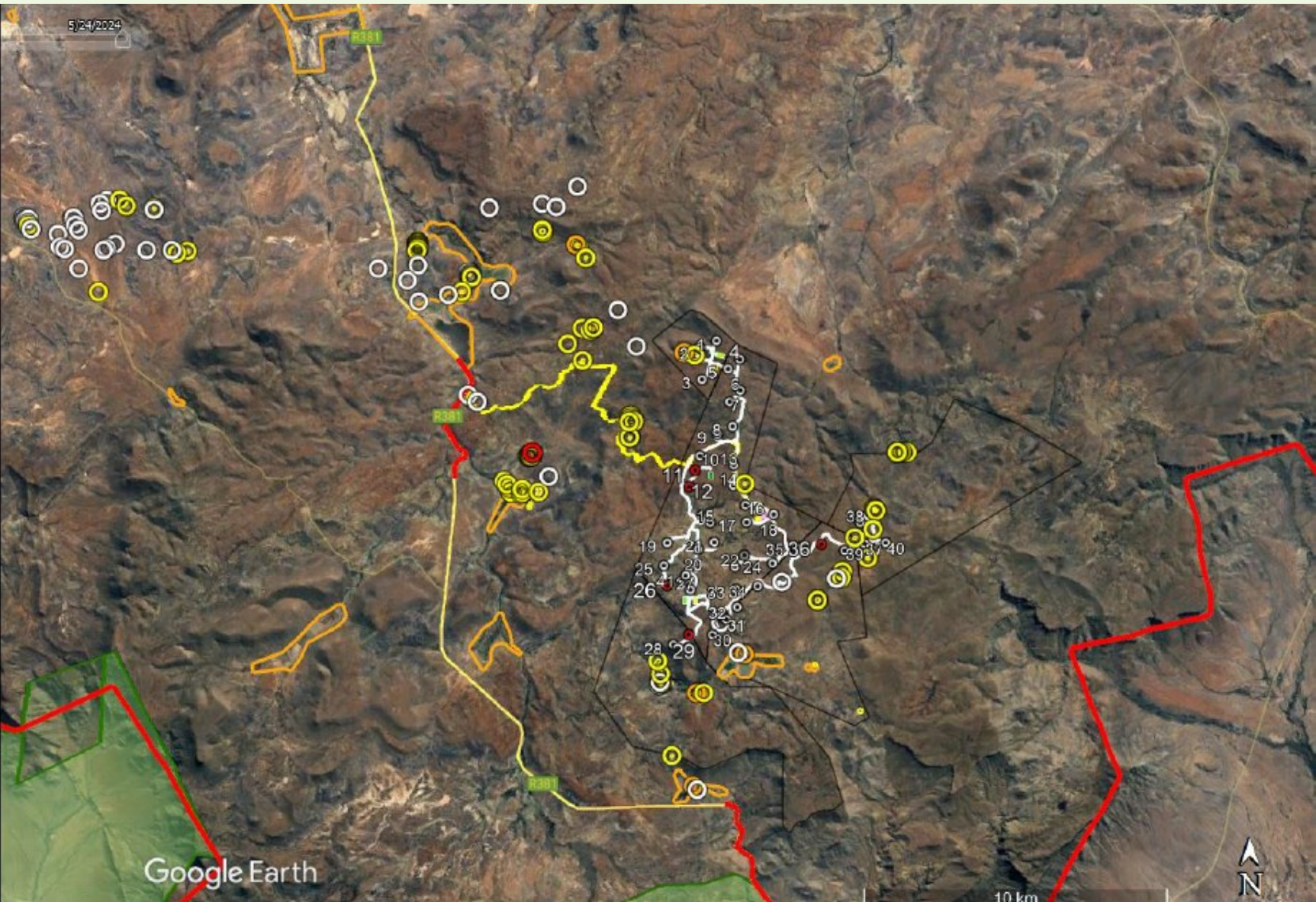
Impact Ratings AFTER mitigation measures have been applied			
	Mulilo Karoo Wind Power	Mulilo Karoo Wind Power 2	Mulilo Karoo Wind Power 3
Construction Phase			
Potential temporary visual impact of construction on residents of towns and homesteads located within 5km of the proposed WEF	Moderate	High	Low
Potential temporary visual impact of construction on observers travelling along roads within 5km to the proposed WEF	Low	Moderate	Moderate
Operational Phase			
Potential visual impact on observers/visitors residing at homesteads and tourist accommodation facilities within 5km of the proposed WEF	Very High	Very High	Low
Potential visual impact on observers traveling along the roads within a 5km radius of the proposed WEF	Low	High	High
Potential visual impact on residents of (or visitors to) homesteads and tourist accommodation within 5 - 10km radius of the proposed WEF	High	Very High	Very High
Potential visual impact on observers travelling along the R381 within a 5 - 10km radius of the proposed WEF	High	High	High
Potential visual impact on visitors/ tourists to the Karoo National Park, a formally protected area located within a 5 - 10km radius of the proposed WEF	Moderate	Not Assessed	Not Assessed
Potential visual impact on residents of (or visitors to) homesteads/tourist accommodation within 10 - 20km radius of the proposed WEF	Moderate	Moderate	Moderate
Potential visual impact on observers travelling along roads within a 10 - 20km radius of the proposed WEF	Moderate	Moderate	Moderate
Potential visual impact on formally protected areas and private nature reserves within 10-20 km from the proposed WEF	Low	Low	Low
Potential shadow flicker impact on residents of homesteads located within 1 km from the proposed WEF	Moderate	Moderate	Low
Potential visual impact of operational, safety and security lighting of the facility on residents of homesteads and visitors to tourist accommodation at night	High	High	High
Potential visual impact of operational, safety and security lighting of the facility on observers travelling along roads at night	Moderate	Moderate	Moderate
Potential visual impact of ancillary infrastructure	Moderate	Moderate	Moderate
Potential visual impact of the proposed infrastructure on the sense of place of the region	Very High	Very High	Very High



