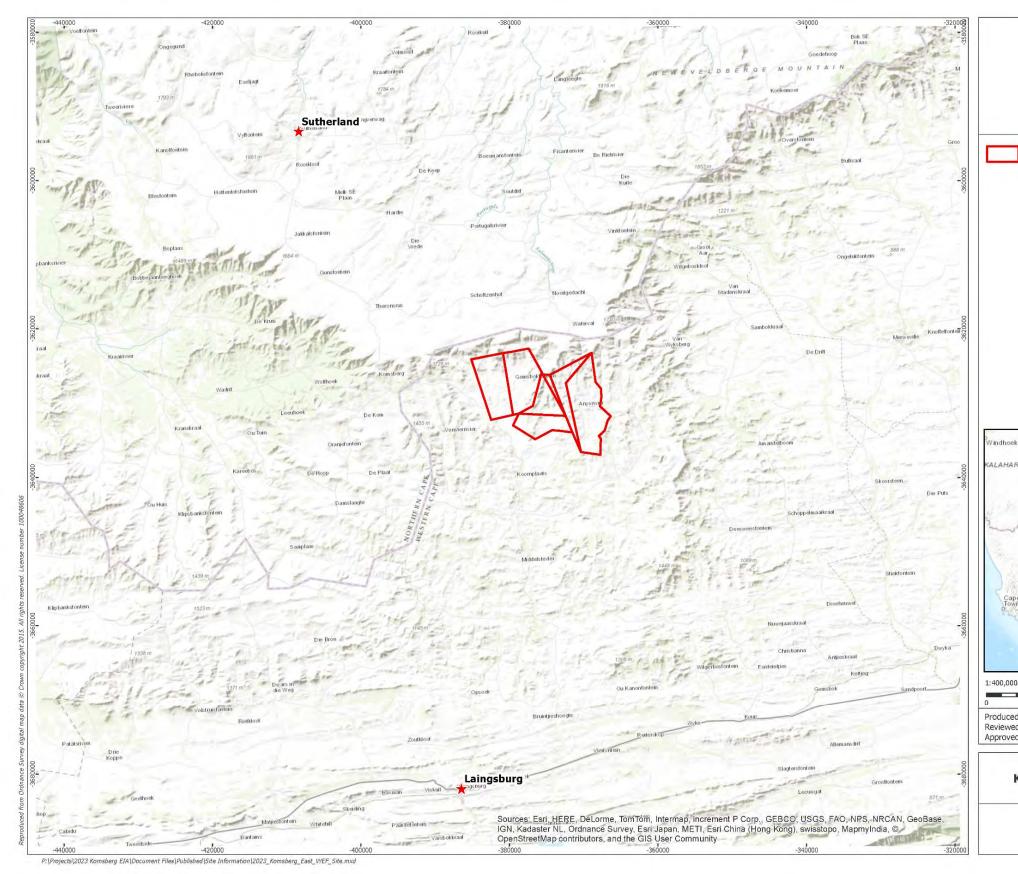


## FIGURE 1.1a: LOCATION OF THE PROPOSED KOMSBERG EAST WEF.



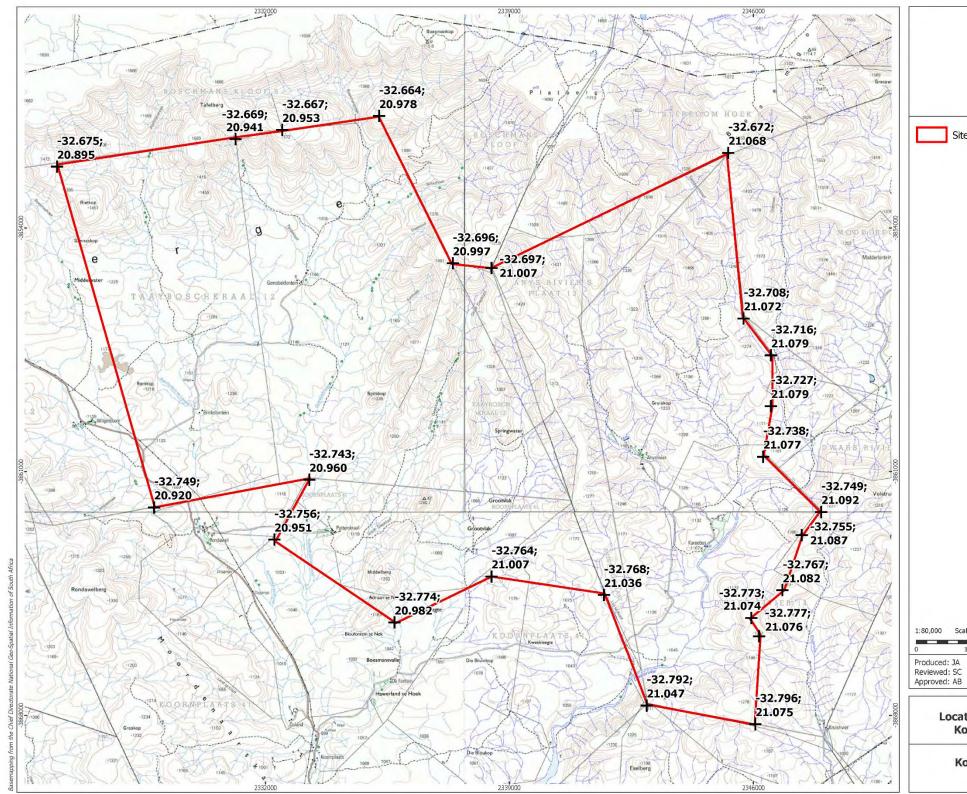
KOMSBERG WIND FARMS (PTY) LTD APRIL 2016

Arcus Consultancy Services Ltd





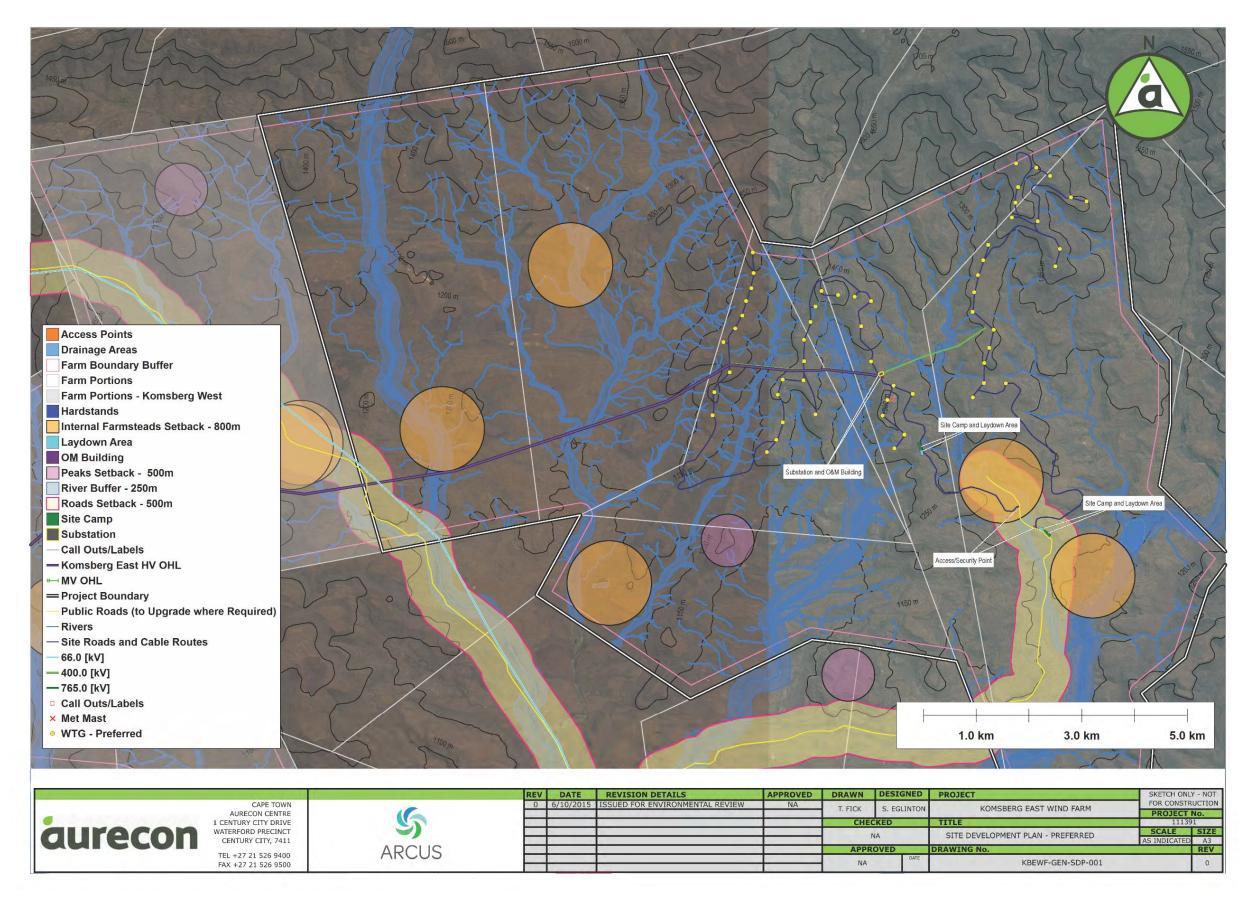
## FIGURE 1.1b: LOCATION OF THE PROPOSED KOMSBERG EAST WEF.



٩	ARCU	S
	-	
e Boundar	ſŶ	
ale @ A3	3 km	N
1.5	Ref: 2023/REP/035	
	Date: 11/04/2016	
tion of t	he Proposed	
tion of the Proposed omsberg East WEF		
omsberg East WEF EIA Report		
1994		

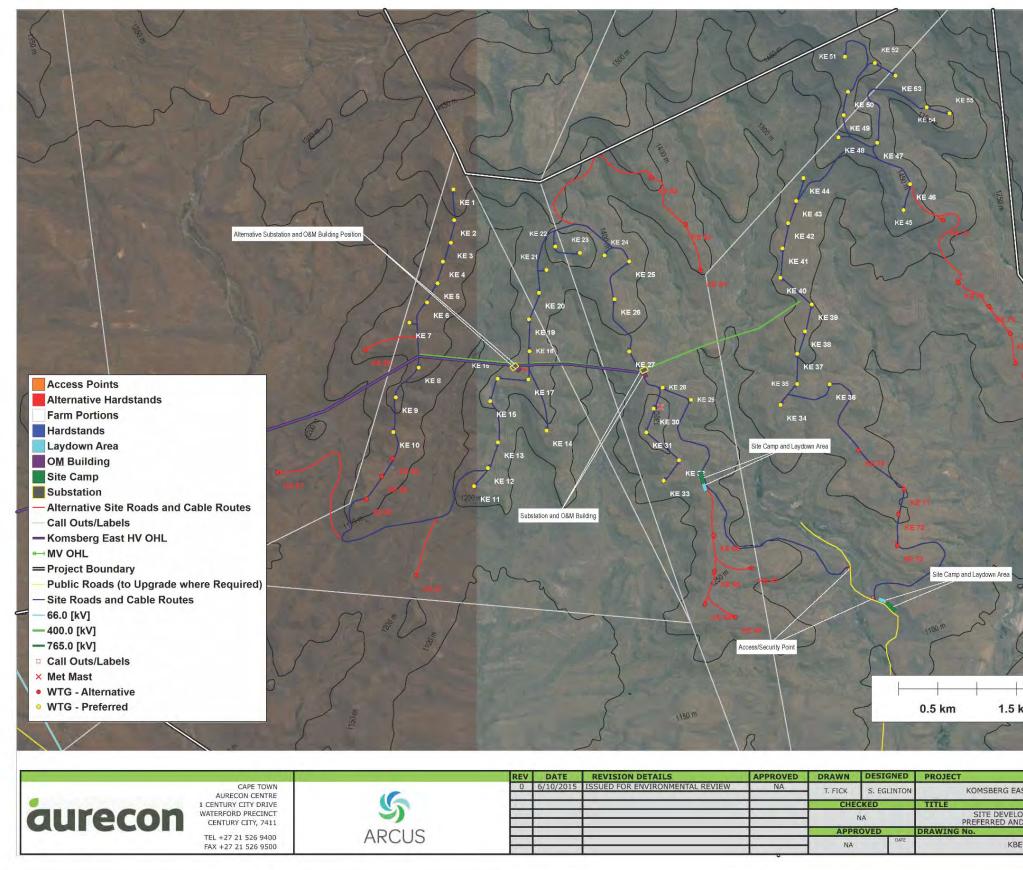


### FIGURE 1.2: PREFERRED LAYOUT OF THE PROPOSED KOMSBERG EAST WEF.





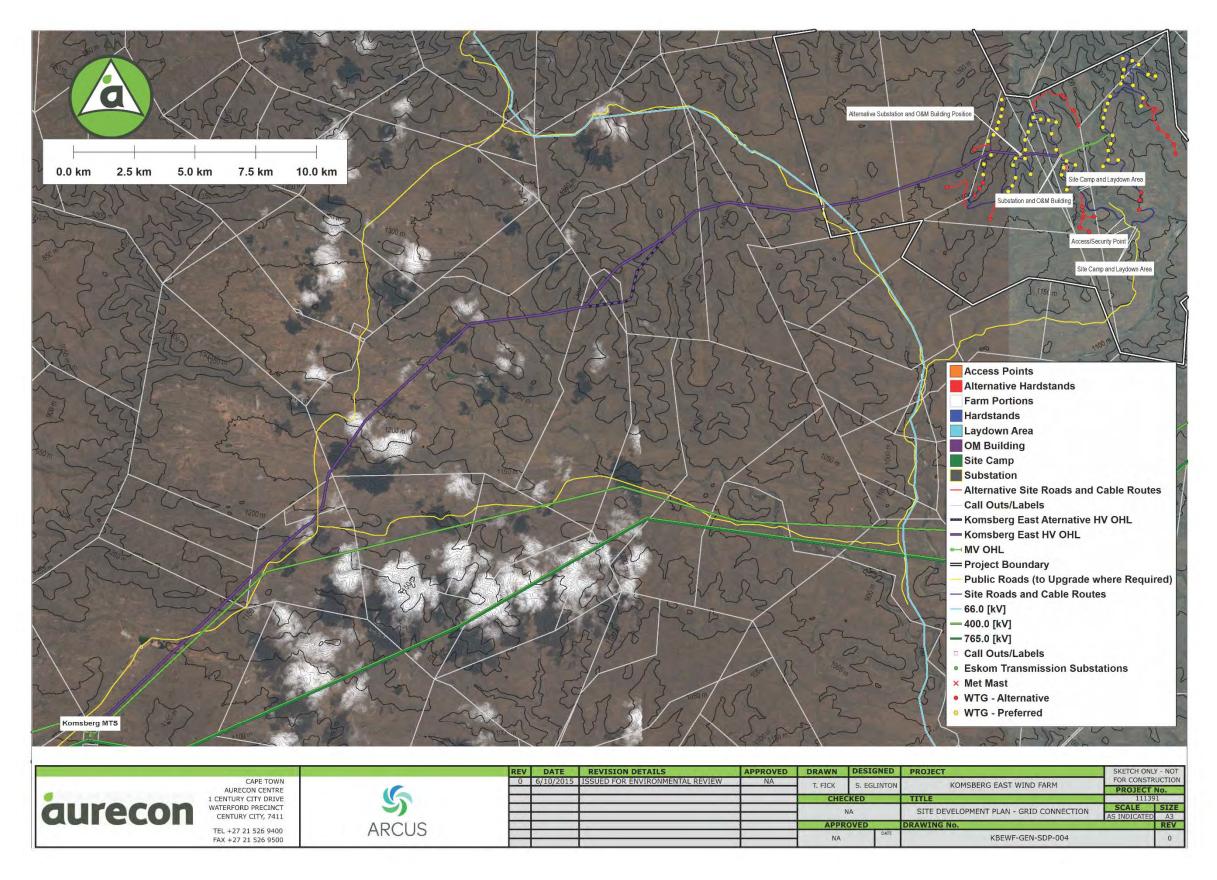
# FIGURE 1.3: ALTERNATIVE LAYOUT OF THE PROPOSED KOMSBERG EAST WEF.



2		NO	~
(1400 m		X	~
U	34		1
	$\langle C$	X	
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		116	$ \  \  \  \  \  \  \  \  \  \  \  \  \ $
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m	2.5 km	3.5	km
	and	R	
		SKETCH ONL	Y - NOT
ST WIND		PROJECT 11139 SCALE	No. 01
PMENT P		AS INDICATED	A3 REV
WF-GEN-	SDP-003		0

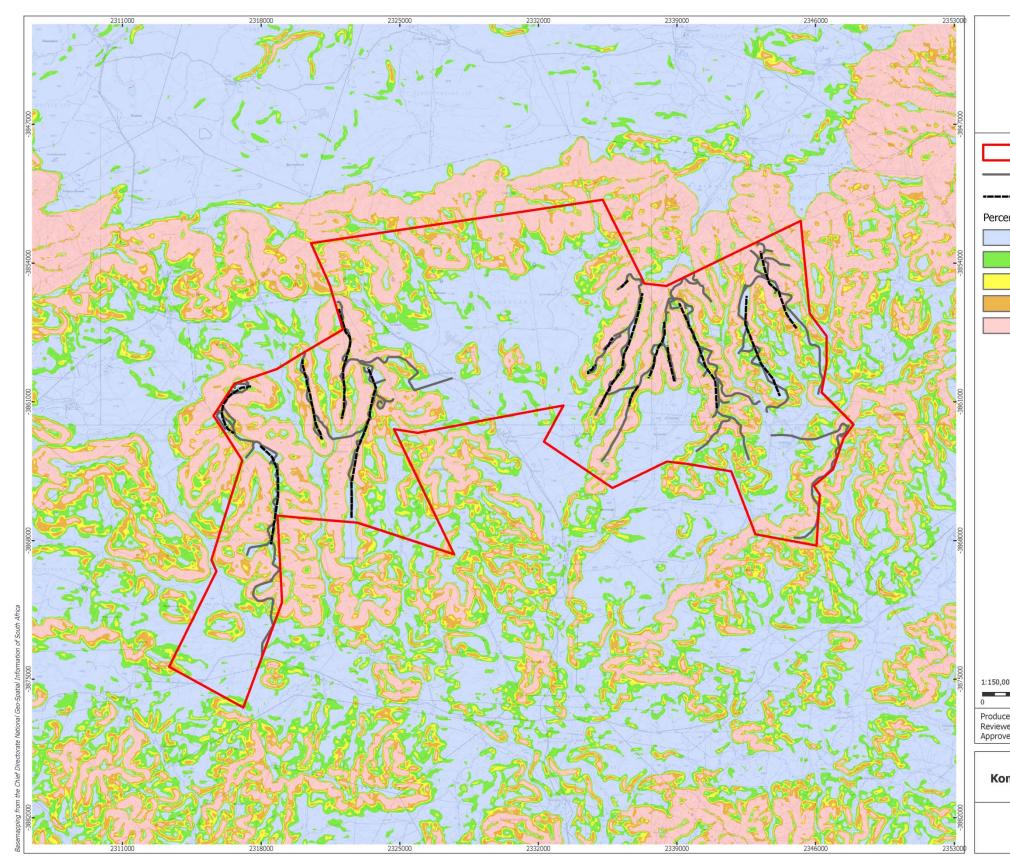


FIGURE 1.4 PROPOSED LAYOUT OF THE GRID CONNECTIONS INDICATING THE LOCATION OF THE PROPOSED SWITCHING STATION ON SITE, THE TRANSMISSION LINE CORRIDORS, AND THE ESKOM MAIN SUBSTATION.