MULILO KAROO WIND POWER CLUSTER, NEAR BEAUFORT WEST

ARCHAEOLOGICAL AND PALAEOONTOLOGICAL ASSESSMENTS

ARCHAEOLOGICAL ASSESSMENT

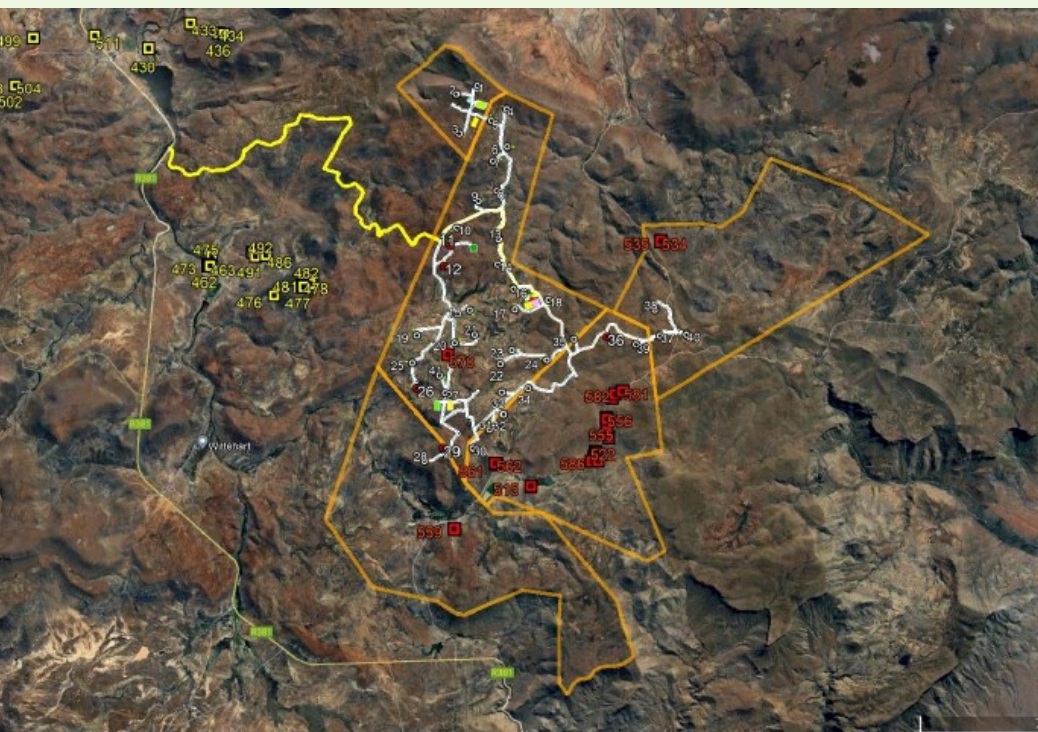


Mulilo Karoo Wind Power Cluster —Archaeological Sensitivity

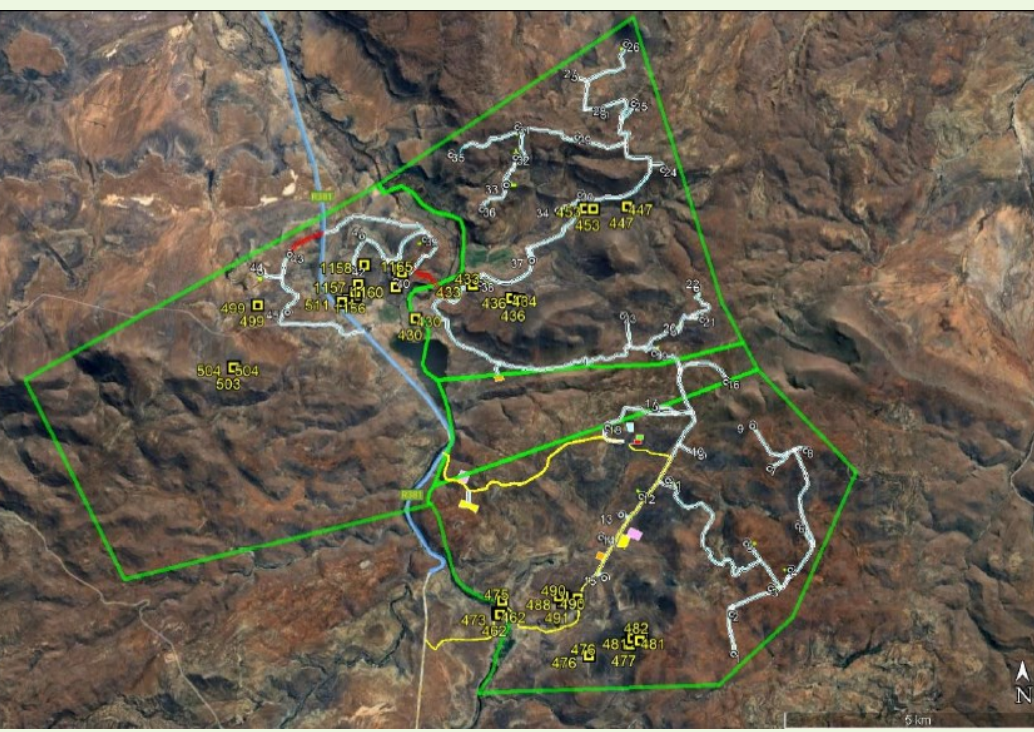
- Stone Age resources were rare.
- Rock art was observed.
- Historical materials comprised of stone-walled features related to old farm complexes and occasionally glass, ceramic and metal artefacts.
- The cultural landscape was the most important heritage resource identified and includes:
 - The Karoo National Park (green polygon on the map towards the left)
 - The escarpment edge (red line on the right-hand side)
 - The Molteno and Roseberg Passes (R381)
 - The various rural landscapes around the farmsteads
 - The wider natural landscape of the Nuweveld Mountains.