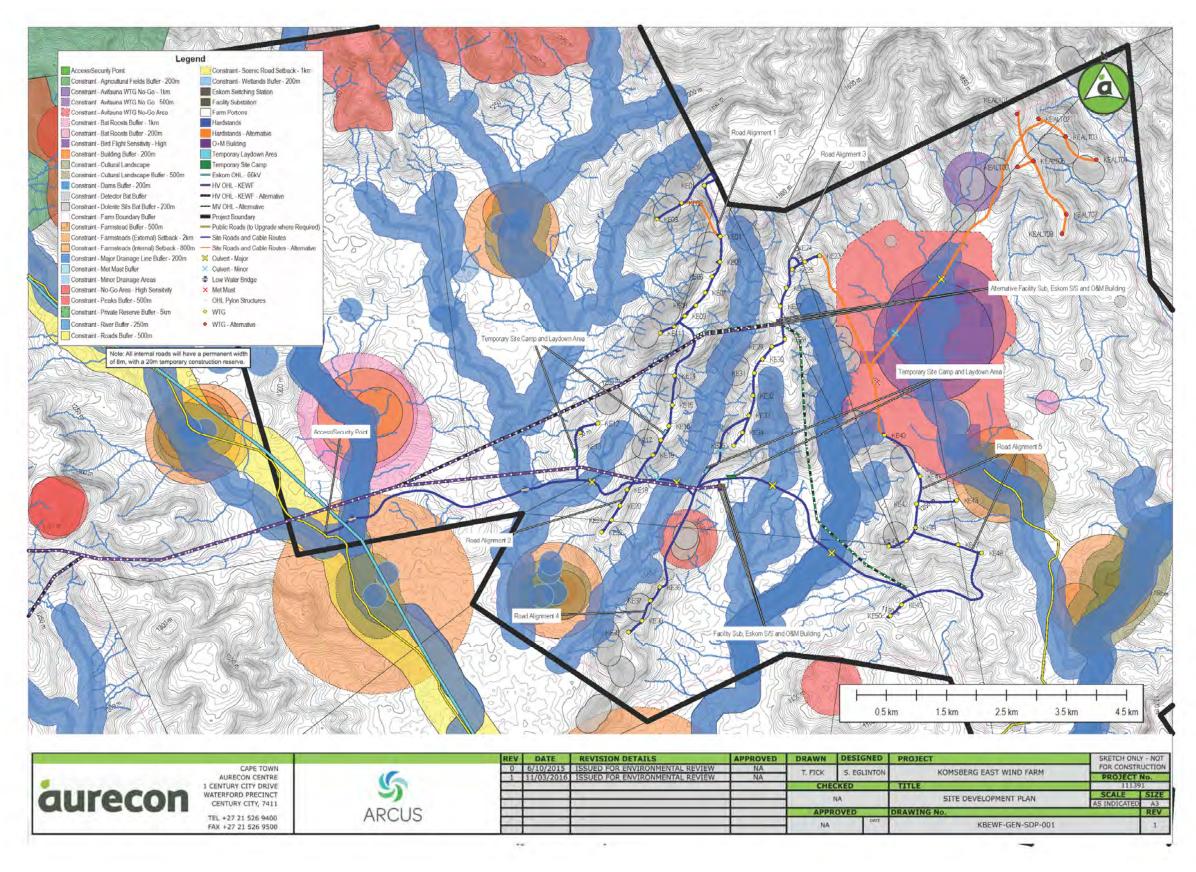
### FIGURE 1.5 SLOPE ANALYSIS MAP.



٩	ARCUS		
Site Boundar	Ŋ		
<ul> <li>Proposed Sit</li> </ul>	e Roads		
Ridges of Int	terest		
entage Slope			
Less than 8%	/o		
Between 8 a	ind 12%		
Between 12	and 14%		
Between 14	Between 14 and 18%		
Steeper thar	18%		
000 Scale @ A3	N		
3	6 km		
ced: JA ved: SC	Ref: 2023/REP/018		
ved: EH	Date: 31/03/2016		
msberg East and West WEFs Slope Analysis			
Komsberg East WEF EIA Report			



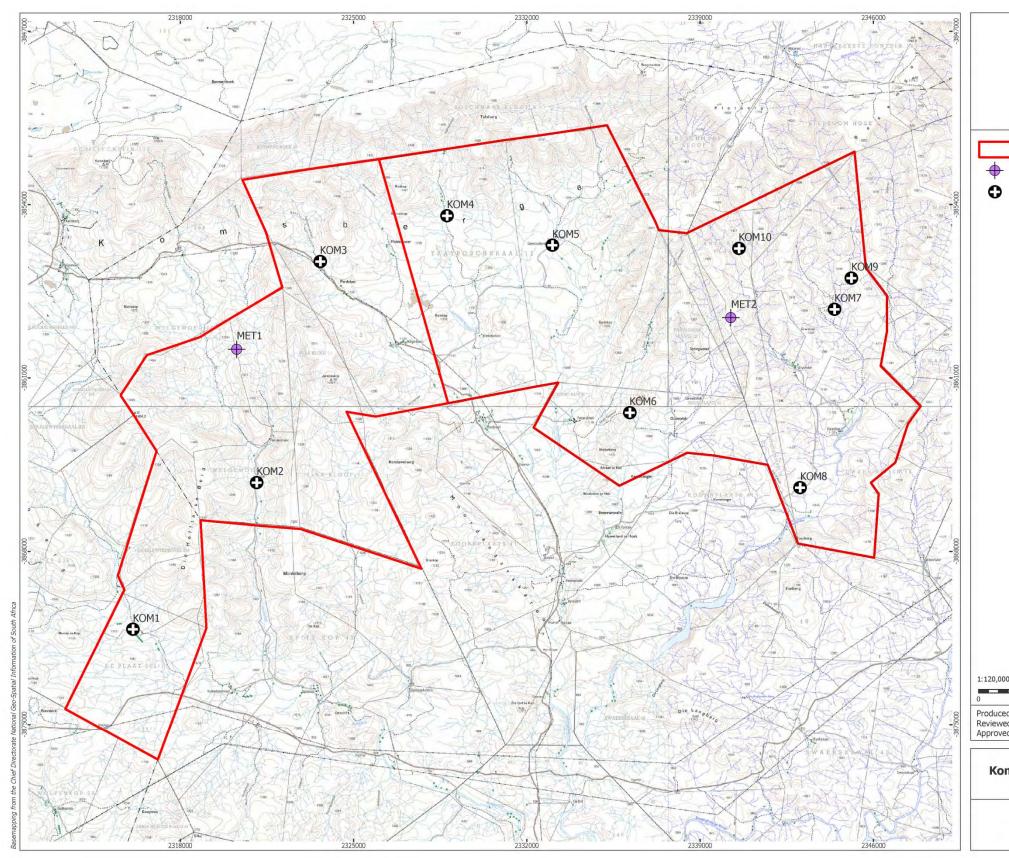
### FIGURE 4.1 FINAL LAYOUT, INCORPORATING SPECIALISTS' FINDINGS.





# **FIGURE 7.1: LOCATION OF BAT DETECTORS.**

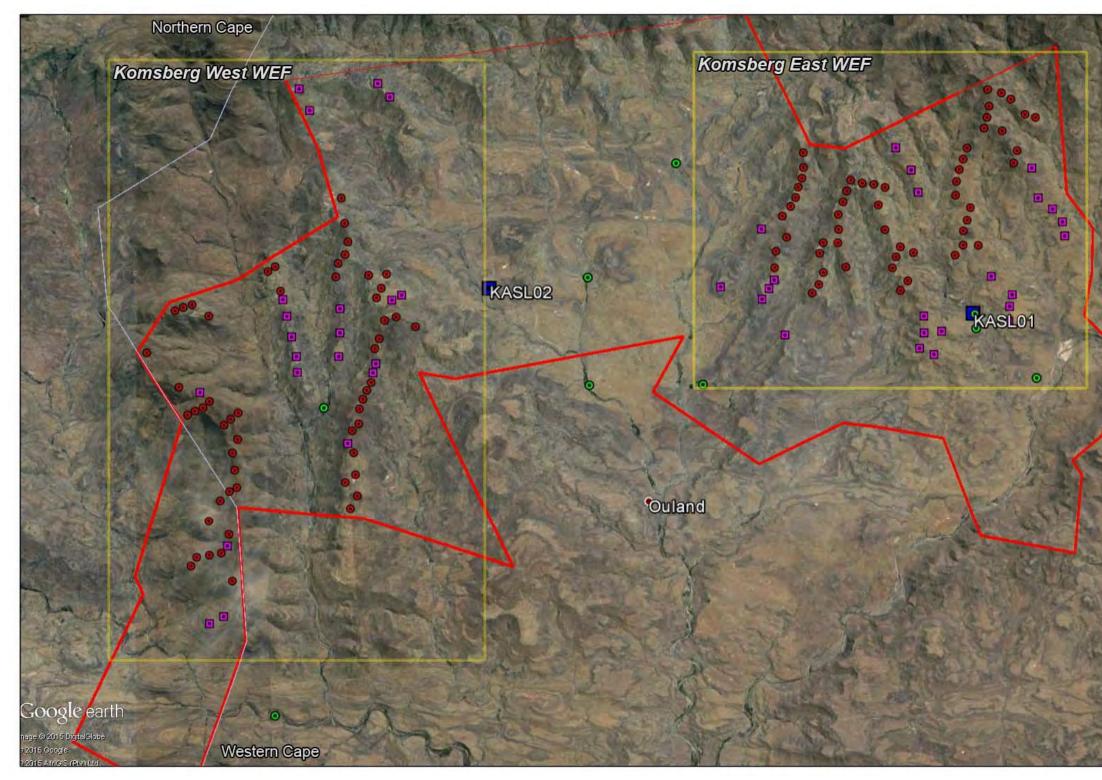
EAST WIND ENERGY FACILITY WESTERN AND NORTHERN CAPE PROVINCES

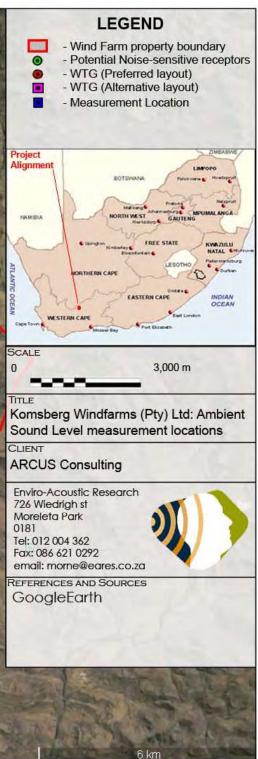


<b>S</b> ARCUS
Site Boundary 80 m Meteorological Mast Bat Detector Location
2     4 km       2     4 km       red: JA     Ref: 2023/REP/020       red: AB     Date: 31/03/2016   Dates and West WEFs Bat Detector Locations Komsberg East WEF EIA Report



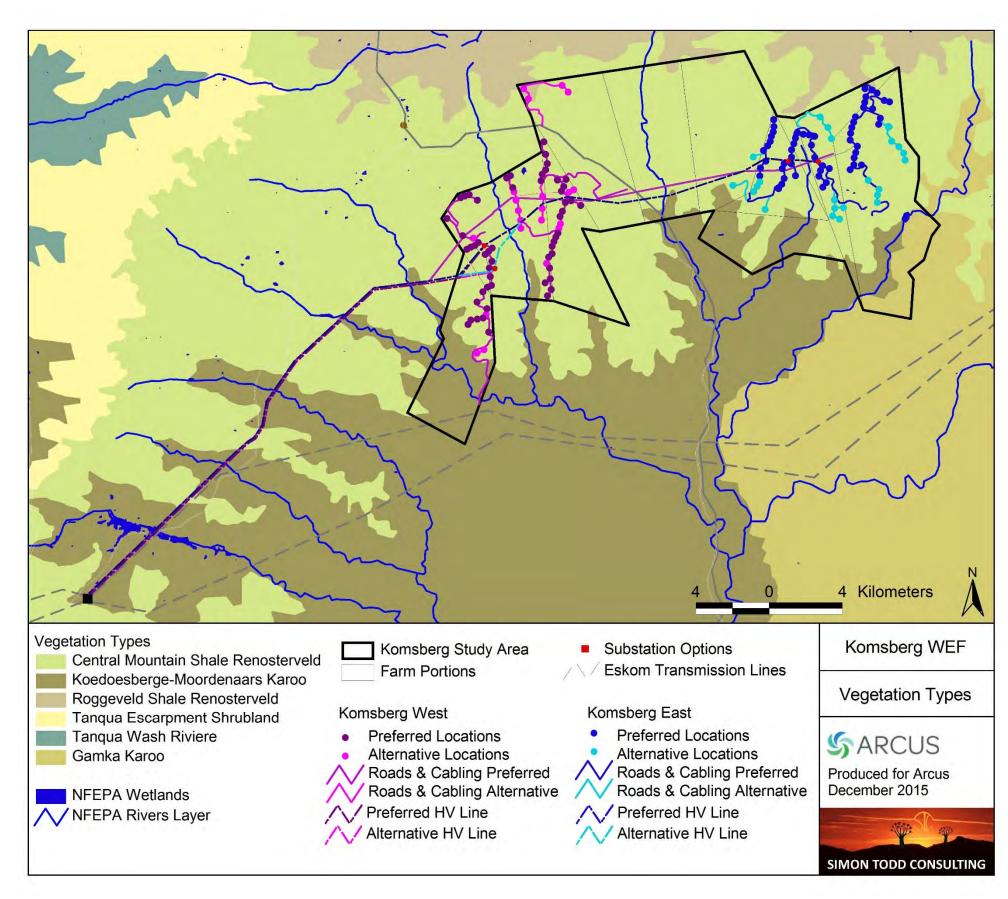
## FIGURE 7.2: LOCATIONS USED TO MEASURE AMBIENT SOUND LEVELS.





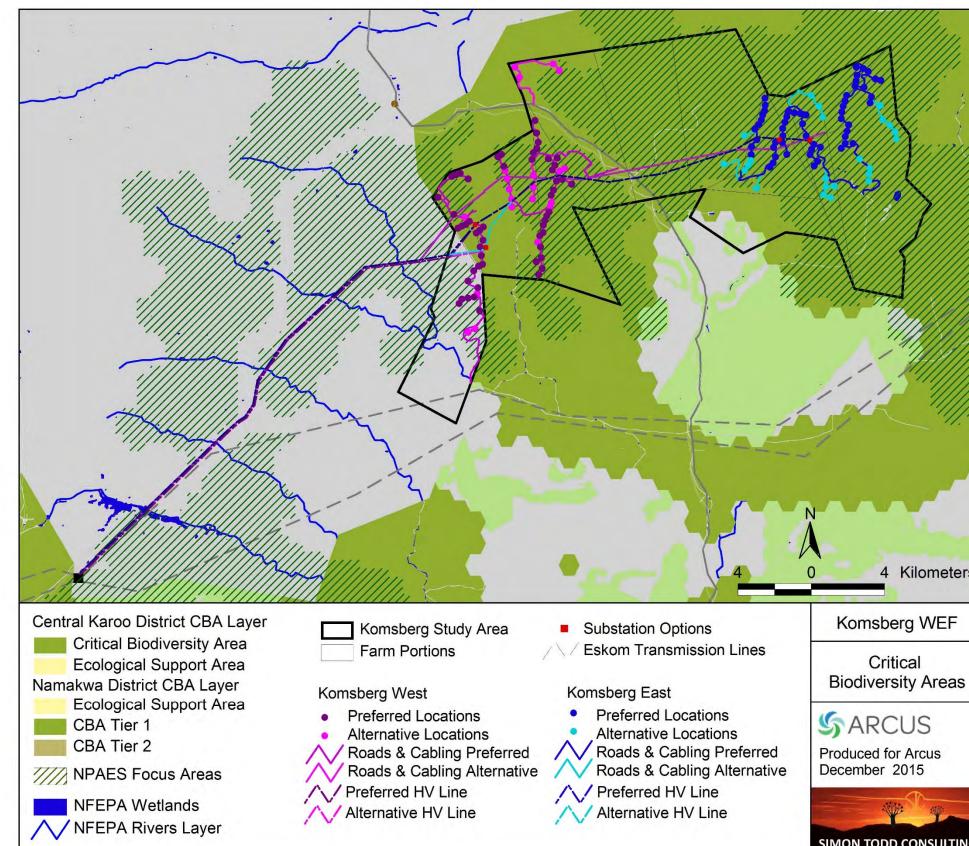


### FIGURE 8.1: VEGETATION TYPES THAT OCCUR WITHIN THE DEVELOPMENT AREA.





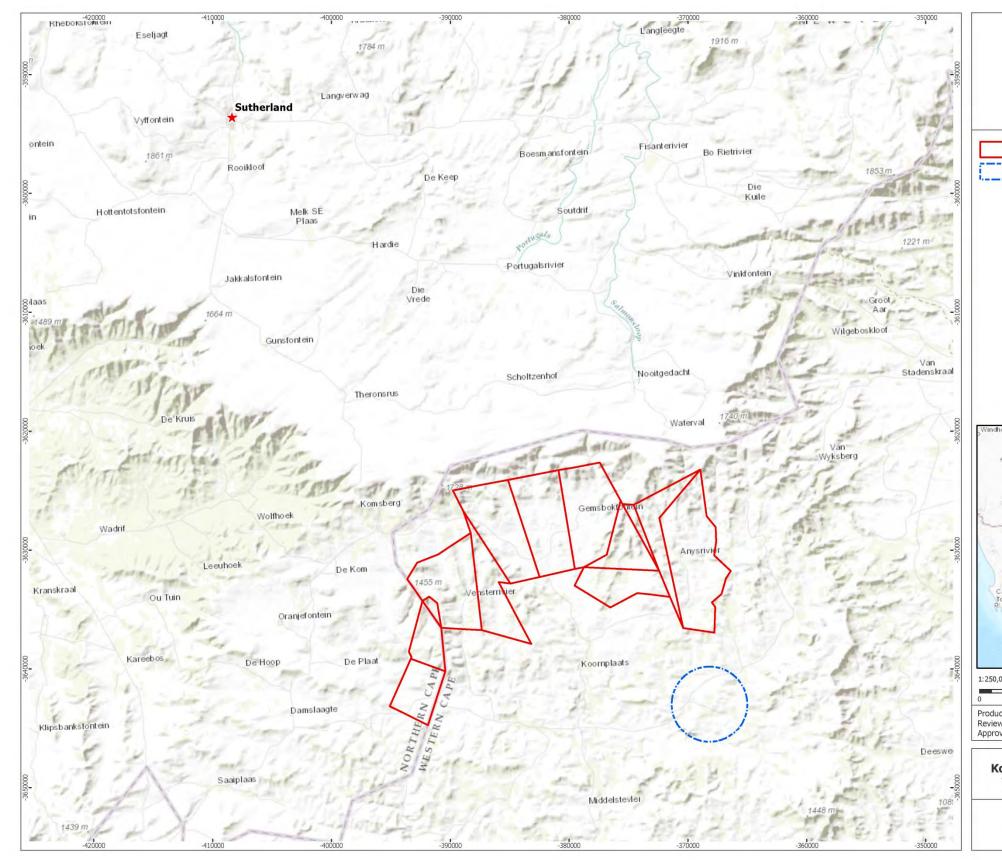
# FIGURE 8.2: CRITICAL BIODIVERSITY AREAS (CBAS) ON SITE.







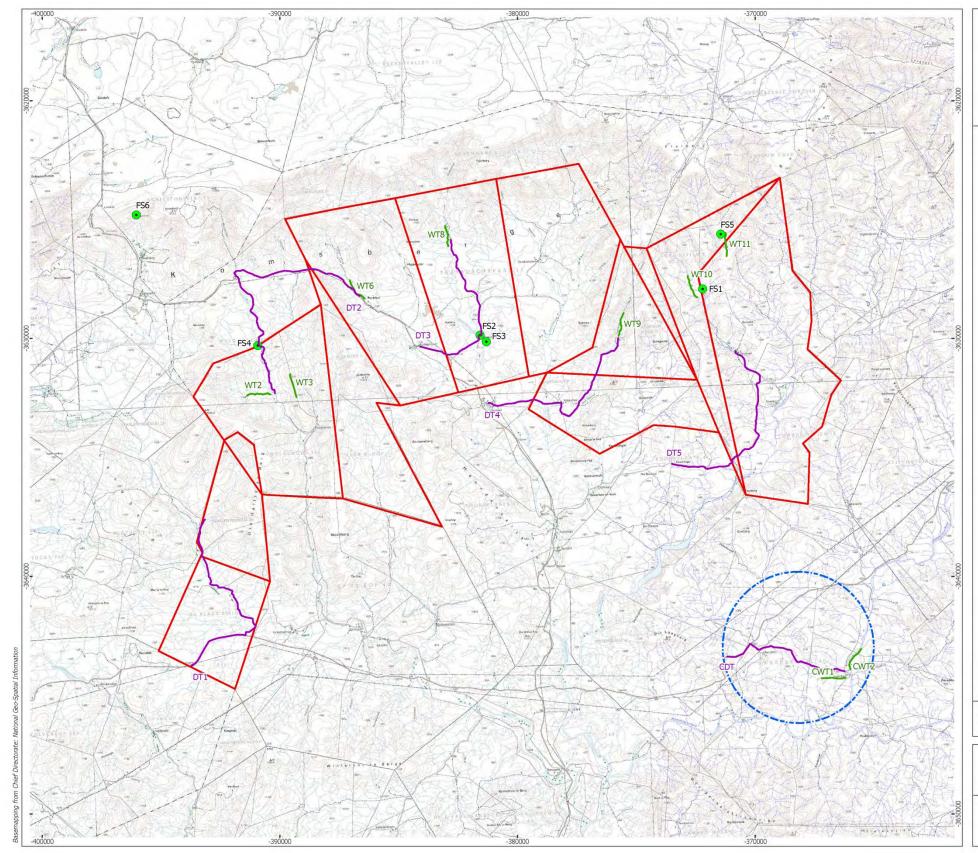
# FIGURE 8.3: WEF AND CONTROL SITE LOCATIONS.





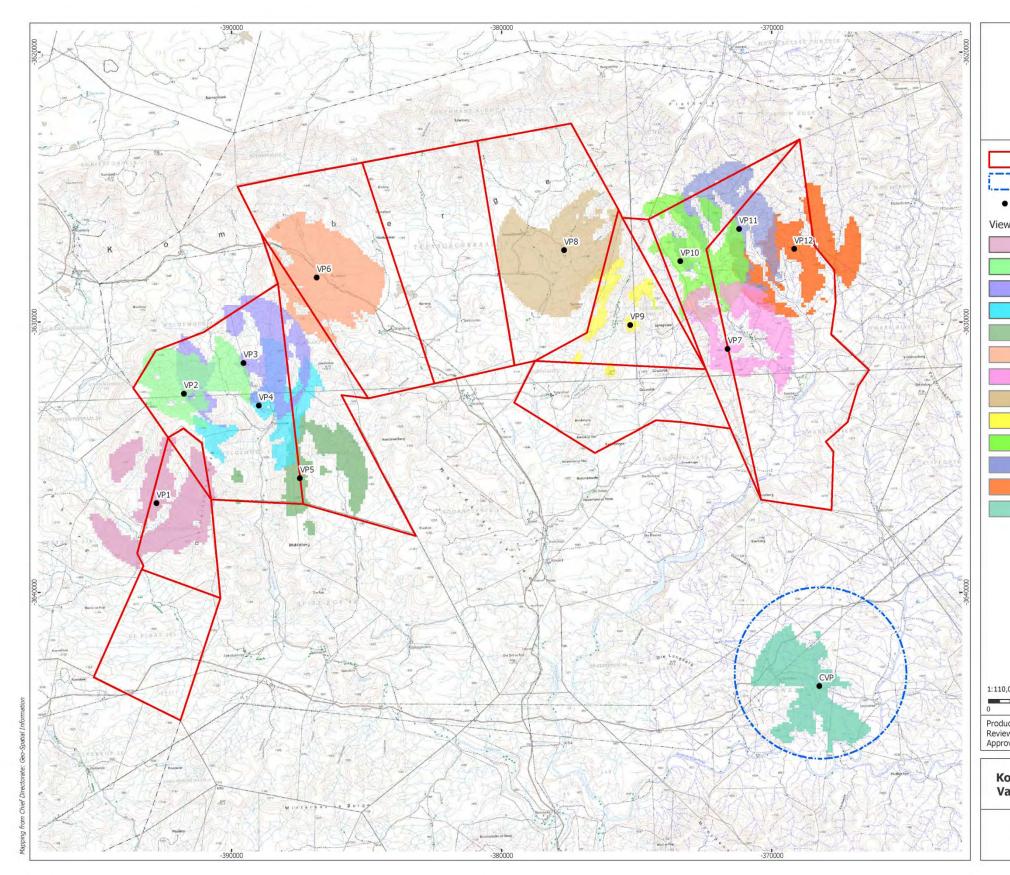


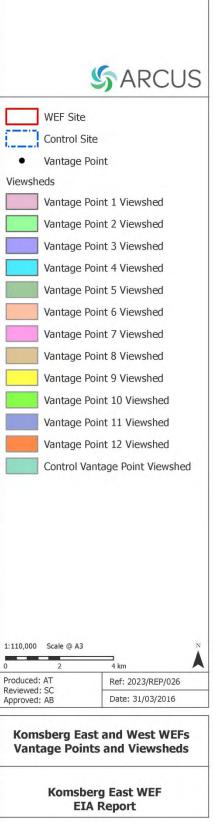
# FIGURE 8.4: FOCAL SITE, DRIVEN AND WALKED TRANSECTS.





# FIGURE 8.5: VANTAGE POINTS AND VIEWSHEDS.

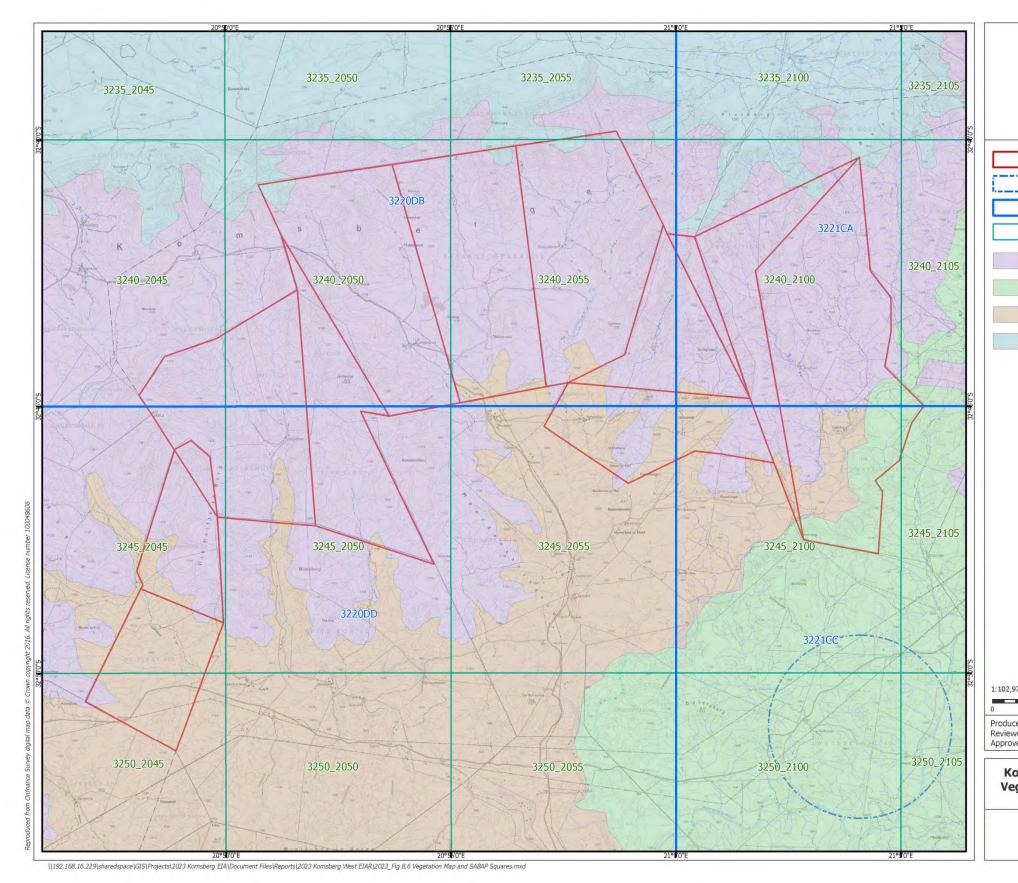






## FIGURE 8.6: VEGETATION MAP AND SABAP GRID SQUARES.

EAST WIND ENERGY FACILITY WESTERN AND NORTHERN CAPE PROVINCES



	<b>S</b> ARCUS	
WEF Site	e	
Control	Site	
SABAP1	Quarter Degree Square	
SABAP2	Pentad	
Central Renoste	Mountain Shale rveld	
Gamka I	Karoo	
Koedoes Karoo	berge-Moordenaars	
Roggeve	eld Shale Renosterveld	
978 Scale @ A3	N	
2	4 km	
ced: AT ved: SC ved: AB	Ref: 2023/REP/028 Date: 31/03/2016	
omsberg East and West WEFs getation Map and SABAP Grid Squares		
Komsberg East WEF		
EIA Report		



### FIGURE 8.7: SITE LOCATION WITHIN THE NAMA KAROO ECOREGION LOCATED WITHIN THE GOURITZ WATER MANAGEMENT AREA (FINAL LAYOUT).

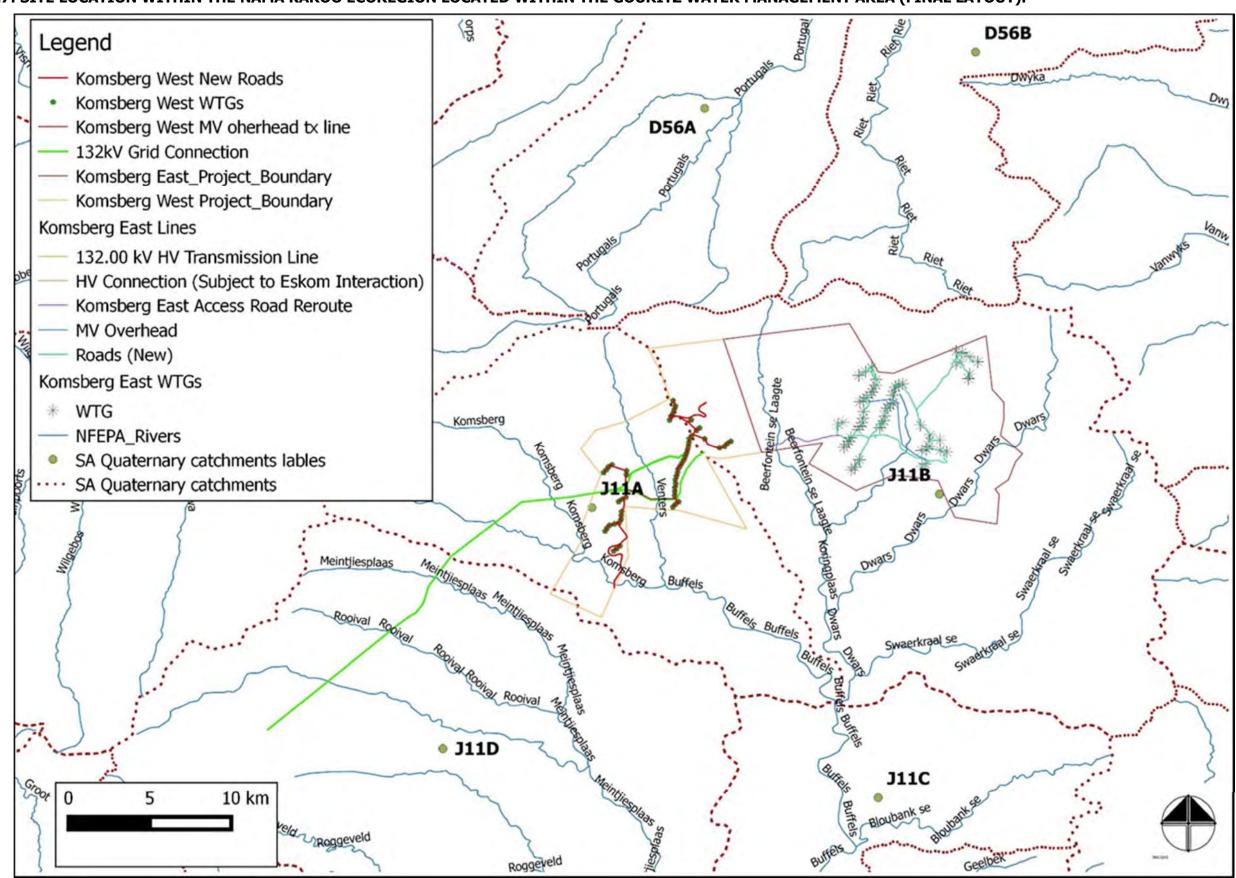
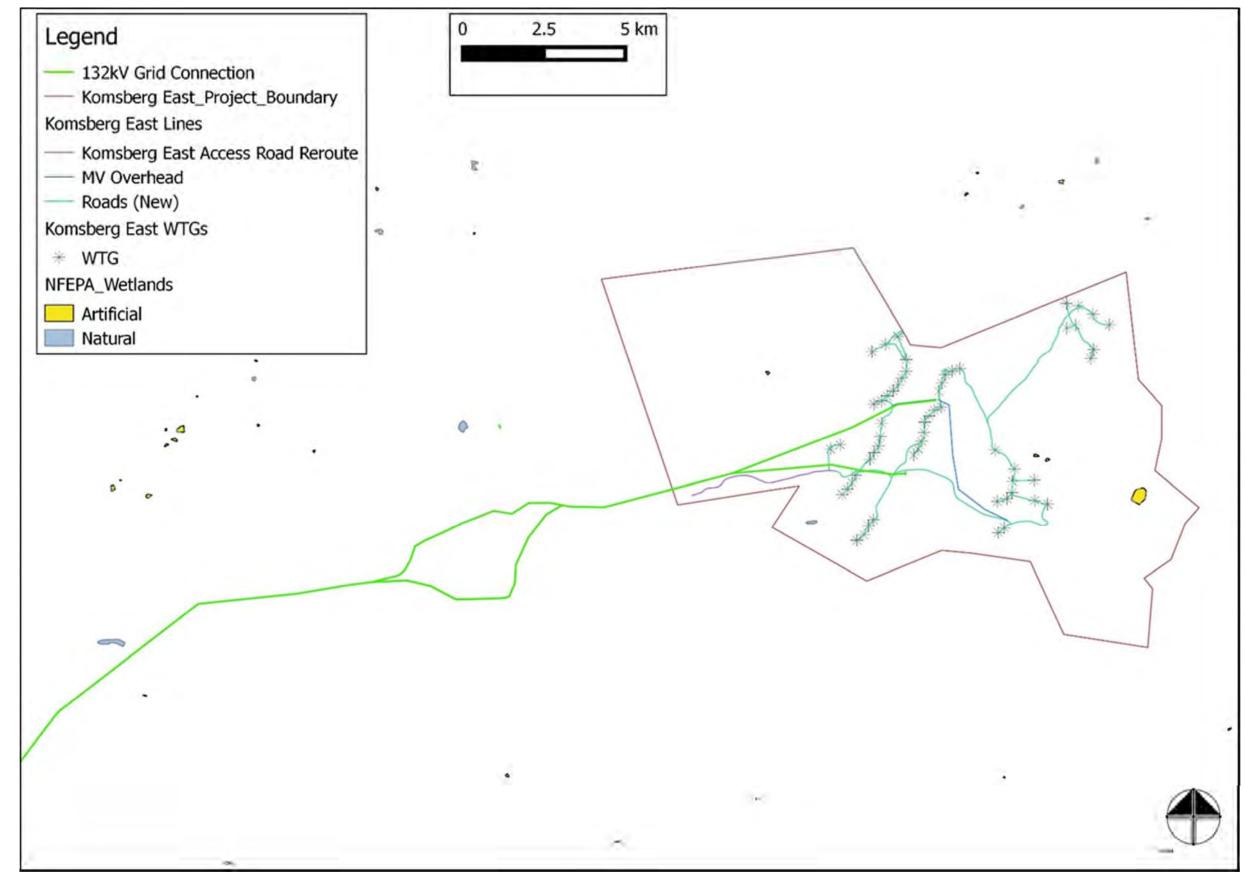




FIGURE 8.8: NATURAL AND ARTIFICIAL WETLANDS (ACCORDING TO THE NATION WETLAND INVENTORY) OCCURRING WITHIN THE SITE BOUNDARY. NONE LOCATED WITHIN THE SITE CONFIRMED (FINAL LAYOUT).



Arcus Consultancy Services Ltd



## FIGURE 8.9a: WATERCOURSES CROSSED BY THE PROPOSED ROAD LAYOUT (PREFERRED AND ALTERNATIVE LAYOUTS).

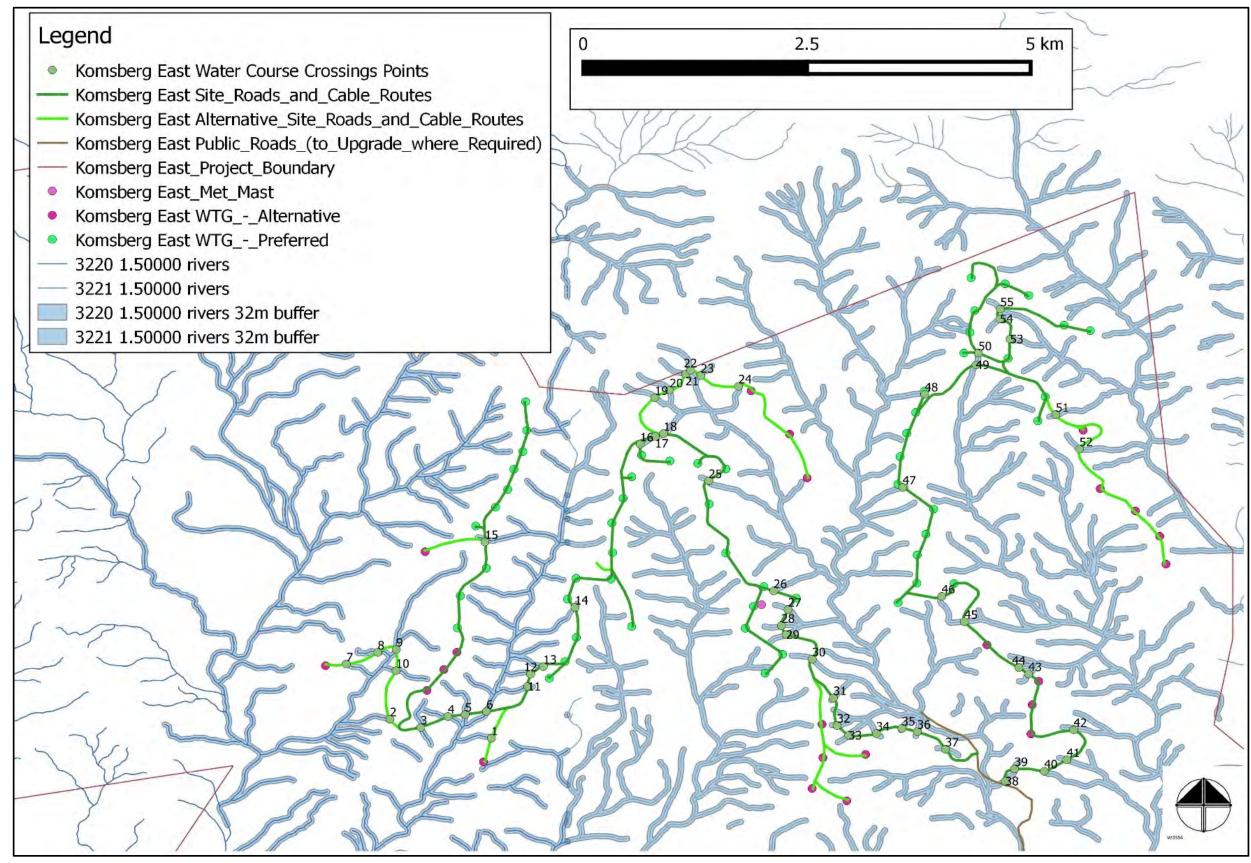




FIGURE 8.9b: FINAL LAYOUT - THE VARIOUS ACTIVITIES IN RELATION TO THE WATER COURSES (INCLUSIVE OF 32M BUFFER) FOR THE ROAD LAYOUT (LIGHT AND DARK GREEN LINES). AND THE 55 WATER COURSE CROSSINGS.