Impact Ratings AFTER mitigation measures have been applied			
	Mulilo Karoo Wind Power	Mulilo Karoo Wind Power 2	Mulilo Karoo Wind Power 3
Construction Phase			
Impact on Archaeological resources	Low	Low	No Significance
Impact on Cultural Landscape	High	High	Medium-High
Operational Phase			
Impact on Cultural Landscape	Medium-High	Medium-High	Medium

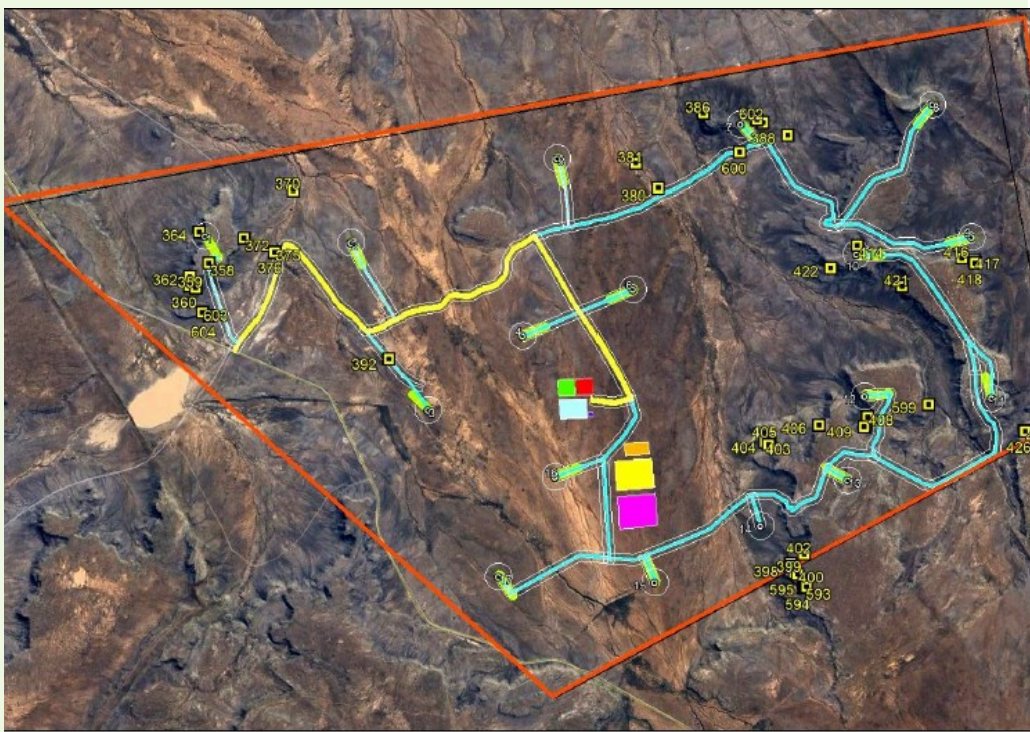
PALAEONTOLOGICAL ASSESSMENT



Mulilo Karoo Wind Power Development—Paleontological Sensitivity



Mulilo Karoo Wind Power 2 Development—Paleontological Sensitivity



Mulilo Karoo Wind Power 3 Development—Paleontological Sensitivity

- Well-preserved fossils of scientific and conservation interest are fairly rare .
- No fossils are recorded from the Late Caenozoic superficial deposits (alluvium, colluvium, eluvial surface gravels etc).
- No High Sensitivity / No-Go areas have been identified. However, the occurrence of sparse, small, and largely unpredictable fossil sites of High Sensitivity cannot be entirely discounted.
- Any additional, previously unrecorded fossil sites identified during the Pre-construction or Construction Phase can be readily mitigated, if necessary, through a Chance Fossil Finds Protocol.
- In terms of palaeontological heritage there are no fatal flaws in the proposed renewable energy project and there are no objections to its authorisation.

Impact Ratings AFTER mitigation measures have been applied			
	Mulilo Karoo Wind Power	Mulilo Karoo Wind Power 2	Mulilo Karoo Wind Power 3
Construction Phase			
Impacts on the Palaeontological Resources	Low	Low	Low
NO FURTHER SIGNIFICANT IMPACTS ARE EXPECTED IN THE OPERATIONAL AND DE-COMMISSIONING PHASES OF THE DEVELOPMENTS.			