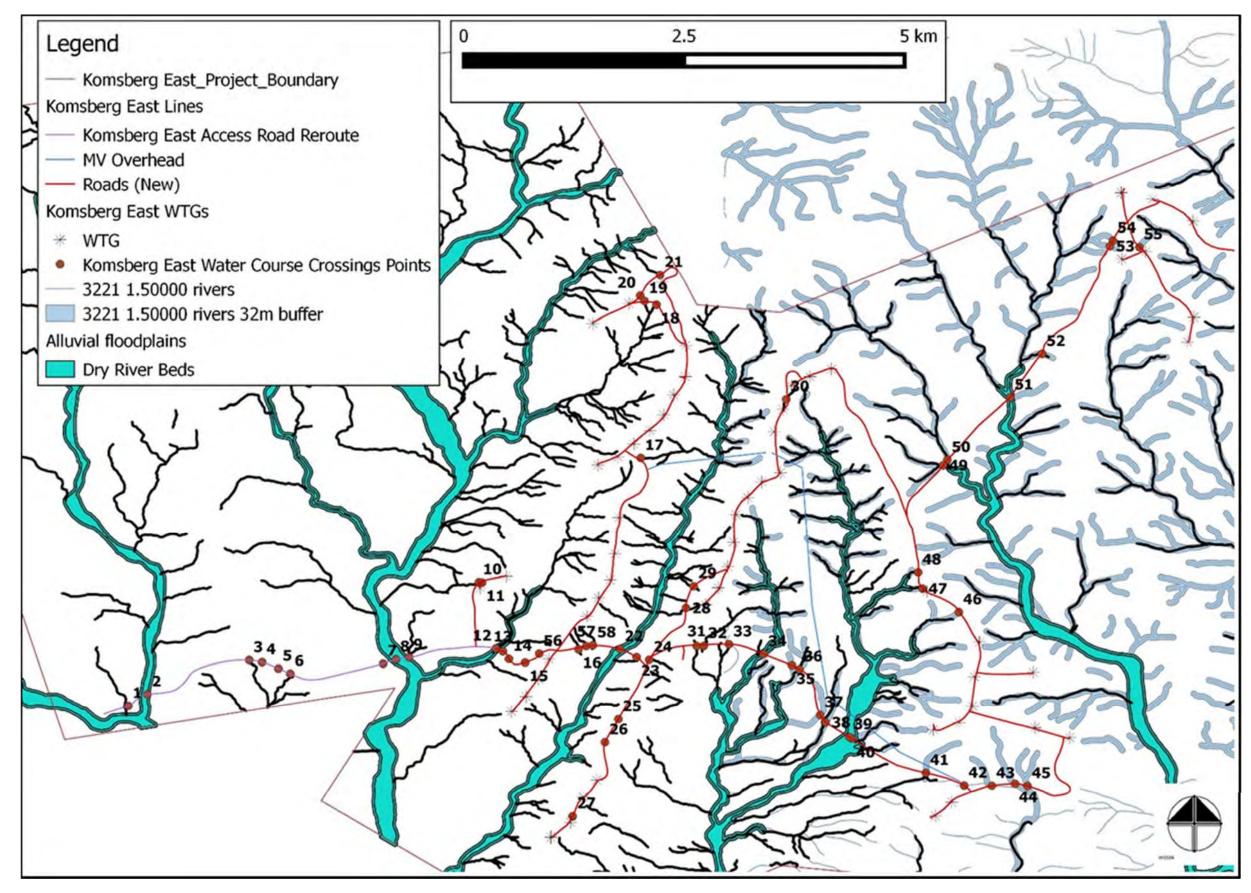




FIGURE 8.10: ARCHAEOLOGICAL OCCURRENCES RECORDED ON THE PROPOSED KOMSBERG EAST SITE.





FIGURE 8.11: PALAEONTOLOGICAL OCCURRENCES RECORDED ON THE PROPOSED KOMSBERG EAST SITE.

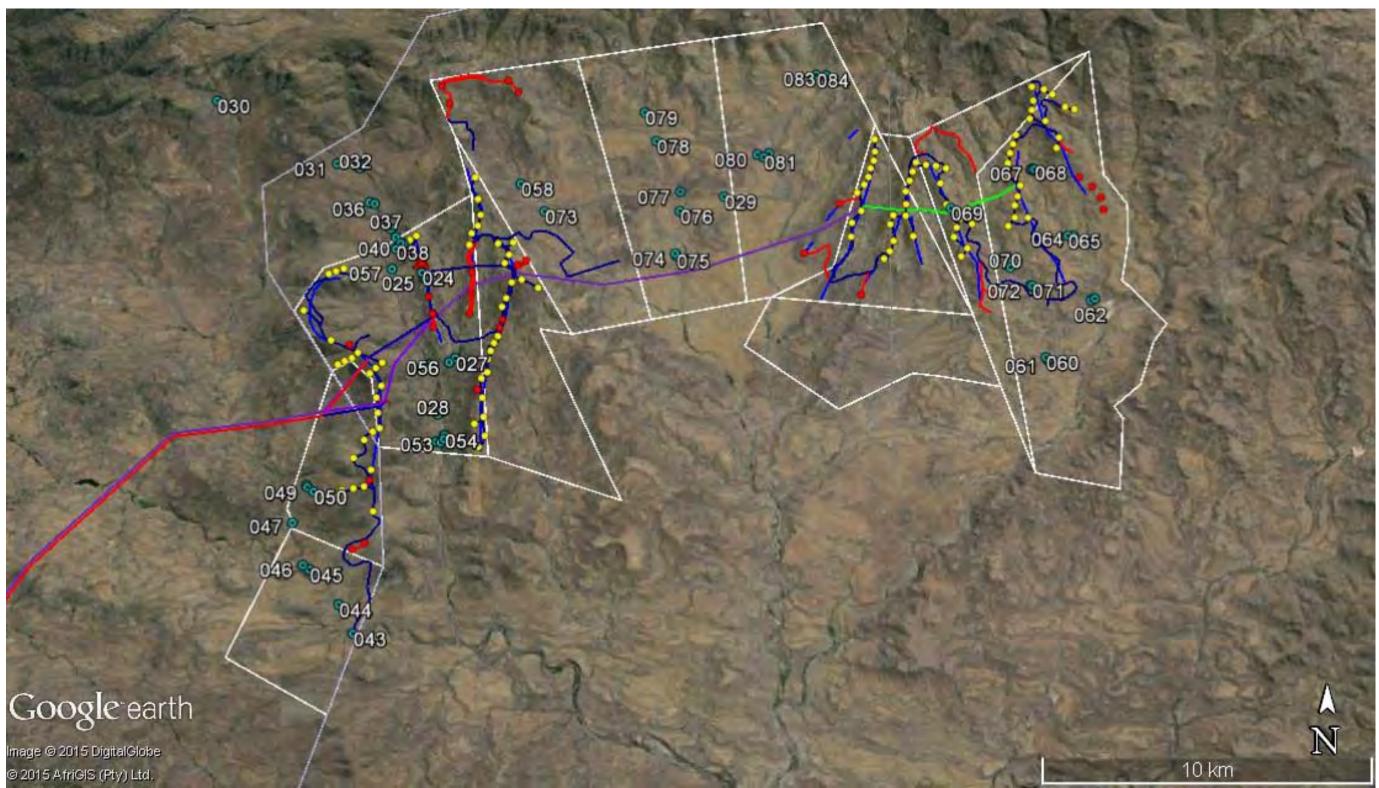
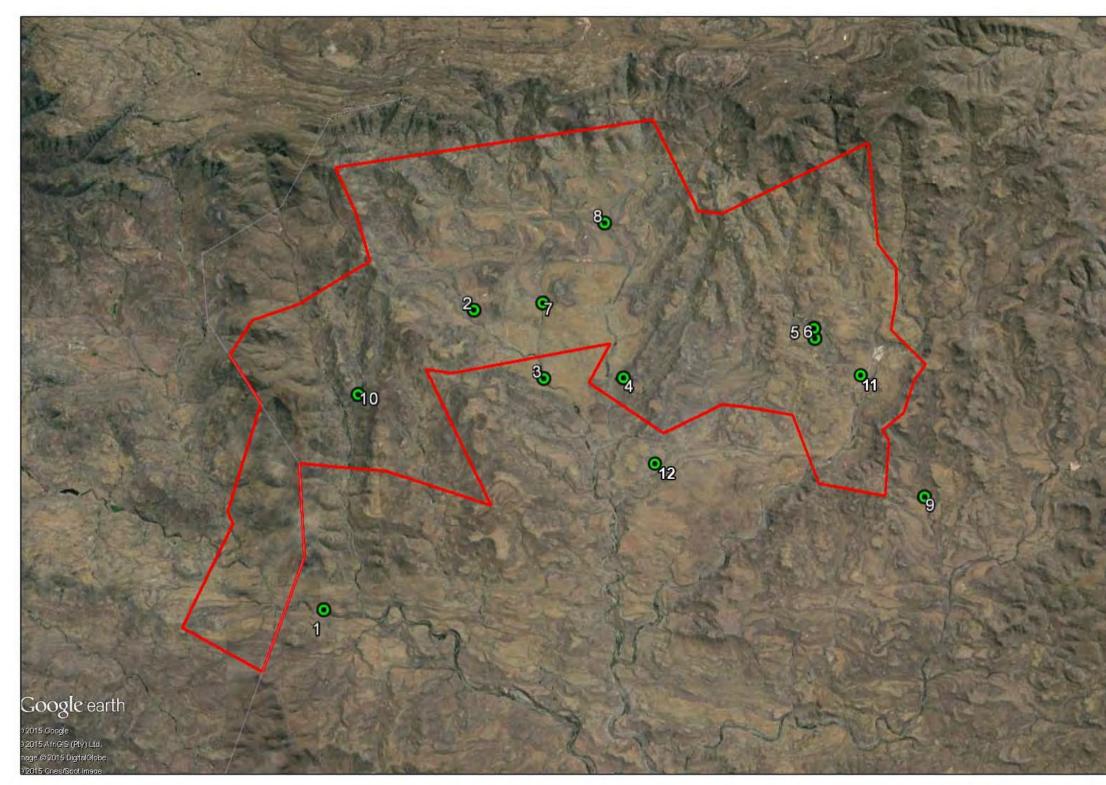
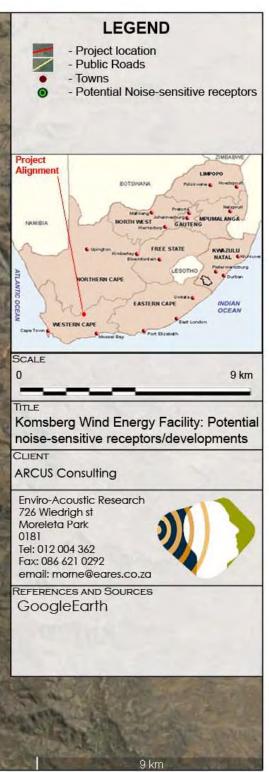


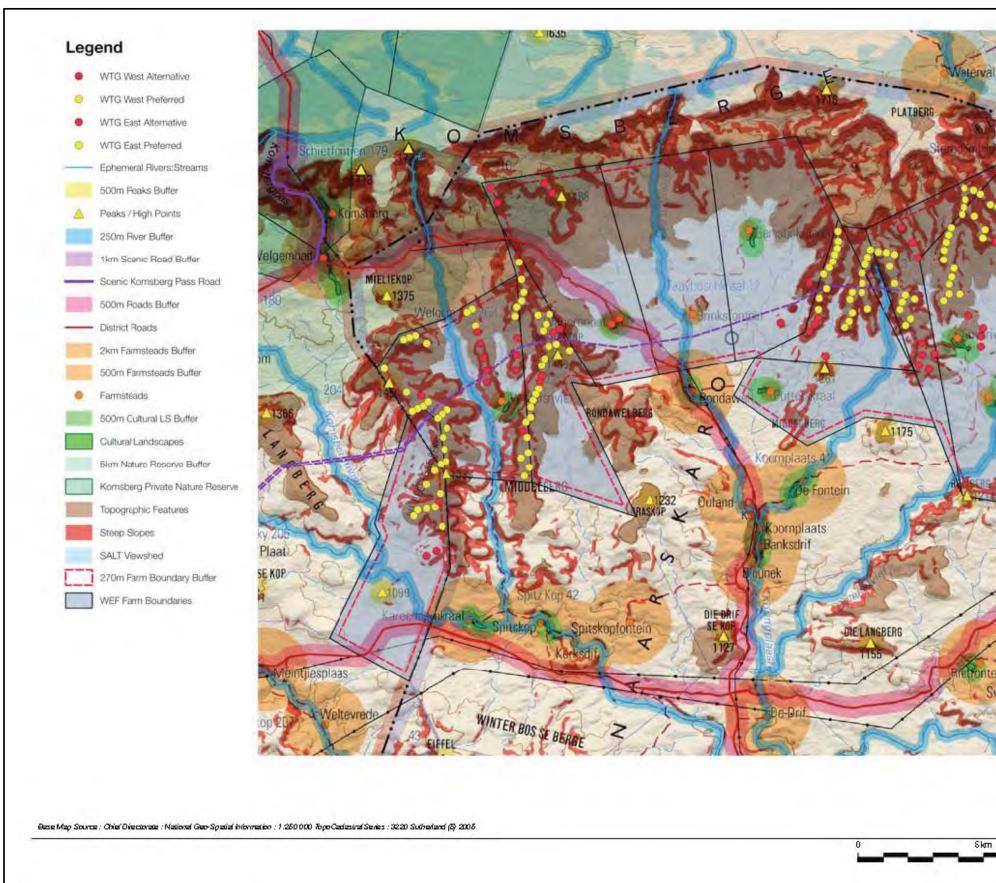


FIGURE 8.12: LOCATION OF NOISE-SENSITIVE DEVELOPMENTS ON SITE.





### FIGURE 8.13: VISUAL INFORMANTS MAP (PREFERRED AND ALTERNATIVE LAYOUTS).



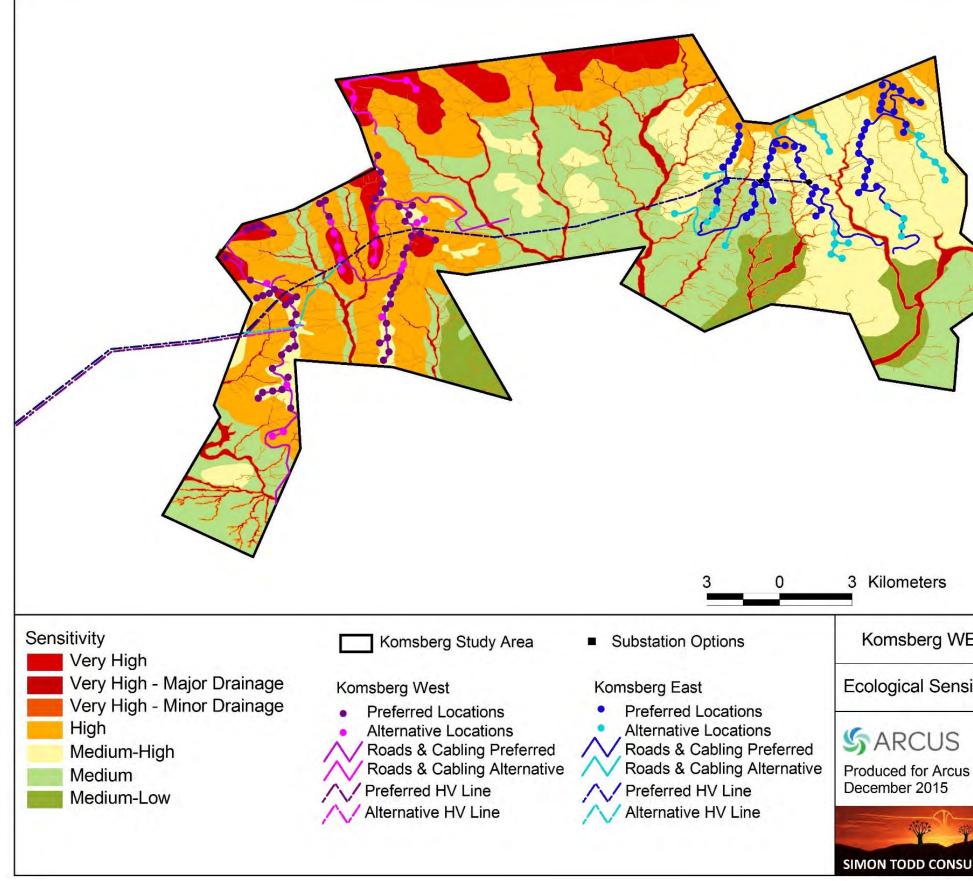
S

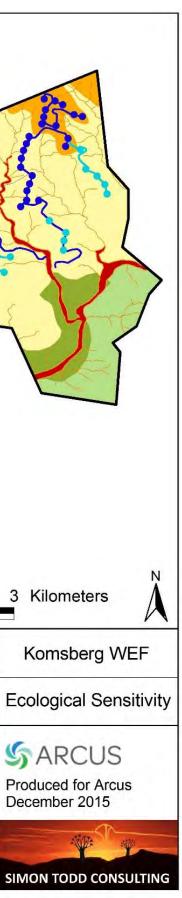
ARCUS





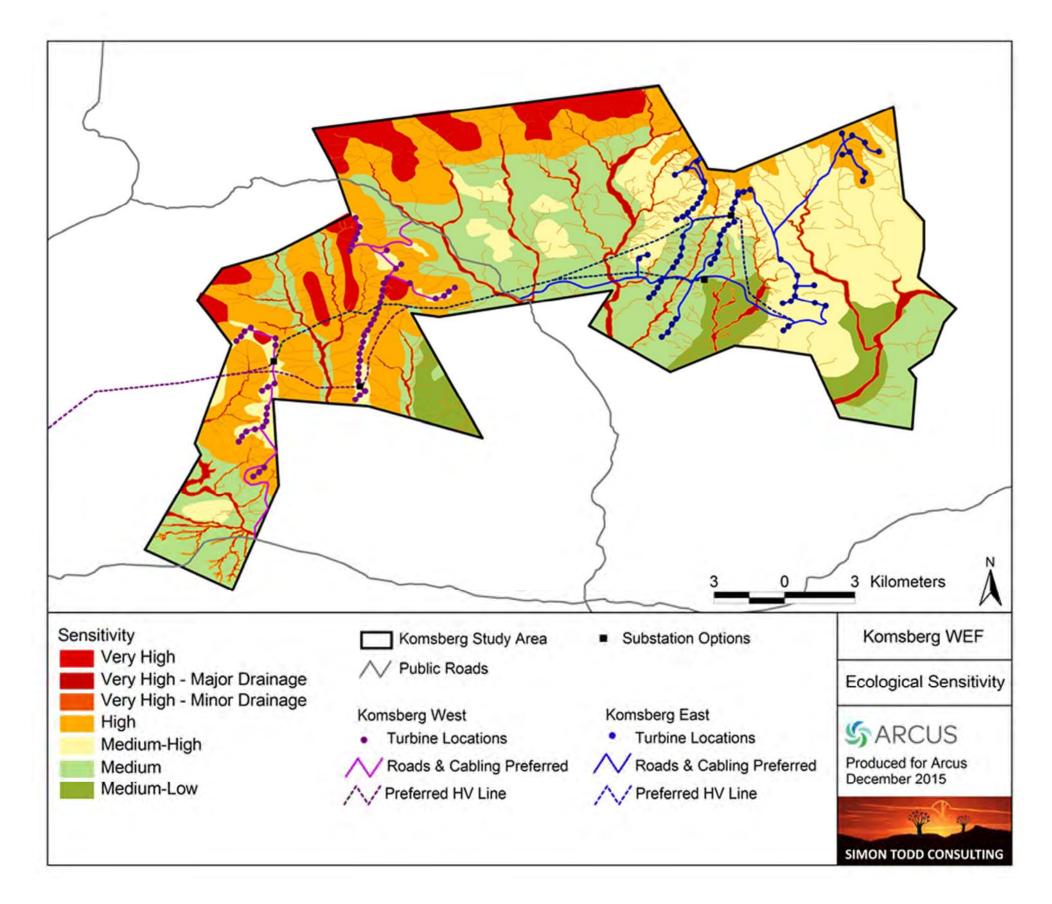
FIGURE 9.1a: ECOLOGICAL SENSITIVITY MAP (PREFERRED AND ALTERNATIVE LAYOUTS).