MULILO KAROO WIND POWER CLUSTER, NEAR BEAUFORT WEST

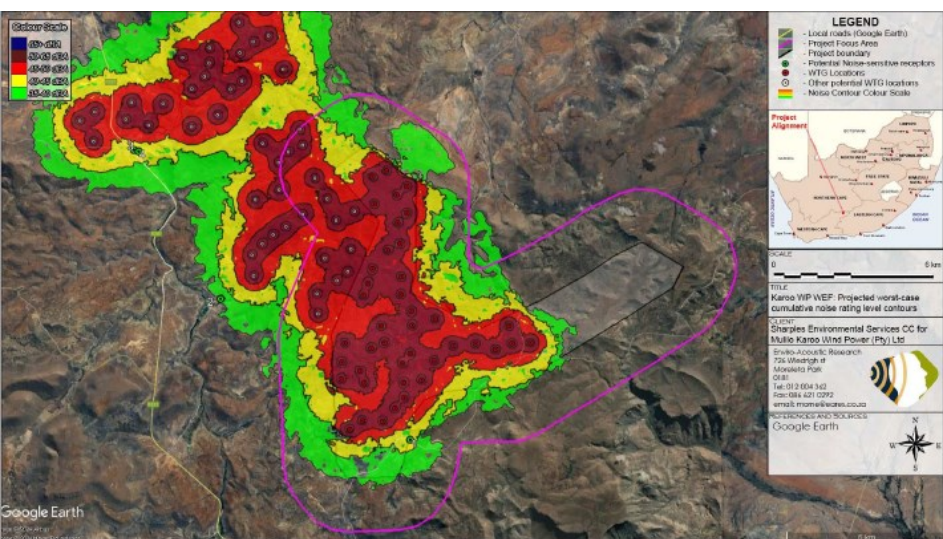
SOCIO-ECONOMIC / NOISE / TRAFFIC

FINDINGS OF THE SOCIO-ECONOMIC ASSESSMENTS

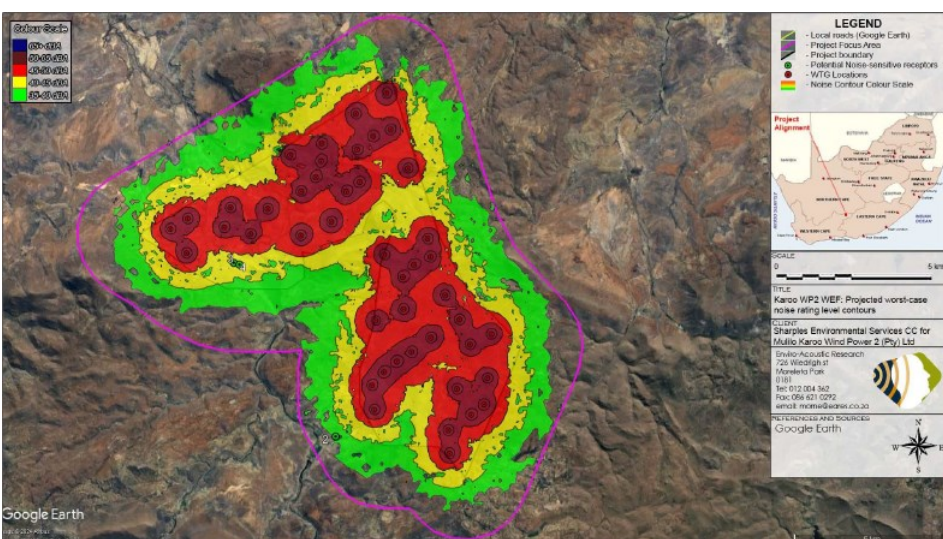
The findings of the SIAs indicate that the proposed developments will create employment and business opportunities during both the construction and operational phase of the project. Except for the visual impact on sense of place, all the potential negative impacts can be effectively mitigated. Socio-Economic Development contributions associated with the project will also benefit the local community. The enhancement measures listed in the report should be implemented to maximise the potential benefits. The significance of this impact is rated as **High Positive**.

Impact Ratings AFTER mitigation measures have been applied				Impact Ratings AFTER mitigation measures have been applied			
	Mulilo Karoo Wind	Mulilo Karoo Wind Power	Mulilo Karoo Wind Pow-		Mulilo Karoo Wind Power	Mulilo Karoo Wind Power 2	Mulilo Karoo Wind Power 3
Construction Phase				Operational Phase			
Creation of employment and business opportunities	Medium (+)	Medium (+)	Medium (+)	Establishment of infrastructure to improve energy security and support renewable sector	High (+)	High (+)	High (+)
Presence of construction workers and potential impacts on family structures and social networks	Low (-)	Low (-)	Low (-)	Creation of employment and business opportunities during maintenance	Medium (+)	Medium (+)	Medium (+)
Influx of job seekers	Low (-)	Low (-)	Low (-)	Benefits associated with socio-economic contributions to community development	High (+)	High (+)	High (+)
Safety risk, stock theft and damage to farm infrastructure associated with presence of construction workers	Low (-)	Low (-)	Low (-)	Benefits for landowners	High (+)	High (+)	High (+)
Increased risk of grass fires	Low (-)	Low (-)	Low (-)	Visual impact and impact on sense of place (VIA)	High (-)	High (-)	High (-)
Nuisance impacts associated with construction activities	Low (-)	Low (-)	Low (-)	Visual impact and impact on sense of place (Landowner perspective)	Low (-)	Low (-)	Low (-)
Loss of farmland	Low (-)	Low (-)	Low (-)	Impact on property values	Low (-)	Low (-)	Low (-)
				Impact on tourism	Low (-)	Low (-)	Low (-)

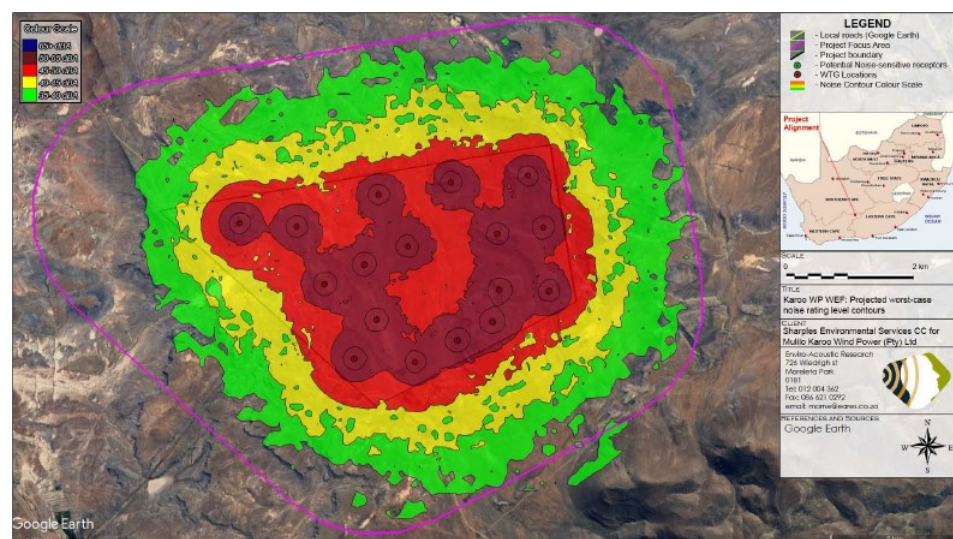
FINDINGS OF THE NOISE ASSESSMENTS



Mulilo Karoo Wind Power Development—Noise Contours



Mulilo Karoo Wind Power 2 Development—Noise Contours



Mulilo Karoo Wind Power 3 Development—Noise Contours

It was determined that the potential noise impacts, without mitigation, would be:

- Of a **low significance** for the daytime construction of the access roads (access roads are far from verified NSR);
- Of a **low significance** for the daytime construction traffic passing NSR (access roads are far from verified NSR);
- Of a **low significance** for the daytime construction activities (hard standing areas, excavation and concreting of foundations and the erecting of the WTG and other infrastructure);
- Of a **low significance** for the night-time construction activities (such as the pouring of concrete, erecting the WTG);
- Of a **low significance** for the daytime operational activities;
- Of a **low significance** for operational activities (noises from WTG) when considering the worst-case PWL.

There is no potential for a cumulative noise impact.

The proposed layout (turbine placement) is considered acceptable from a noise perspective and there is no restriction in the WTG that the applicant could use, though the applicant must monitor noise levels, the response of receptors to the noise levels and ensure that night-time noise levels are less than 45 dBA at all receptors (structures used for permanent residential purposes). Subject to this condition, it is recommended that the proposed Mulilo Karoo Wind Power 2 WEF (and associated infrastructure) be authorized.

Specifically for Mulilo Karoo Wind Power and Mulilo Karoo Wind Power 2: The applicant should also develop and implement an environmental noise monitoring programme at selected NSR living within the 42 dBA noise contour.

FINDINGS OF THE TRAFFIC ASSESSMENTS



Route from the Port of Cape Town



Route from the Port of Mossel Bay



Route from the Port of Saldanha Bay



Route from the Port of Coega

Impact Ratings AFTER mitigation measures have been applied			
	Mulilo Karoo Wind Power	Mulilo Karoo Wind Power 2	Mulilo Karoo Wind Power 3
Construction Phase			
Increase in general peak hour traffic volumes	Low	Low	Low
Increase in abnormal traffic volumes	Moderate	Moderate	Moderate
Impact of dust along gravel site access roads	Low	Low	Low
Deterioration of surrounding road network	Low	Low	Low
Operational Phase			
Increase in general peak hour traffic volumes	Low	Low	Low
Increase in abnormal traffic volumes	Low	Low	Low
Impact of dust along gravel site access roads	Low	Low	Low
Deterioration of surrounding road network	Low	Low	Low

- There are four seaports in the Western Cape which are operated by Transnet National Ports Authority that could be used for the delivery of turbine components and equipment:
 - Port of Cape Town;
 - Port of Mossel Bay;
 - Port of Saldanha Bay; and
 - Port of Coega.
- The proposed development and final layout can be supported from a traffic engineering point of view.
- The base year and forecast year road capacity has indicated that the proposed development will have little to no significant impact on the existing road network capacity.
- Given the findings of this report, it is recommended that the proposed development be considered favourably from a traffic engineering point of view as the intended construction will have no significant negative impact on the surrounding road network.
- A comprehensive route assessment of the entire transportation route to verify clearance, load bearing and sweeping radius distances is recommended.

MULILO KAROO WIND POWER CLUSTER, NEAR BEAUFORT WEST

TERRESTRIAL BIODIVERSITY ASSESSMENT

FINDINGS OF THE SITE SURVEY

Features identified by the Terrestrial Biodiversity Specialist::

- Very High:**
 - Rocky Hills and Outcrops:** Highest laying areas with steep to moderately steep rocky slopes and outcrops with shallow soils and may also include rocky plateaus. Distinct and unique habitat features within the relatively homogeneous Karoo region. Semi-natural portions of Shrubland were recorded across the majority of the habitat. The habitat is associated with a large suite of karoo shrubs and a rich geophytic flora in the undergrowth. The habitat has in some instances been exposed to grazing by livestock, mismanagement and also human infringement.
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 - Koppies and Hills:** Similar to the Rocky Hill and Outcrop habitat, however different in regard to elevation, lack of large boulders and rocks. Slopes and ridges including dolerite dykes and sills with rocky hills/outcrops which are connected to the Rocky Hills and outcrops in certain areas and may also include plateaus.
 - Shrubland:** Terrain angle is low to insignificant with deeper soils in comparison to the habitats with higher gradients. This unit is variable in the presence or absence of grass species and shrub density. Generally, this habitat unit has an intact ecological functioning attributed to its floral community and composition, as well as the fauna that utilise these areas.
 - Water resources:** Channels through which surface water naturally collates and flows. Perennial and ephemeral systems were both considered for this habitat type. All the prominent features were identified, as there are numerous inconspicuous drainage features throughout.
- Very Low:**
 - Modified:** This habitat unit includes all areas that maintain little to no native vegetation and/or where anthropogenic activity has substantially modified an area's primary ecological functions and species composition. This habitat unit no longer maintains its functional integrity and does not contribute significantly to ecosystem services. This habitat unit is predominantly made up of gravel roads and some infrastructure to support livestock