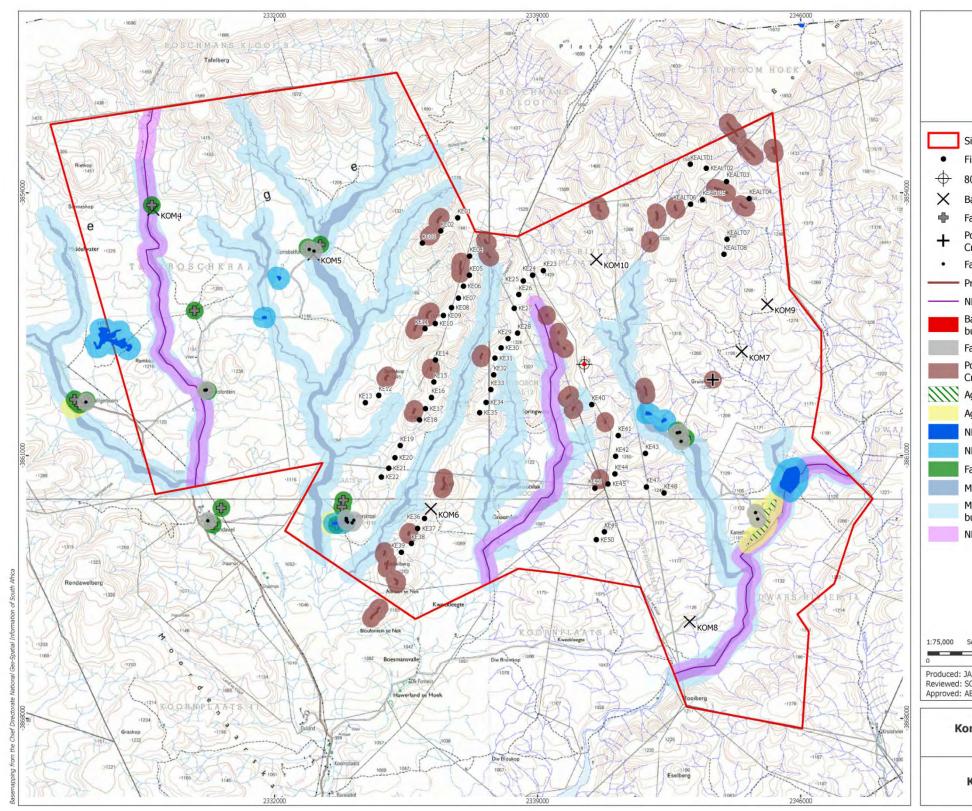


# FIGURE 9.1b: ECOLOGICAL SENSITIVITY MAP (FINAL LAYOUT).





### FIGURE 9.2: KOMSBERG EAST BAT CONSTRAINTS MAP.





- Site Boundary
- Final Turbine Layout
  - 80 m Meteorological Mast
- X Bat Detector Location
  - Farm Dam
  - Potential Bat Roost (Rocky Crevice)
  - Farm Building
- Prominent Dolerite Sill
  - NFEPA River
  - Bat Monitoring Location 50 m buffer
- Farm Building 200 m buffer Potential Bat Roost (Rocky Crevice) 200 m buffer
- Agricultural Field
  - Agricultural Field 200 m buffer
  - NFEPA Wetland
    - NFEPA Wetland 200 m buffer
  - Farm Dam 200 m buffer
  - Major Drainage Area
  - Major Drainage Ares 200 m buffer
  - NFEPA River 200 m buffer

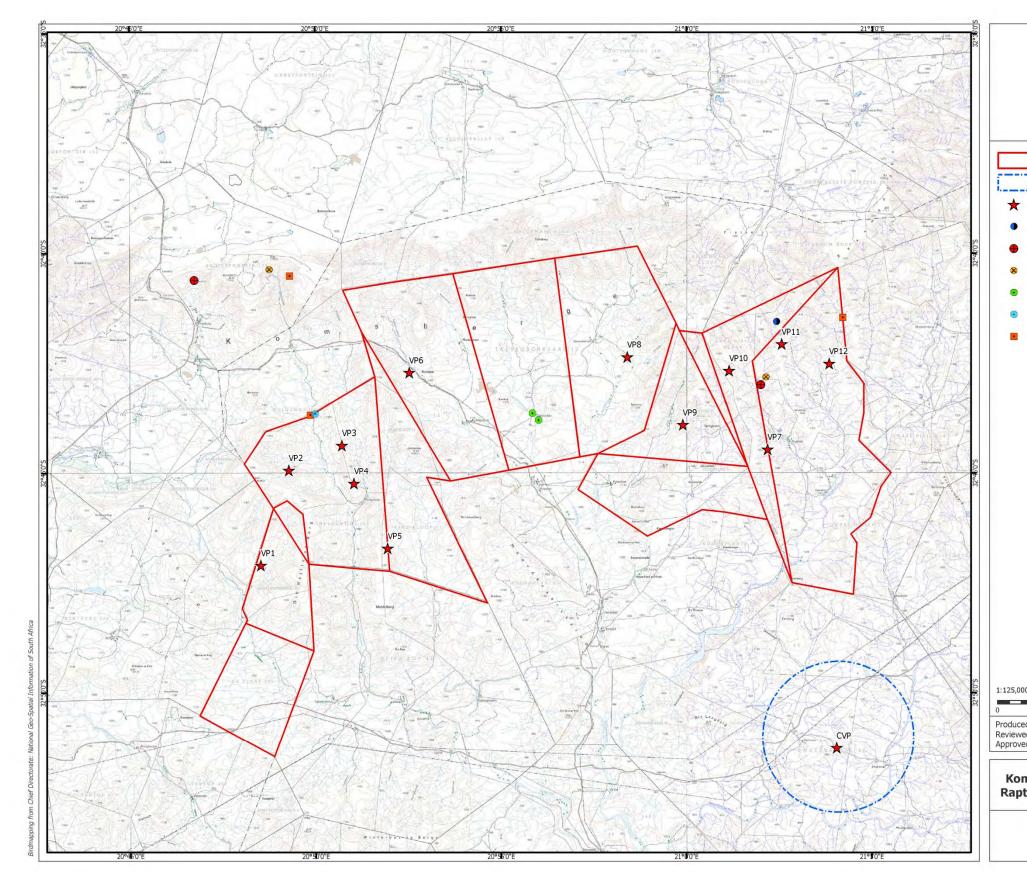
icale @ A3		N
1.5	3 km	A
4	Ref: 2023/REP/030	
В	Date: 31/03/2016	

Komsberg East WEF Site Bat Constraints

Komsberg East WEF EIA Report



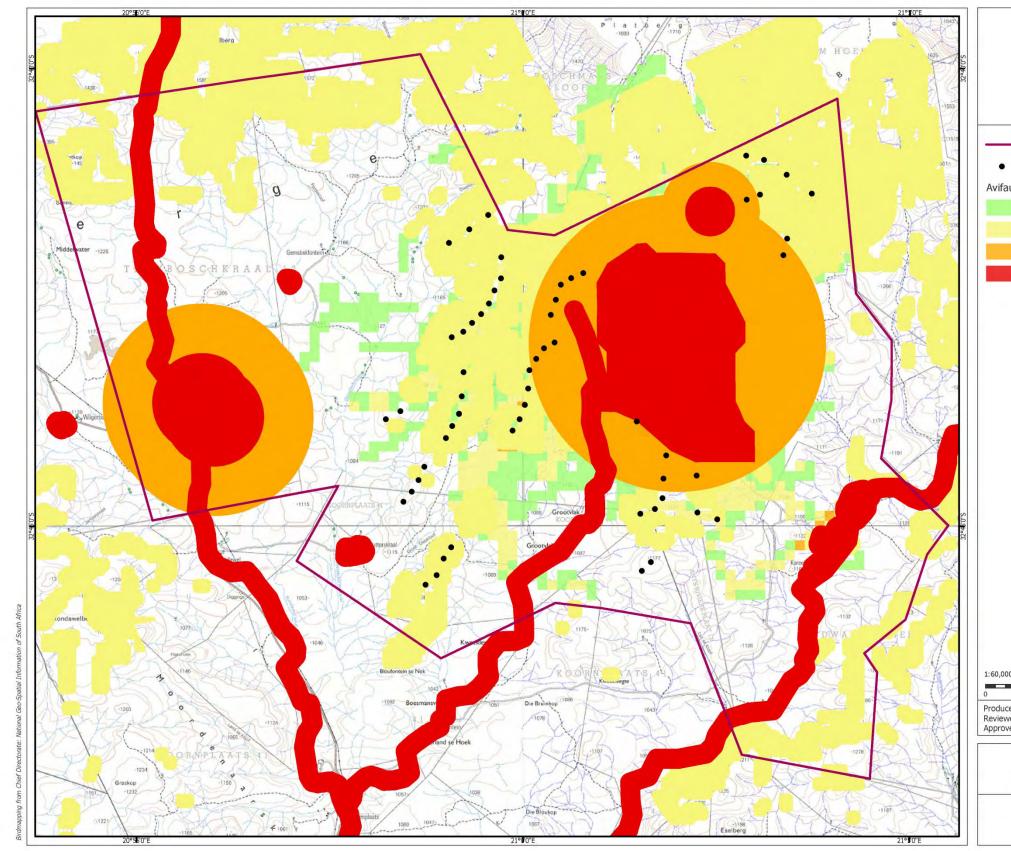
# FIGURE 9.3: RAPTOR NEST AND ROOST LOCATIONS.



	S	AF	RCU	S
	WEF Site			
	Control Site			
1	Vantage Point			
1	Active African	Harrier	Hawk Ne	st
,	Active Verrea	ux's Eag	le Nest	
1	Inactive Verre	aux's Ea	igle Nest	
1	Verreaux's Ea	gle Roos	st Site	
r	Martial Eagle	Roost Si	te	
1	Inactive Unide	entified I	Raptor Ne	ests
00	Scale @ A3			N
	2.5	5 km		
ed: A	SC -		3/REP/032	_
ed: A	AB	Date: 31/	03/2016	
	berg East a Nest and			
	Komsberg EIA Re		/EF	



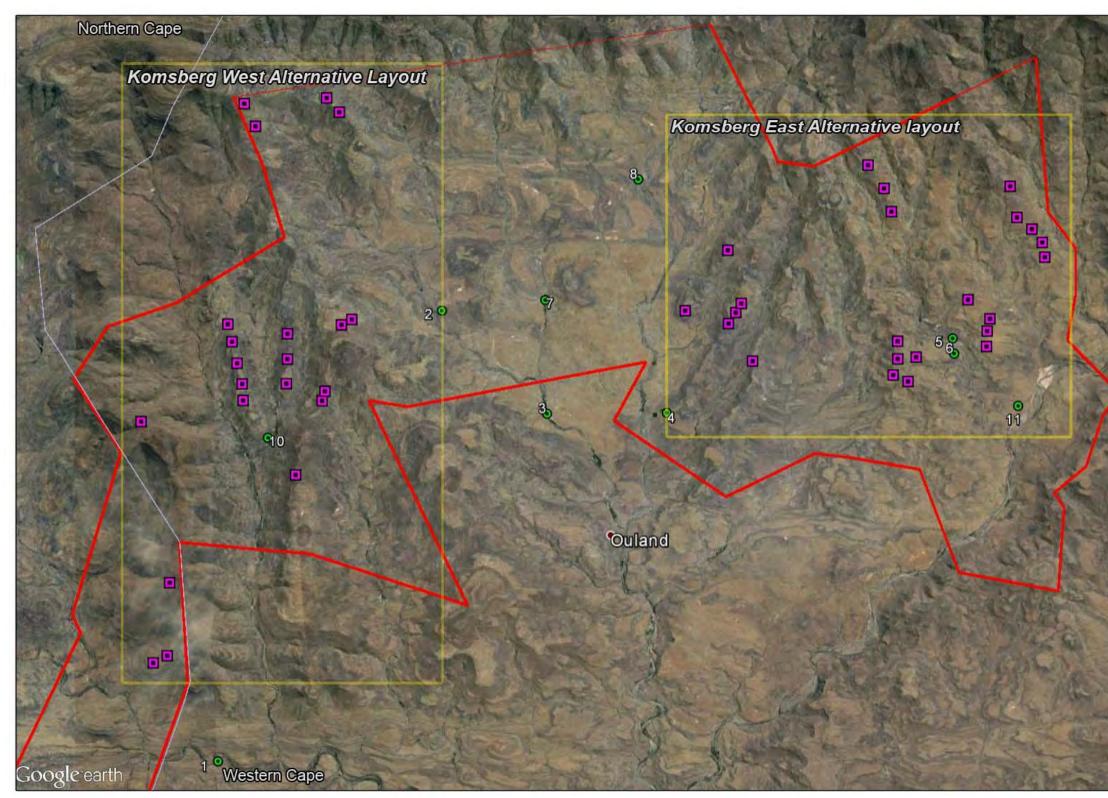
# FIGURE 9.4: AVIFAUNAL SENSITIVITIES AND NO GO AREAS.



		~
5	<b>SARCU</b>	5
- Site Boundar	γ	
Final Turbine	e Layout	
unal Sensitivity		
Low		
Medium		
Medium/Higl	n	
High (No-Go	Area)	
00 Scale @ A3	⊐ 2 km	Ň
ced: AT	Ref: 2023/REP/036	-
ved: SC ved: AB	Date: 31/03/2016	
Komshera	East WEE	
Komsberg East WEF Avifaunal Sensitivities		
and No-go Areas Map		
Komsberg East WEF EIA Report		
ста кероп		



## FIGURE 9.5: LOCATION OF PROPOSED WTGS IN RELATION TO NOISE SENSITIVE RECEPTORS (ALTERNATIVE LAYOUT).



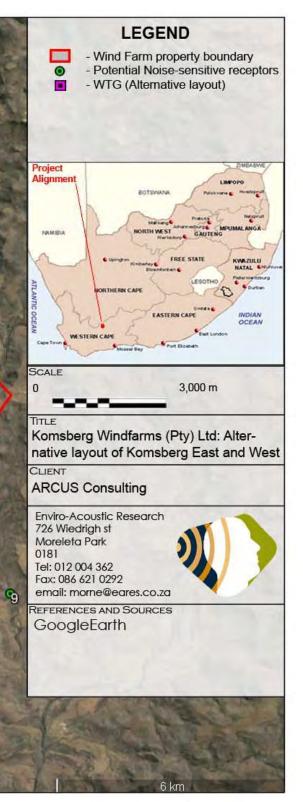
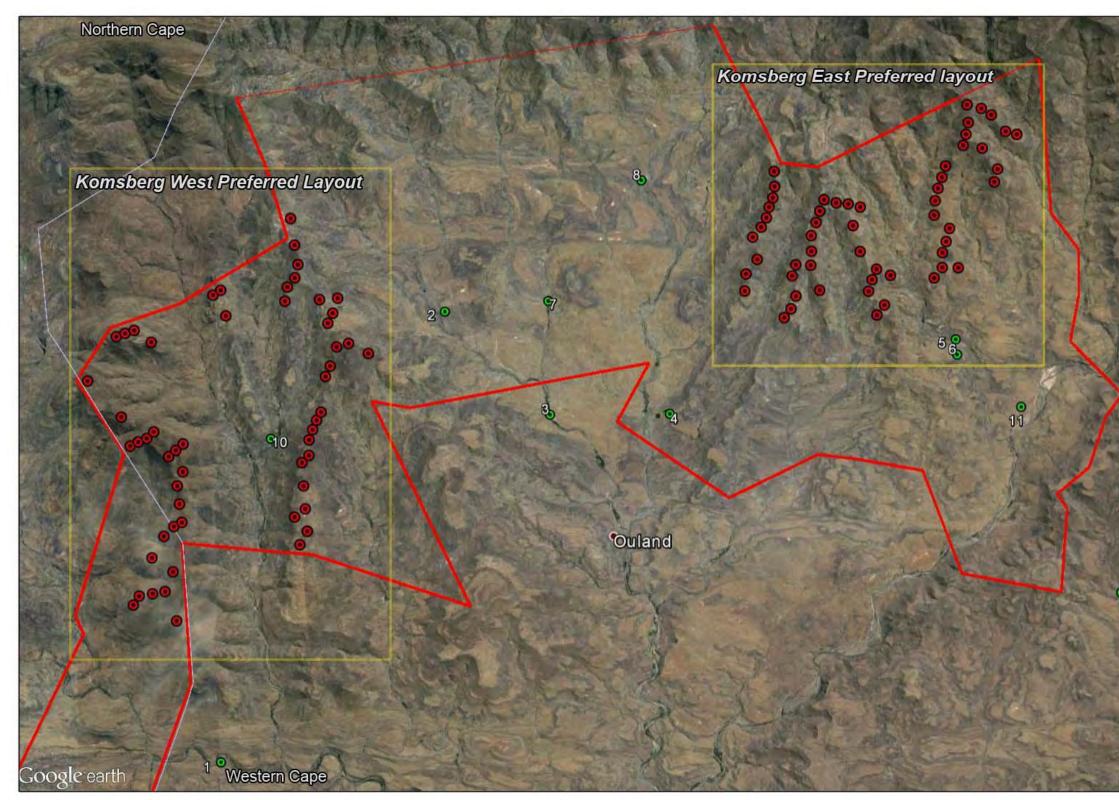




FIGURE 9.6: LOCATION OF PROPOSED WTGS IN RELATION TO NOISE SENSITIVE RECEPTORS (PREFERRED LAYOUT).



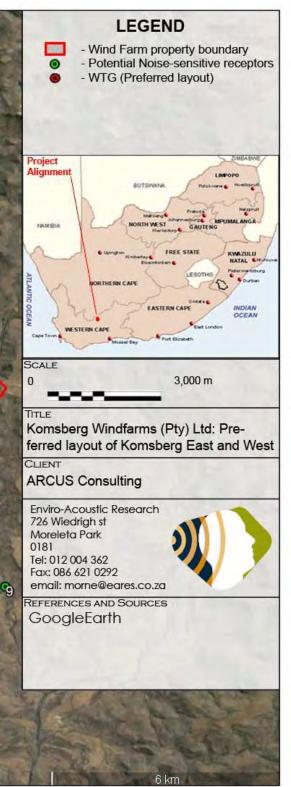
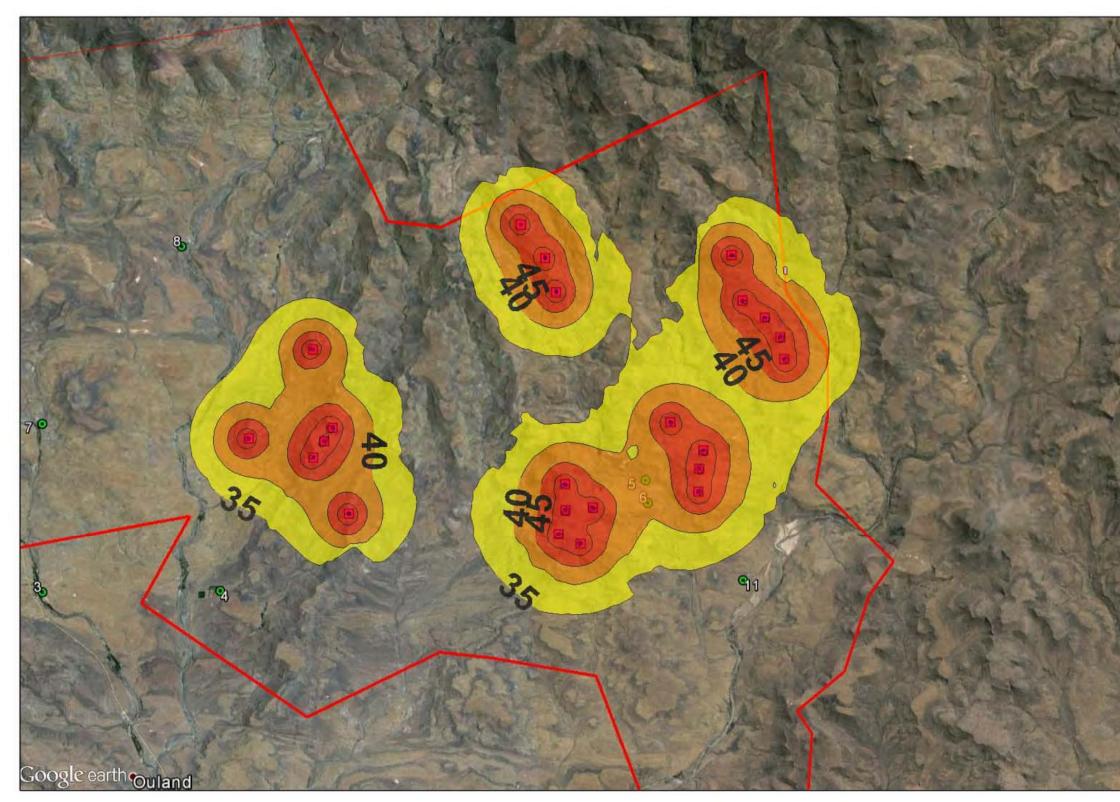




FIGURE 9.7: PROJECTED CONCEPTUAL NIGHT-TIME NOISE RATING LEVELS DURING OPERATION – ALTERNATIVE LAYOUT (VESTAS WTG).



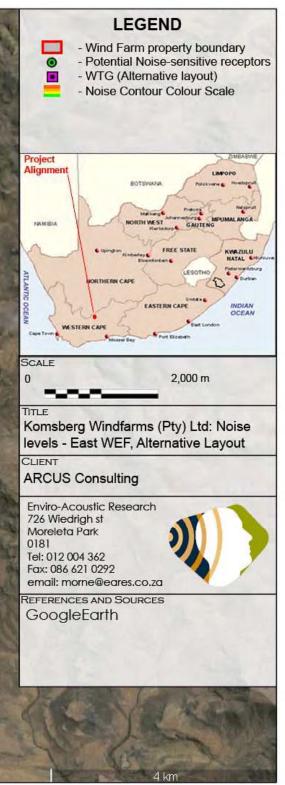




FIGURE 9.8: PROJECTED CONCEPTUAL NIGHT-TIME NOISE RATING LEVELS DURING OPERATION – PREFERRED LAYOUT (VESTAS WTG).

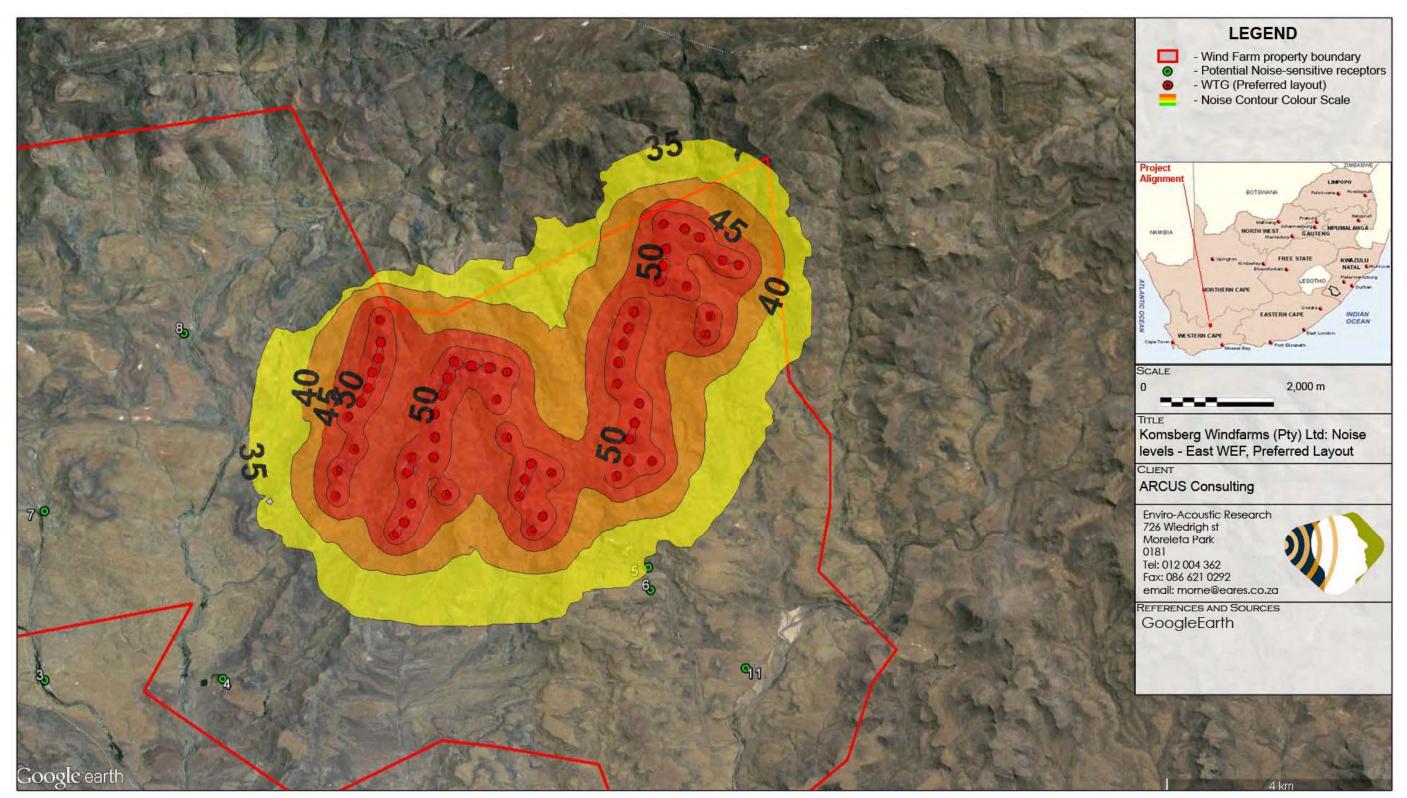
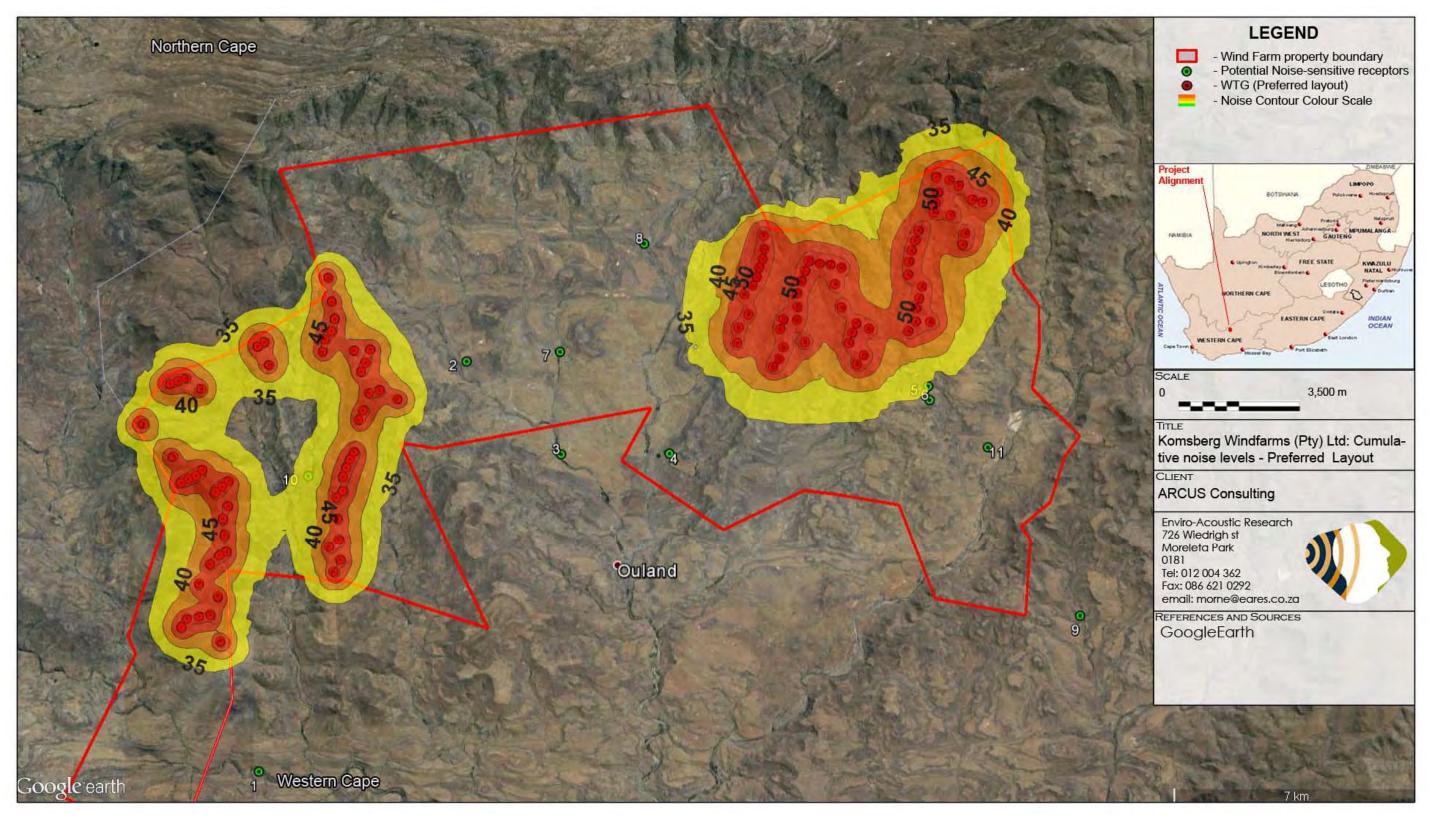


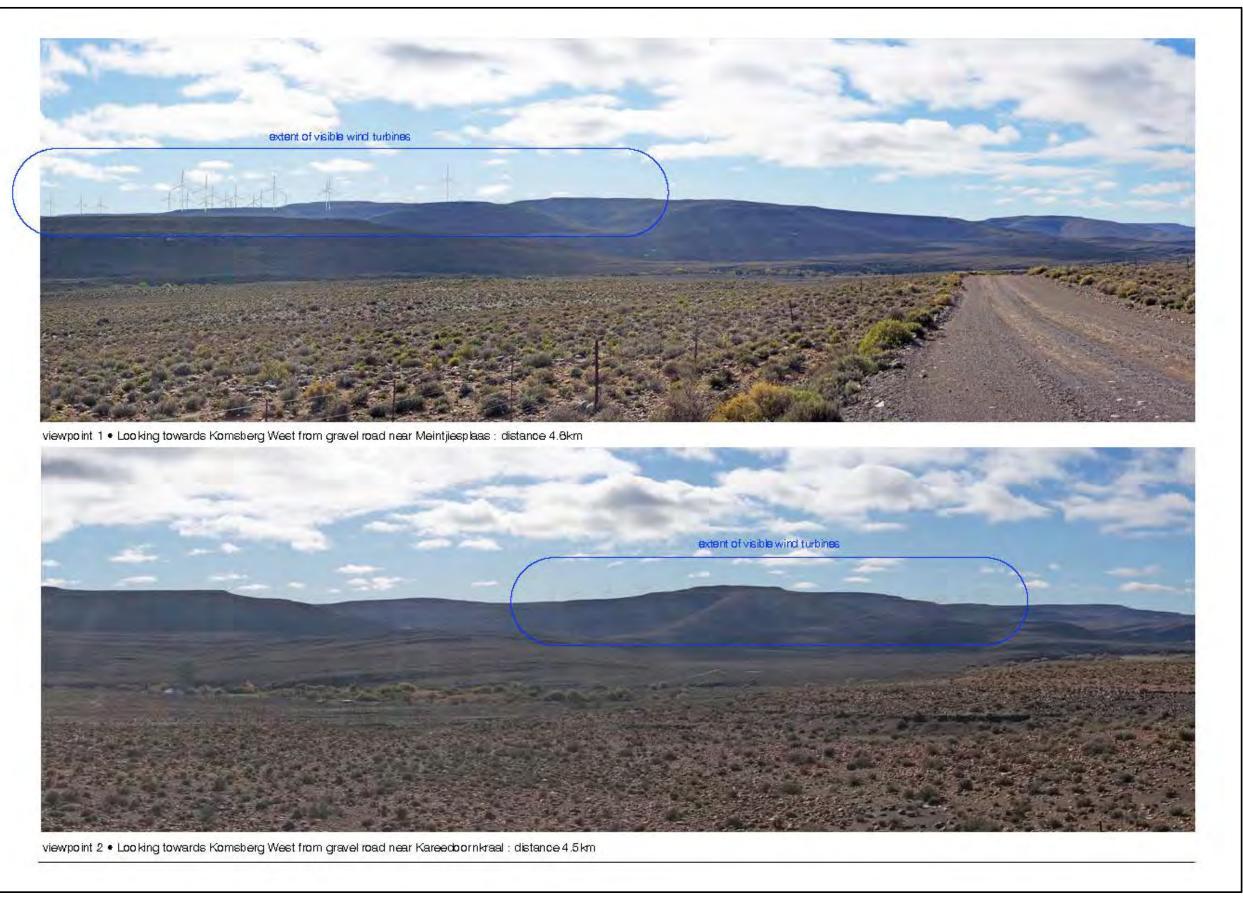


FIGURE 9.9: PROJECTED CONCEPTUAL NIGHT-TIME NOISE RATING LEVELS DURING OPERATION - CUMULATIVE EFFECTS - PREFERRED LAYOUT (VESTAS WTG).