ASSESSMENT OF THE IMPACTS ON THE RECEPTORS AND CONCLUSION

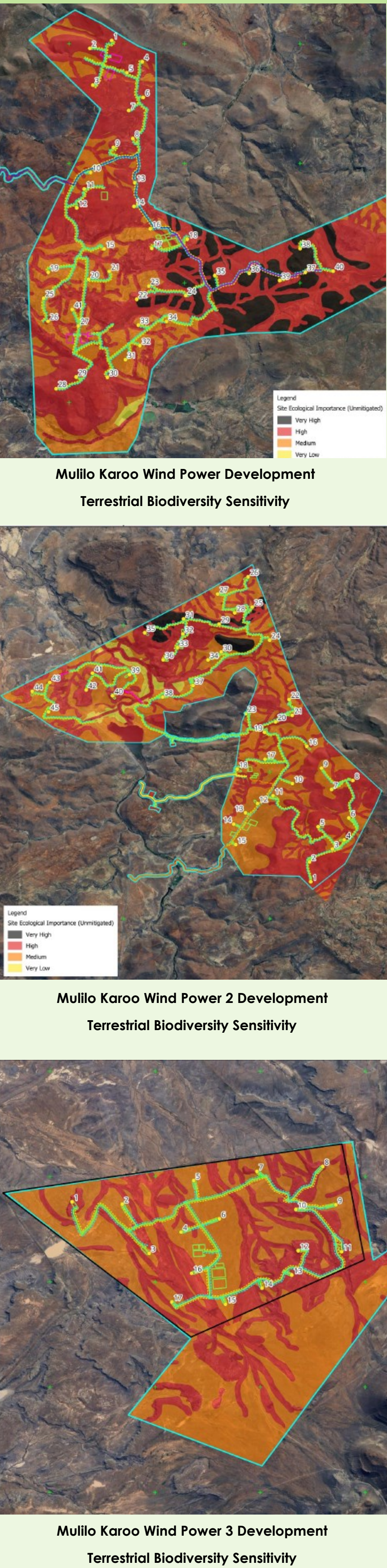
The PAOI has been altered, albeit limited, both currently and historically. Historically, grazing from livestock and mismanagement has led to (limited) deterioration of the area. Most areas can be regarded as important, not only within the local landscape, but also regionally; as they are used for habitat, foraging and movement corridors for fauna within a landscape fragmented by development. This is especially true regarding the Rocky Hills and Outcrops as well as the water resource habitats. The habitat sensitivity of these habitats is regarded as Very High (with the exception of Mulilo Karoo Wind Power 3) and High, and the following aspects support this classification:

	Mulilo Karoo Wind Power	Mulilo Karoo Wind Power 2	Mulilo Karoo Wind Power 3
CBA 1, ESA 1, ESA 2 areas	Yes	Yes	No
Unique low resilience habitat	Yes	Yes	Yes
Important habitats within an arid ecosystem	Yes	Yes	Yes
Support various organisms (including SCCs) and may play an important role in the ecosystem	Yes	Yes	Yes

The overall low cumulative residual impact does not present a fatal flaw for the development, and in accordance with the Biodiversity Offset Guideline (2022) will not incur a listed (and notable) change to the land and resource. A biodiversity offset is not required for the proposed project which has demonstrated the correct implementation of the mitigation hierarchy. Referring to the mitigation hierarchy, the project achieved avoidance by means of the revised and reduced spatial planning, suggested seasonal constraints for construction to prioritise the dry season period and also the 'avoidance' of vegetation clearing on a large scale.

Impact Ratings AFTER mitigation measures have been applied			
	Mulilo Karoo Wind Power	Mulilo Karoo Wind Power 2	Mulilo Karoo Wind Power 3
Construction Phase			
Destruction, loss and fragmentation of habitats, ecosystems and vegetation	Moderate	Moderate	Moderate
Introduction of Alien and Invasive Species	Low	Low	Low
Displacement of faunal community due to habitat loss, direct mortalities and disturbance	Low	Low	Low
Operational Phase			
Continued fragmentation and degradation of ecosystems	Moderate	Low	Low
Spread of Alien and Invasive Species	Low	Low	Low
Ongoing displacement of faunal community due to habitat loss, direct mortalities and disturbance	Low	Low	Low

The project area is located within the Beaufort West REDZ as well as the Central STC and facilitates the process for responsible renewable development. All project aspects can be effectively mitigated to an acceptable residual impact in support of the renewable development project.



MULILO KAROO WIND POWER CLUSTER, NEAR BEAUFORT WEST

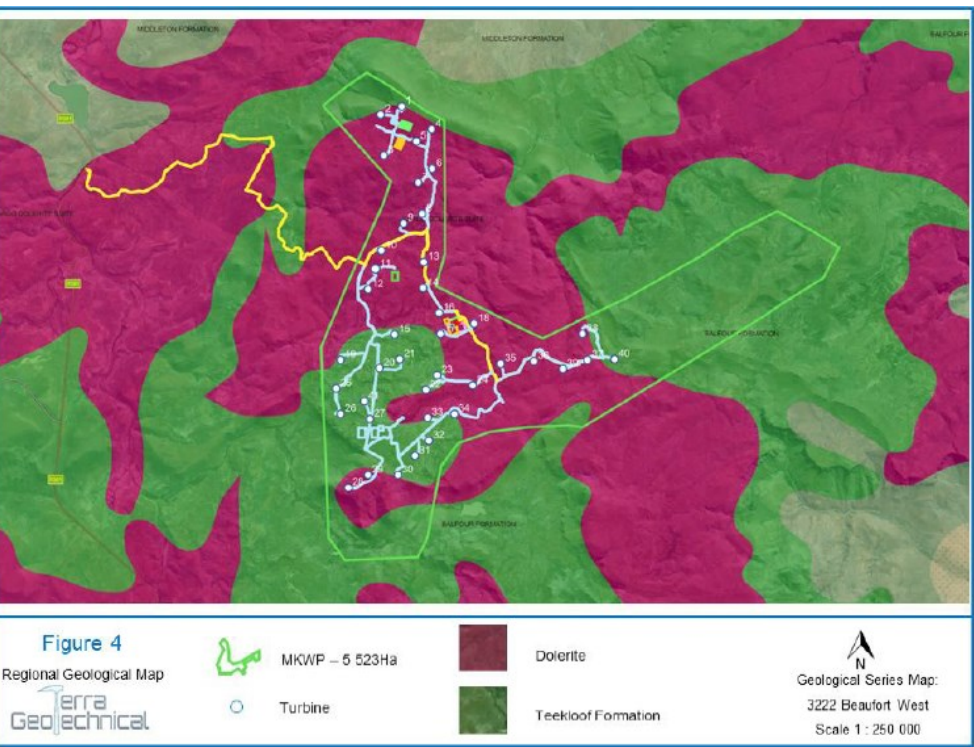
GEOTECHNICAL / AGRICULTURAL ASSESSMENTS

FINDINGS OF THE GEOTECHNICAL ASSESSMENTS

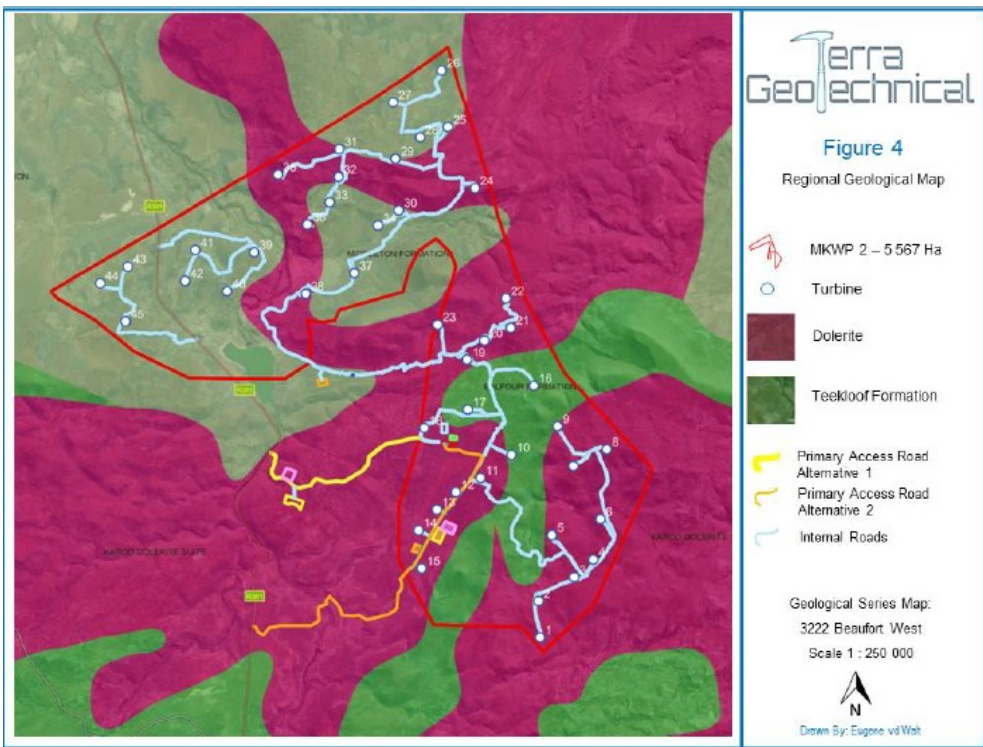
The study area is underlain by various sequences of geological strata, largely consisting of Teekloof Formation Mudstone, Sandstone and thin Chert Beds. This forms part of the Adelaide Subgroup, and Beaufort Group sediments, all forming part of the Karoo Supergroup.

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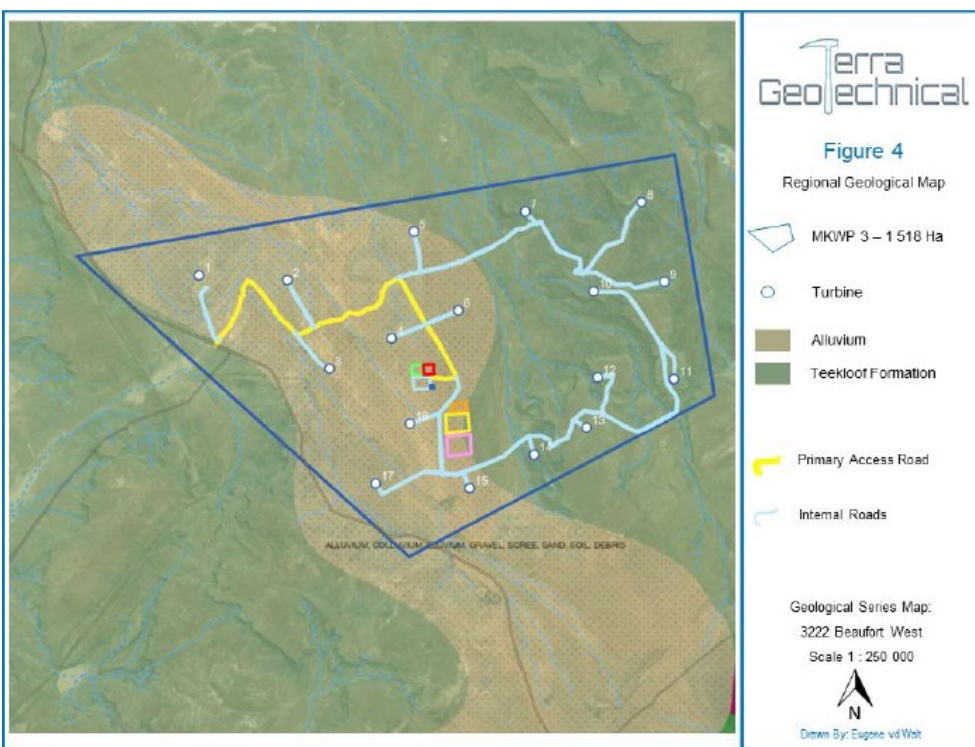
The study area is underlain by various sequences of geological strata, largely consisting of alluvial deposits of Quaternary Formations and inter-bedded sedimentary rocks belonging to the Teekloof Formation. Mudstone, Sandstone and thin Chert Beds of the Teekloof Formation forms part of the Adelaide Subgroup, and Beaufort Group sediments, all forming part of the Karoo Supergroup



Mulilo Karoo Wind Power Development
Geotechnical Features



Mulilo Karoo Wind Power 2 Development
Geotechnical Features

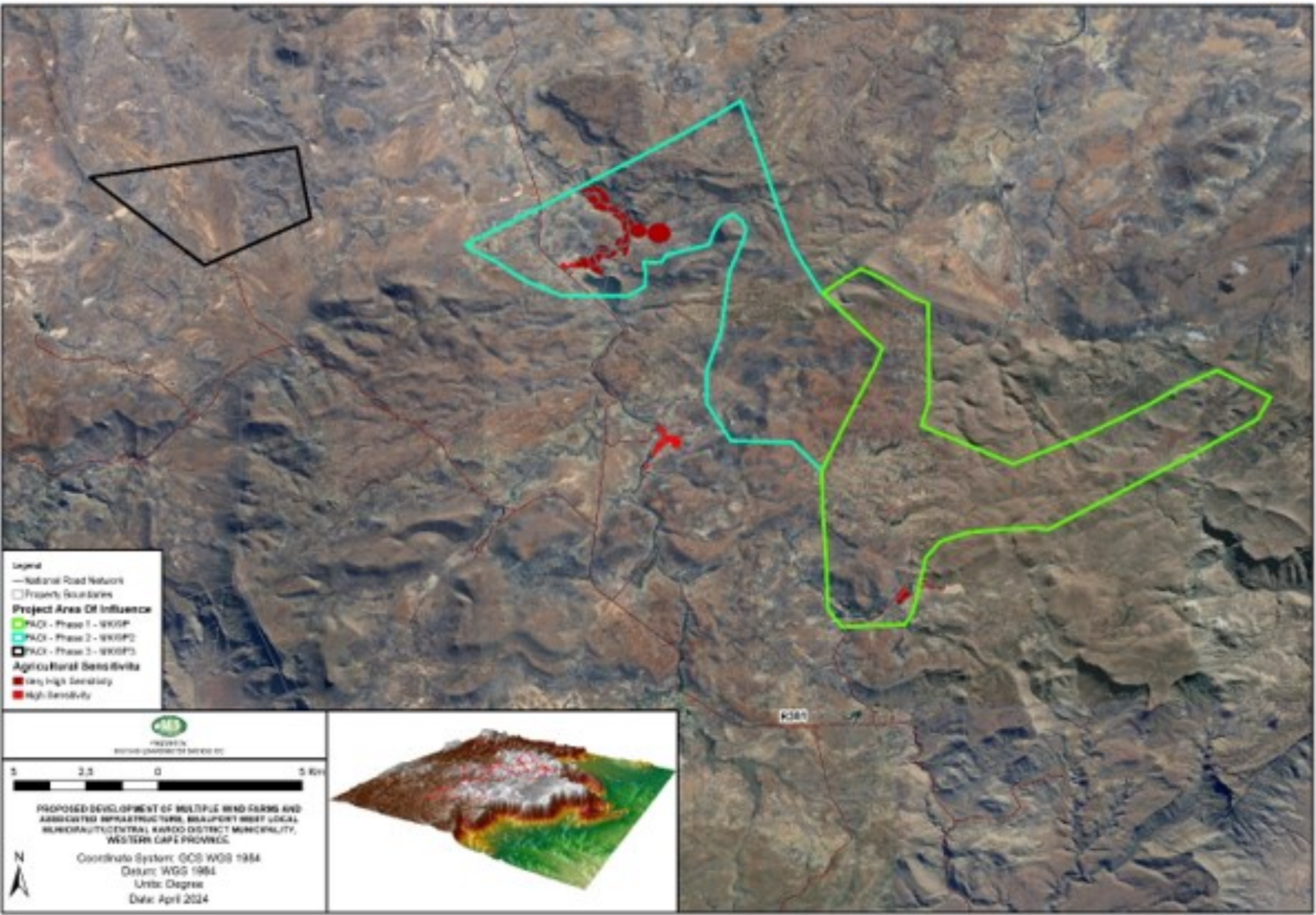


Mulilo Karoo Wind Power 3 Development
Geotechnical Features

- The respective wind energy facility developments, once completed, are unlikely to pose any major geological or geotechnical impact to the surrounding area and environment, so long as each respective development is designed, constructed and operated by competent practitioners.
- Although the confidence in the information is high, some variations must be expected during the fieldwork.

Impact Ratings AFTER mitigation measures have been applied			
	Mulilo Karoo Wind Power	Mulilo Karoo Wind Power 2	Mulilo Karoo Wind Power 3
Construction Phase			
Ground Disturbance During Construction	Low	Low	Low
Soil Erosion During Construction	Low	Low	Low
Operational Phase			
Soil Erosion During Construction	Low	Low	Low

FINDINGS OF THE AGRICULTURAL ASSESSMENTS



- An agricultural impact is a change to the future agricultural production potential of land. This is primarily caused by the exclusion of agriculture from the footprint of the development. In the case of wind farms, the exclusion is so small that the total extent of the loss of future agricultural production potential is insignificantly small.
- Due to the fact that the energy facility will exclude only an insignificantly small area of land from agricultural production, the facility will not occupy scarce, viable cropland, allow grazing during the operation phase and the anticipated negative impact is offset by economic benefits to farming, the overall negative agricultural impact of the development (loss of future agricultural production potential) is assessed as being of very low significance and as acceptable
- The cumulative impact of loss of future agricultural production potential is assessed as low. It will not have an unacceptable negative impact on the agricultural production capability of the area, and it is therefore recommended, from a cumulative agricultural impact perspective, that the development be approved.
- From an agricultural impact point of view, it is recommended that all three proposed development be approved.