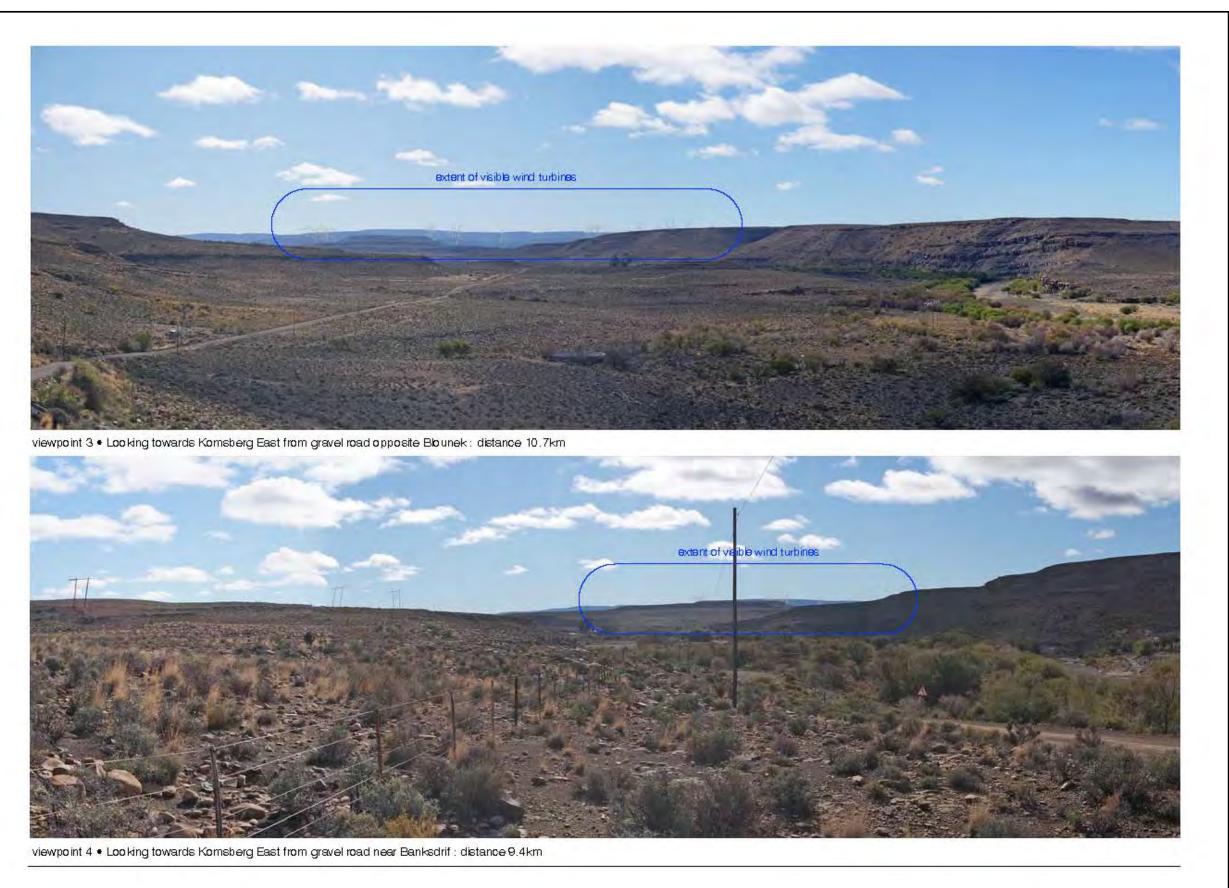


# FIGURE 9.10: PHOTOMONTAGES: VIEWPOINTS 1 AND 2.



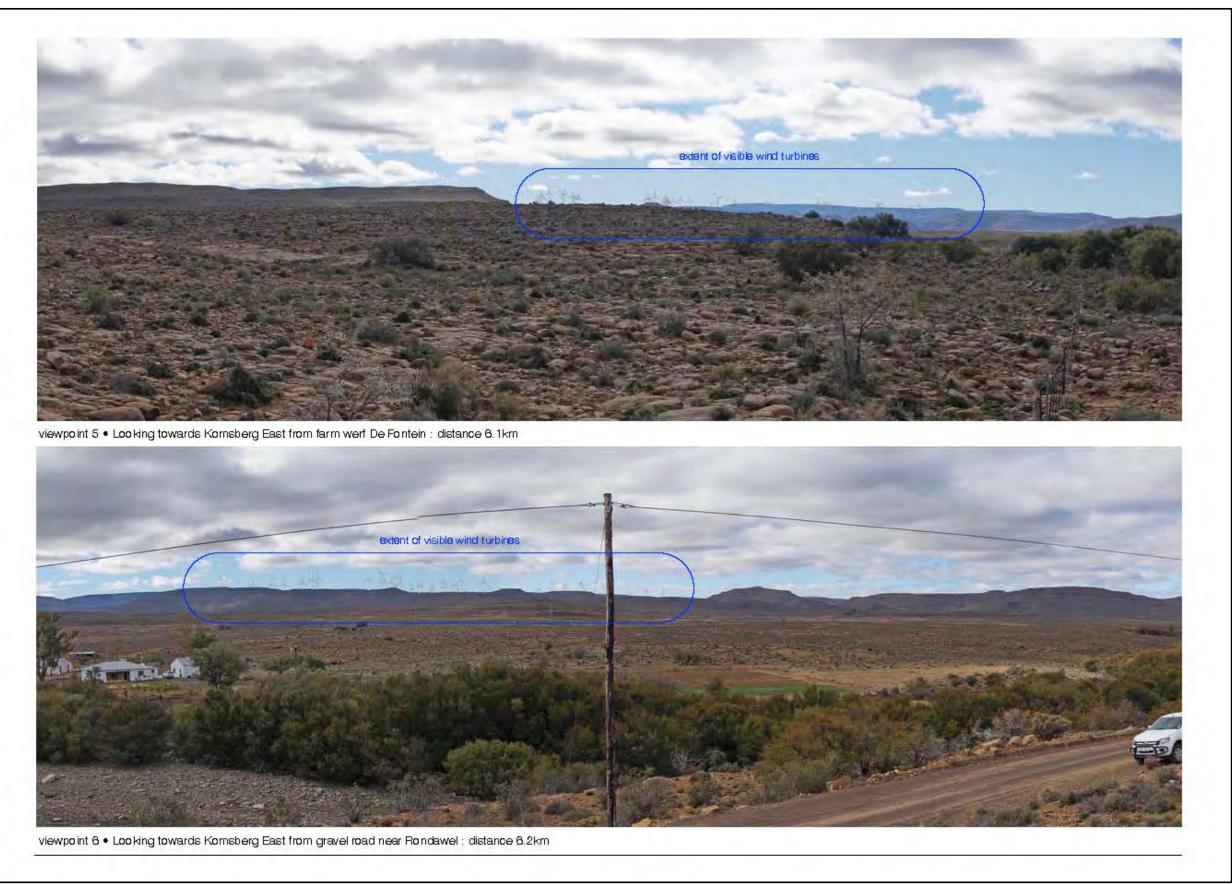


# FIGURE 9.11: PHOTOMONTAGES: VIEWPOINTS 3 AND 4.



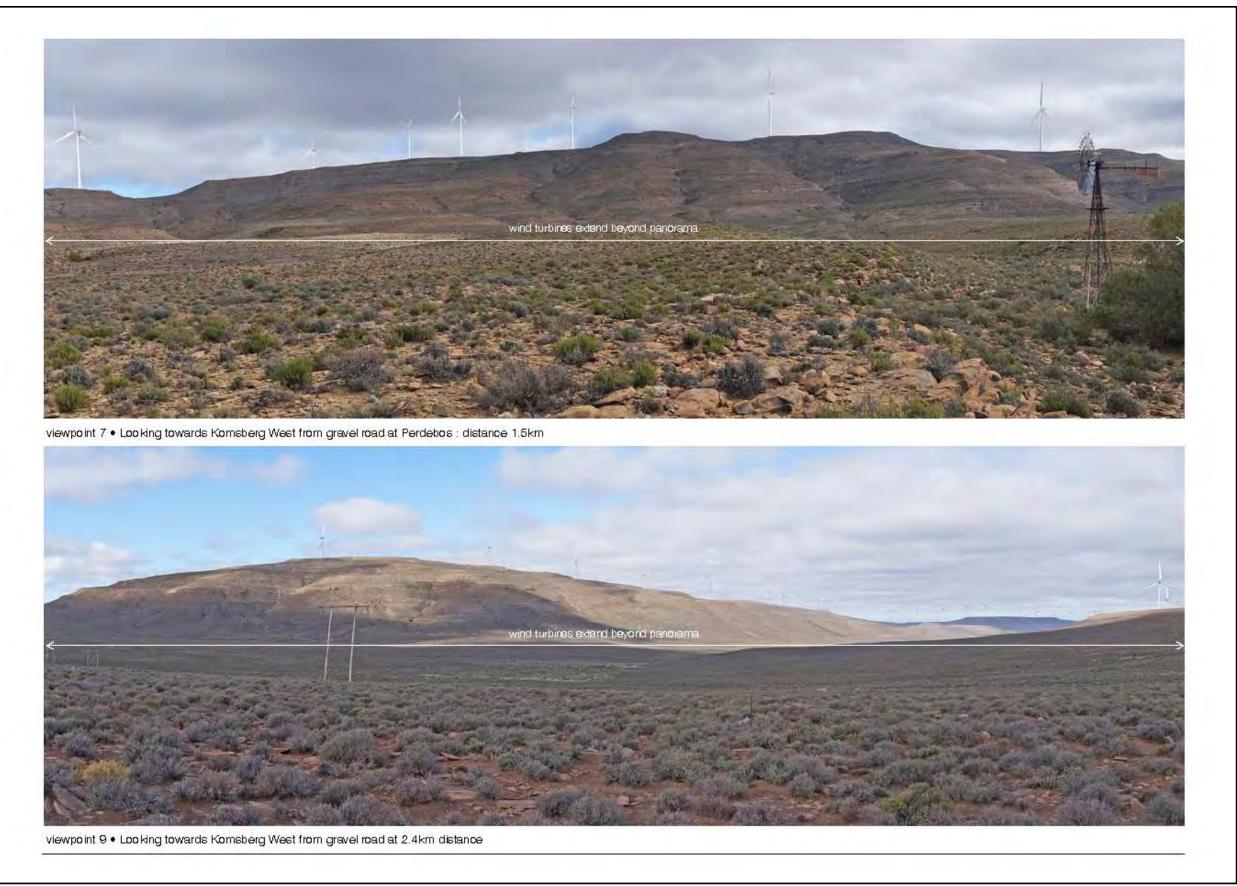


# FIGURE 9.12: PHOTOMONTAGES: VIEWPOINTS 5 AND 6.



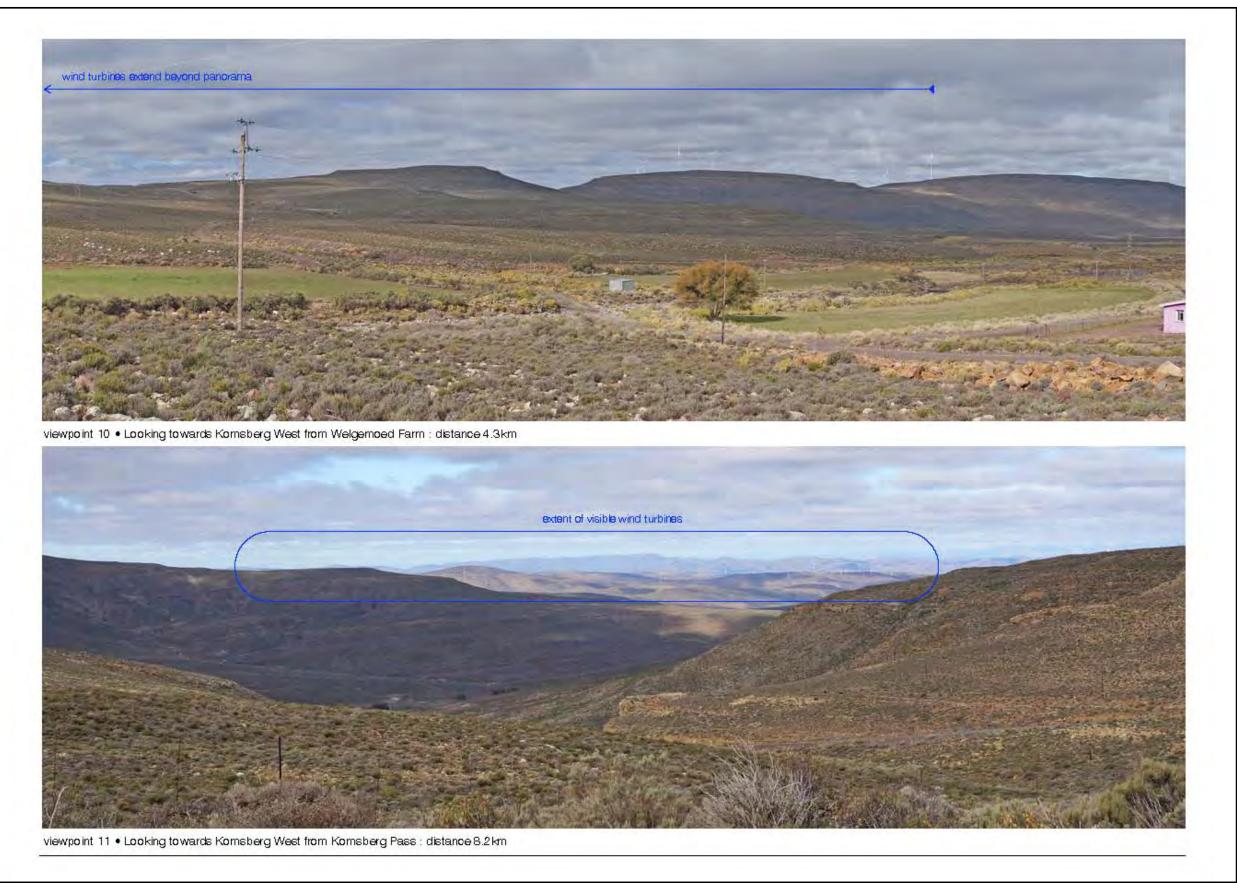


# FIGURE 9.13: PHOTOMONTAGES: VIEWPOINTS 7 AND 9.



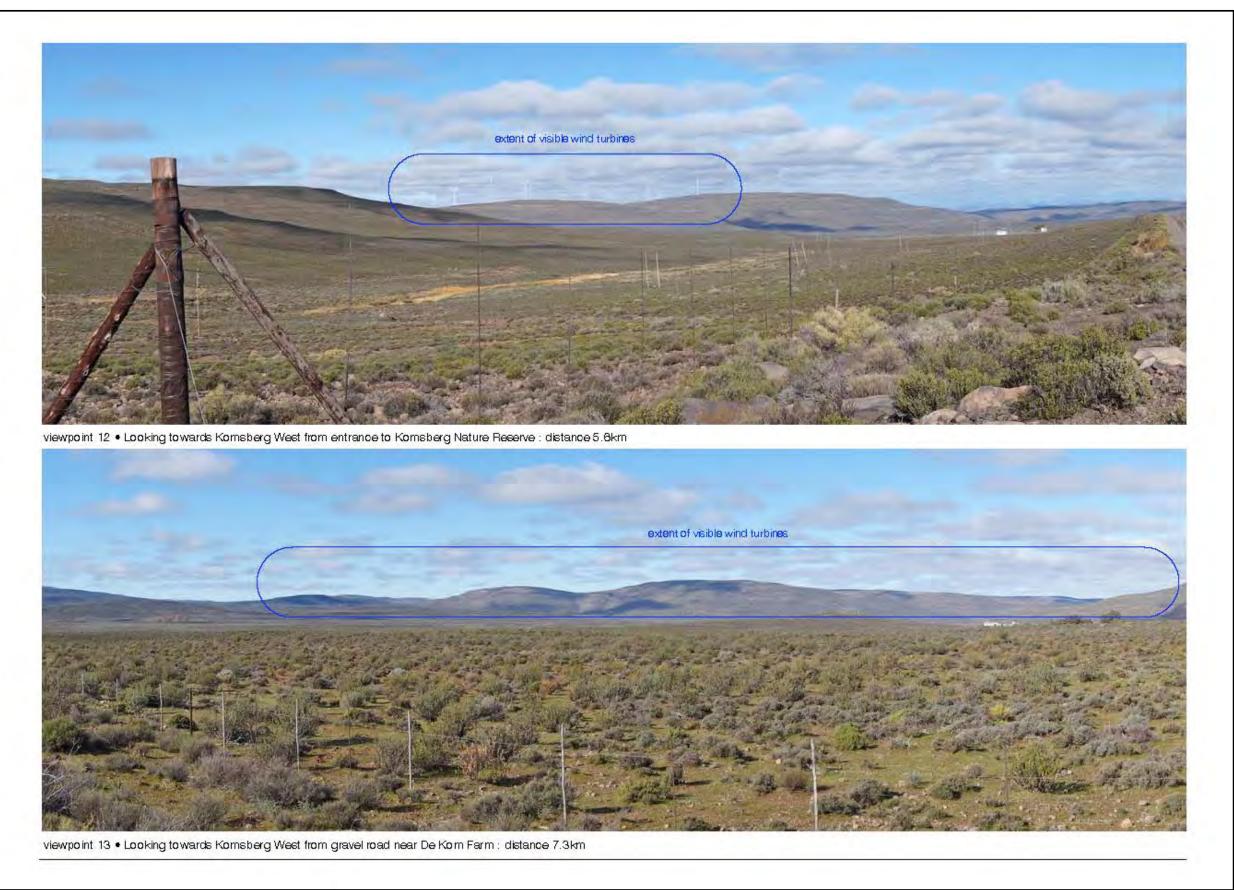


# FIGURE 9.14: PHOTOMONTAGES: VIEWPOINTS 10 AND 11.





# FIGURE 9.15: PHOTOMONTAGES: VIEWPOINTS 12 AND 13.



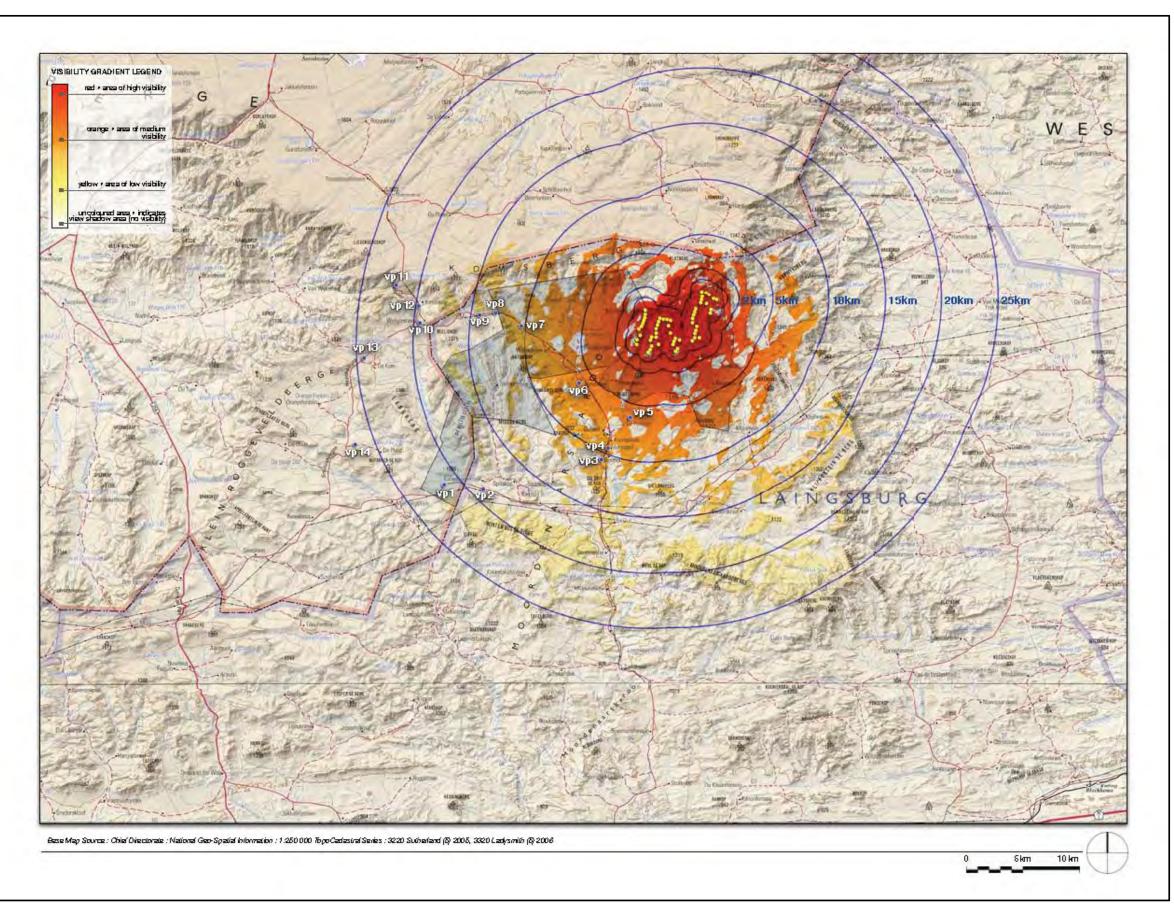


# FIGURE 9.16: PHOTOMONTAGES: VIEWPOINT 14.





### FIGURE 9.17: VISUAL EXPOSURE – VIEWSHED AND DISTANCE RADII.





### FIGURE 9.18: LOCAL CONTEXT – VIEWPOINTS AND DISTANCE RADII.

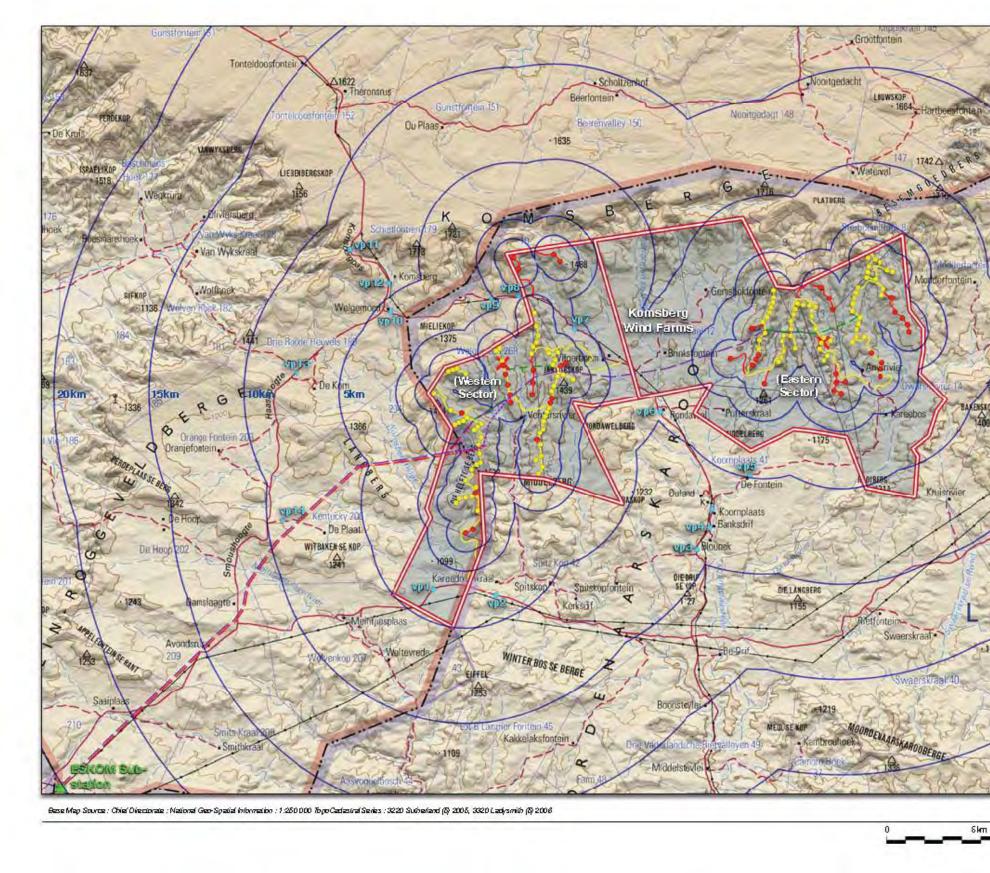
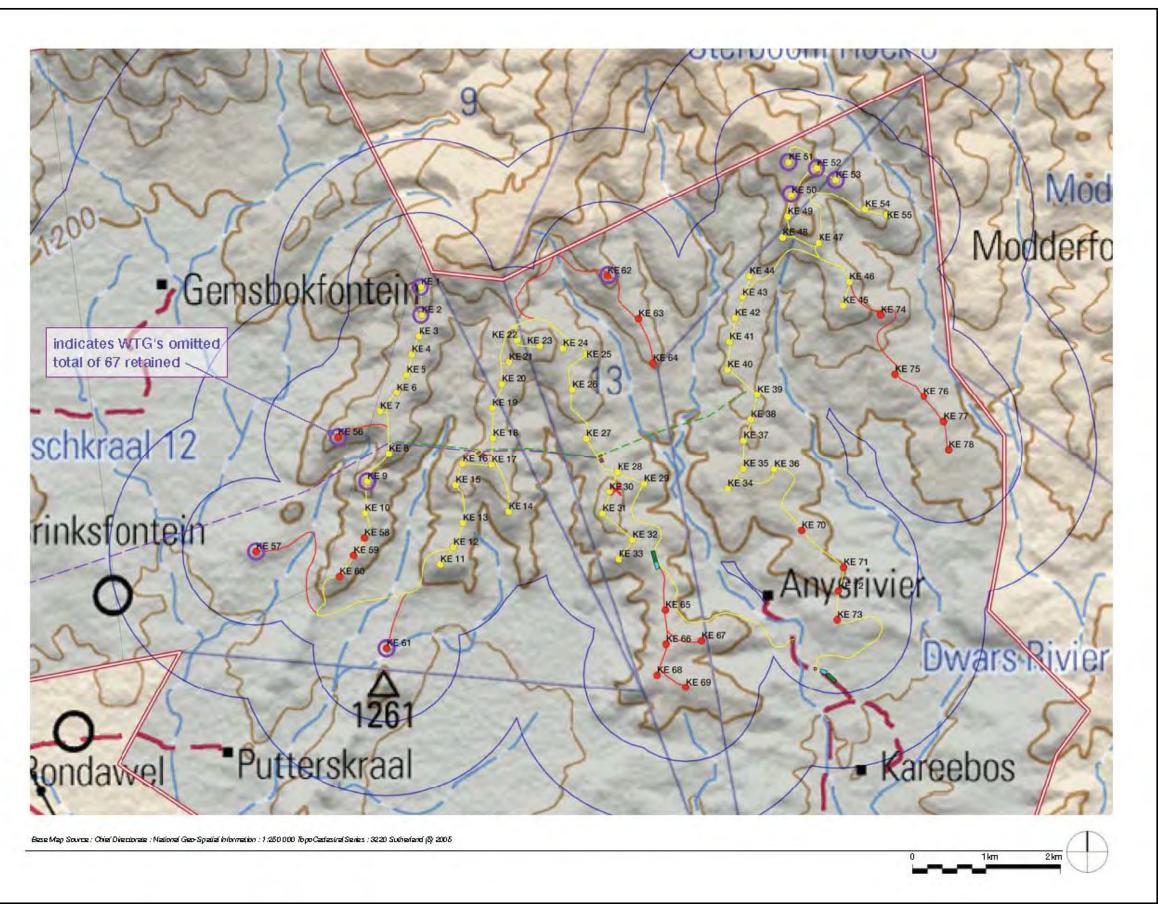




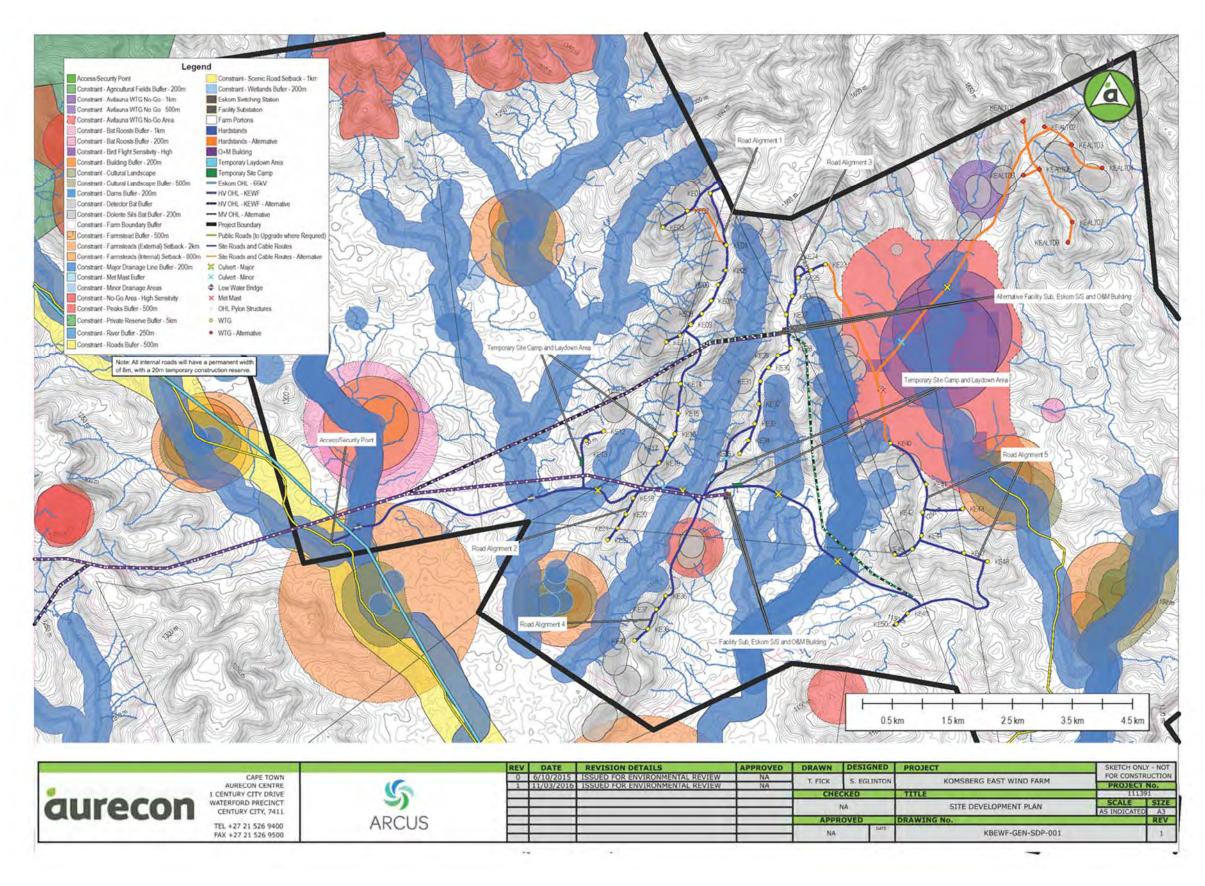


FIGURE 9.19a: PROPOSED AMENDED LAYOUT BASED ON VISUAL CONSTRAINTS (PREFERRED AND ALTERNATE LAYOUTS).



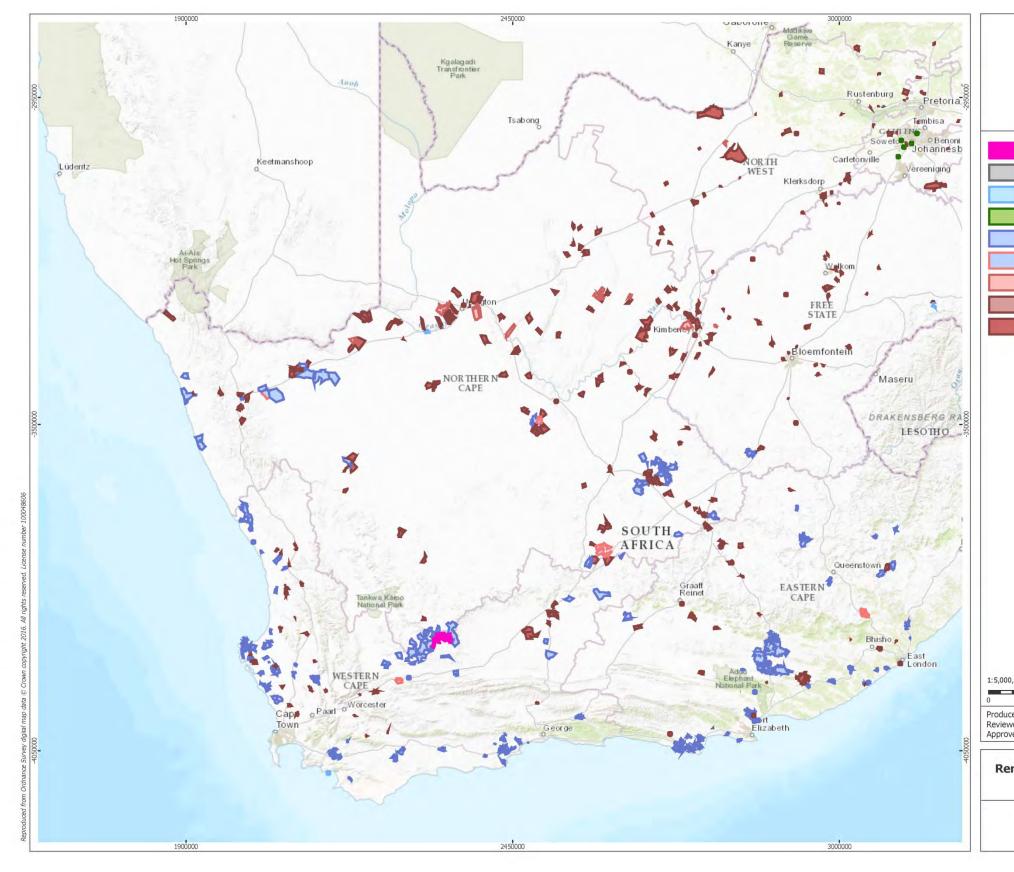


#### FIGURE 9.19b: FINAL LAYOUT DEPICTING RELOCATION OF TURBINES POST INPUT FROM VISUAL SPECIALISTS<sup>1</sup>





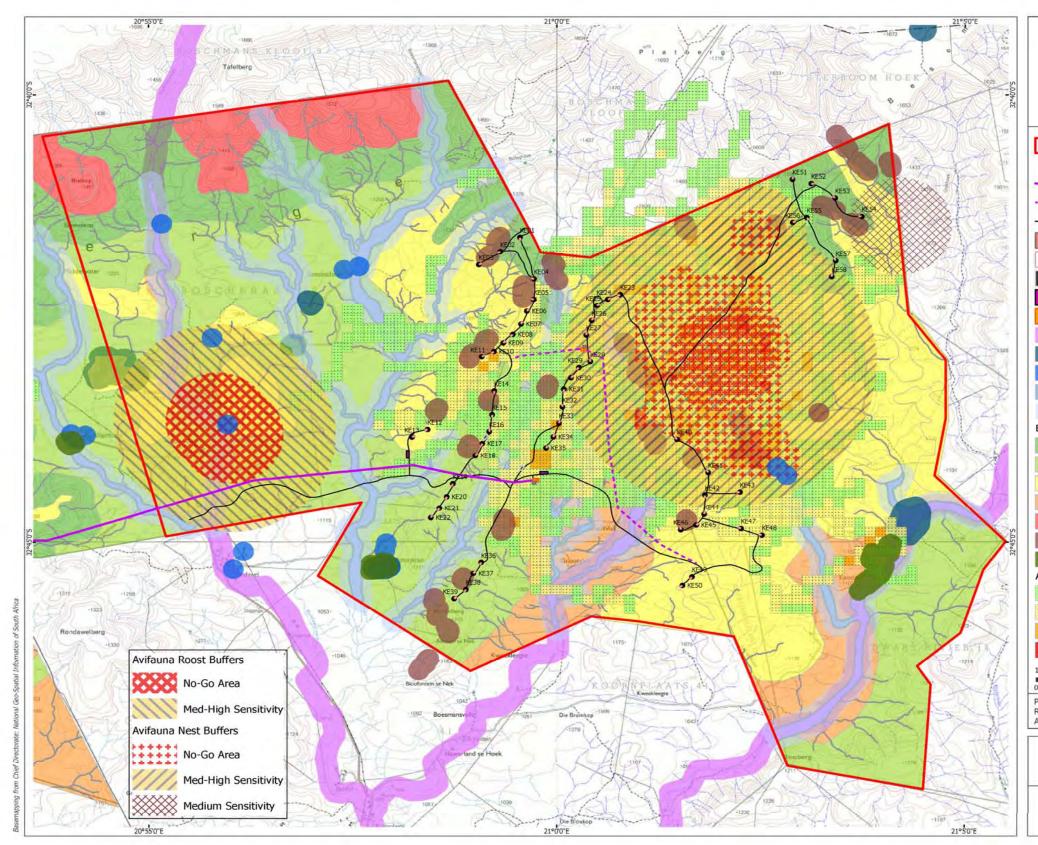
# FIGURE 9.20: DEA MAP INDICATING NUMBER OF RENEWABLE ENERGY APPLICATIONS 2015.



	٩	ARCUS	
	Komsberg W	EF Site	
	Co-Generatio	on	
	Hydro		
	Landfill Gas		
	Onshore Win	nd	
٦	Onshore Win	nd and Solar PV	
	Solar CSP		
	Solar CSP an	d PV	
	Solar PV		
,00	0 Scale @ A3	N	
	100	200 km	
ed:	SC : RMc	Ref: 2023/REP/034	
	: AB	Date: 31/03/2016	
newable Energy Applications in South Africa			
Komsberg East WEF EIA Report			



# FIGURE 9.21: OVERALL ENVIRONMENTAL SENSITIVITY MAP.



# S ARCUS

	Site Boundary		
•	Final Turbine Layout		
	132.00 kV HV Transmission Line		
	MV Overhead Transmission Line		
	Roads		
-	Building		
	Hardstand		
	Laydown Area		
	Site Camp		
	Substation		
	NFEPA River 250 m Buffer		
	NFEPA Wetlands 200 m Buffer		
	Farm Dam 200 m Buffer		
	Drainage Areas		
	Major Drainage Areas 200 m Buffer		
Ecologie	cal Sensitivity		
- 1)	High		
	Medium		
	Medium-High (Infrastructure Permissible)		
	Medium-Low		
	Very High		
	Potential Bat Roost 200 m Buffer		
1	Agricultural Fields 200 m Buffer		
Avifaun	al Sensitivity		
	Low		
	Medium		
	Medium/High (Infrastructure Permissible)		
	High (No-Go Area)		
:60,000	Scale @ A3		
	1 2 km		
Produced	d: SC		
Approved	d: AB Date: 12/04/2016		
	Overall Environmental Sensitivity		
	Komsberg East WEF EIA Report		



FIGURE 9.22: INFRASTRUCTURE LOCATIONS – LOCATIONS WHERE CONSTRUCTION ACTIVITIES MAY TAKE PLACE.

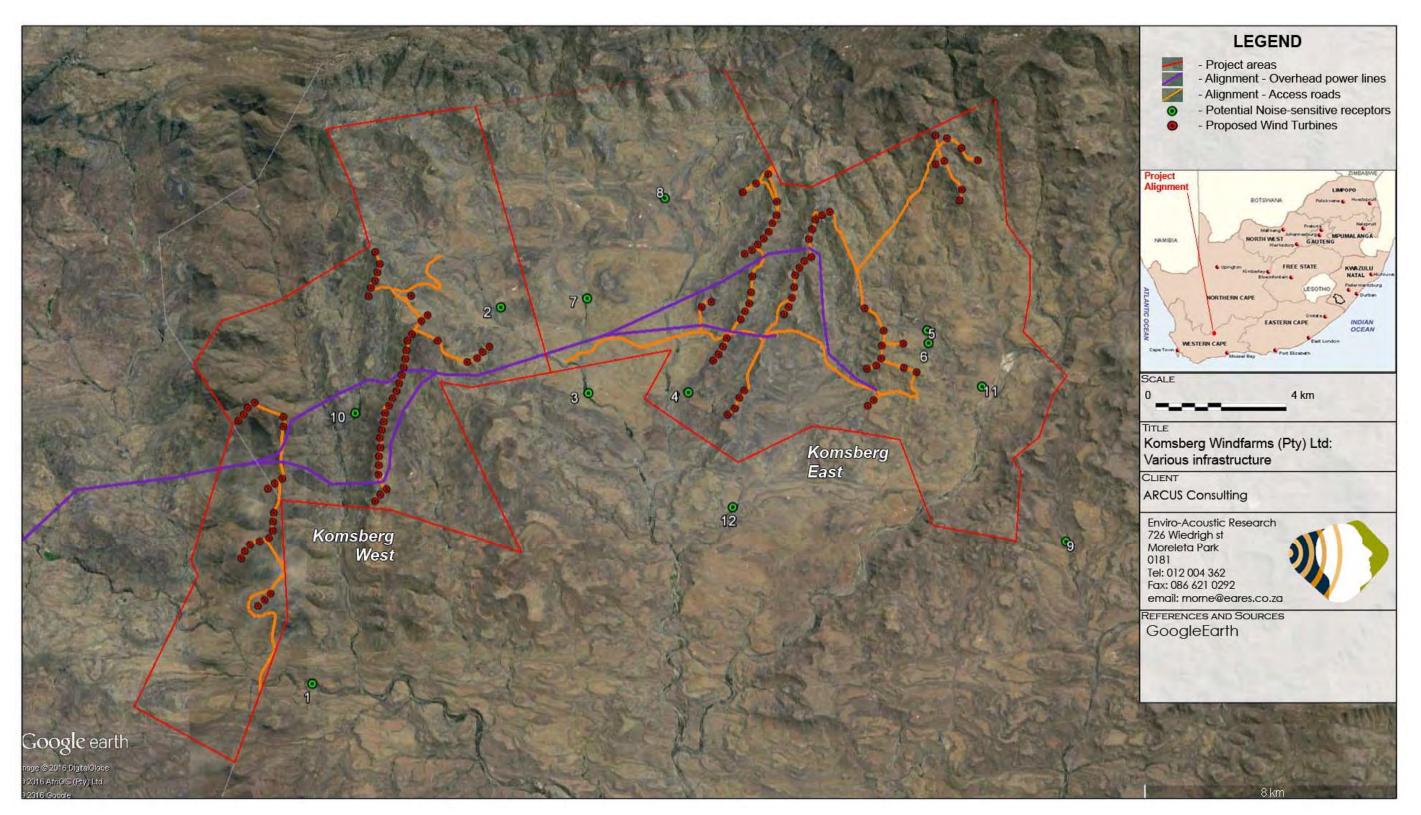
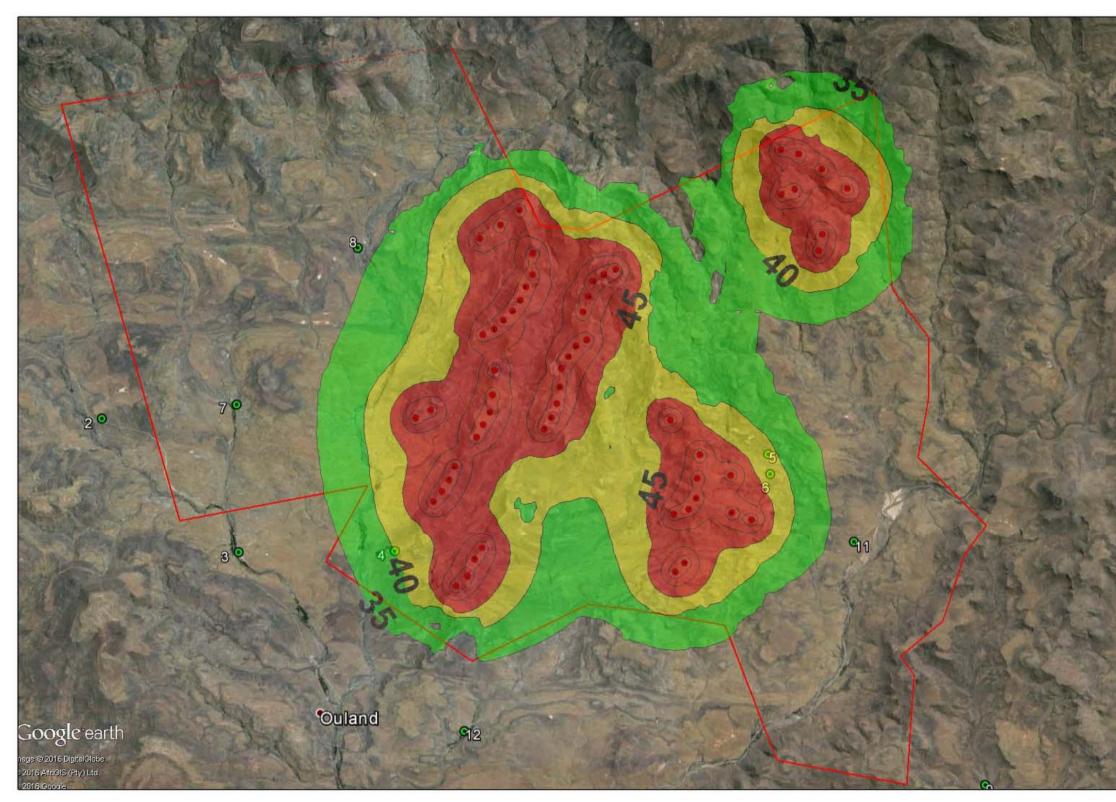




FIGURE 9.23: PROJECTED CONCEPTUAL NIGHT-TIME NOISE RATING LEVELS DURING OPERATION – EAST WEF (ACCIONA WTG).



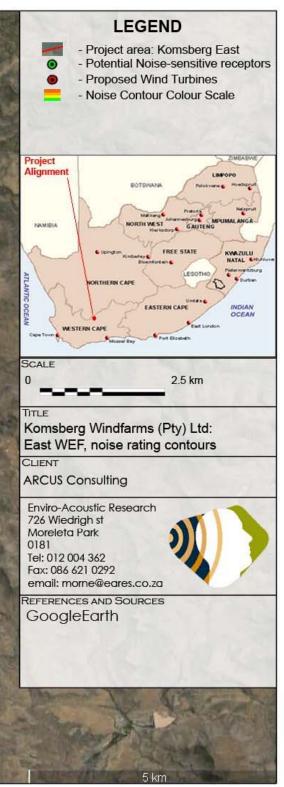




FIGURE 9.24: PROJECTED CONCEPTUAL NIGHT-TIME NOISE RATING LEVELS DURING OPERATION – KOMSBERG CUMULATIVE (ACCIONA WTG).

