## Impacts Identified in the BAR

				Constructio	on Phase							
		А	ternative 1	I - Substatio	on 1, Route	Option 1						
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence			
	Nature of impact:					Direct						
	Without Mitigation	1	1	0	1	2	Low	-				
	degree to which impact can be reversed:				Low							
construction of the	degree of impact on irreplaceable resources:		Low									
	Mitigation Measures	Du	Due to the low impact significance, mitigation measures are not considered to be necessary.									
	With Mitigation	1	1	0	1	2	Low	-				
	Nature of impact:					Direct						
	Without Mitigation	1	1	0	1	2	Low	-				
Disturbance to underlying neology for the	degree to which impact can be reversed:				Low							
Substation	degree of impact on				Low							
Substation	Mitigation Measures	Du	e to the low imp	act significance	, mitigation mea	asures are not co	onsidered to be necessa	ary.				
	With Mitigation	1	1	0	1	2	Low	-				
	Nature of impact:					Dircet						
	Without Mitigation	2	2	4	5	40	Medium	-	Medium			
availaihility for grazing	degree to which impact can be reversed:				Low							

being occupied by the transmission and substation infrastructure	degree of impact on irreplaceable resources:				Low					
substation initiastructure	Mitigation Measures	Areas of co	nstruction shou		ctical) limited t should be kept		the project footprint, an	d activities		
	With Mitigation	1	2	2	4	20	Low	-	Medium	
	Nature of impact:					Direct				
	Without Mitigation	2	2	4	3	24	Low	-	Medium	
Increased potential for soil erosion due to vegetation	reversed:				High					
clearance, soil disturbance and a high traffic movement onsite.	degree of impact on irreplaceable resources:	Low								
	Areas of construction should be (where practical) limited to the extent of the project footprint, and activities outside should be kept to a minimum. Traffic of construction vehicles should be kept to a minimum to reduce soil									
	With Mitigation	1	2	2	2	10	Low	-	Medium	
	Nature of impact:									
	Without Mitigation	2	2	2	2	12	Low	-	Medium	
Potential spillage of hazardous substances such as oils, fuel, grease from	degree to which impact can be reversed:	High								
construction vehicles, and sewage from on-site sanitation systems	degree of impact on irreplaceable resources:				Low					
samtation systems	Mitigation Measures						anding in storage areas c age of hazardous materia			
	With Mitigation	1	2	0	1	3	Low	-	Medium	
	Nature of impact:					Direct				
	Without Mitigation	2	2	4	4	32	Medium	-	Medium	
Alterations of flow regimes of watercourses, in close	reversed:				High					
proximity to the site, or that is proposed to be traversed.	degree of impact on irreplaceable resources:		Low							
Mitigation Measures  Construction of the powerlines should occur during the dry season and the site rehabilitated before major rain events occur. Powerlines must only cross perpendicular to a watercourse and the chosen alignment must										

	With Mitigation	2	2	2	3	18	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	4	4	32	Medium	-	Medium			
	degree to which impact can be reversed:				High							
Temporary degradation of wetland/riparian habitat	degree of impact on irreplaceable resources:		Low									
due to the proposedproposed positioning of the powerlines and pylons	iviltigation Measures	habitats potent freshwater spe functional asse freshwater hab habitats. A fres an in-depth site	tially affected by cialist to assess ssment should be itat assessment hwater habitat se walkover prior	y the site and po specific areas w be conducted sh must provide re specialist be pre	werlines. At this ithin the site. The ould BioTherm becommendation sent onsite during to assess the a	s stage design do herefore, a more be recognised as is in terms of py ing the constructive a for any wet	S and EcoServices) of freetails should be available in-depth and thorough a Preferred Bidder. The vlon positions in relation tion phase of the projec lands and watercourses	e allowing the freshwater e detailed to freshwater t, and conduct				
	With Mitigation	1	2	4	3	21	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	1	6	3	27	Low	-				
	degree to which impact can be reversed:		High									
	degree of impact on irreplaceable Low resources:											

Potential contamination of groundwater through	Mitigation Measures	<ul><li>Cement must</li><li>Any spilled or</li><li>Adequate abl</li></ul>	Il equipment that has the potential to spill or leak must have a drip tray underneath at all times.  ement must be mixed on an impermeable surface and not on the bare ground.  ny spilled or waste concrete onsite must be removed immediately and disposed of appropriately.  dequate ablution facilities must be placed onsite.  Il hazardous chemicals and materials must be stored within a lockable area on an impermeable surface.									
	With Mitigation	1	1	2	2		Low	-				
	Nature of impact:			ı		Direct	T	1				
	Without Mitigation	2	2	8	4	48	Medium	-				
	degree to which impact can be reversed:				Modera	te						
	degree of impact on irreplaceable resources:				Modera							
Impacts on vegetation and protected plant species	Mitigation Measures	are be avoided • Ensure that la transformed ar • Minimise the by the operatio • All roads built steep areas. • Preconstructi principles are a spills, avoiding • Demarcate al	reconstruction walk-though of the approved development footprint to ensure that sensitive habitats and species be avoided where possible.  Insure that lay-down and other temporary infrastructure is within low sensitivity areas, preferably previously insformed areas if possible.  Inimise the development footprint as far as possible and rehabilitate disturbed areas that are no longer required the operational phase of the development.  Ill roads built for construction should have water diversion and erosion control structures present, especially in ep areas.  In reconstruction environmental induction for all construction staff on site to ensure that basic environmental inciples are adhered to. This includes awareness as to no littering, appropriate handling of pollution and chemical list, avoiding fire hazards, minimizing wildlife interactions, remaining within demarcated construction areas etc.									
	With Mitigation	2	2	4	3	24	Low	-				
	Nature of impact:					Direct						

	Without Mitigation	2	2	4	3	24	Low	-	
	degree to which impact can be reversed:				Low				
	degree of impact on irreplaceable resources:				Low				
Impacts on Fauna due to constructtion activities	Mitigation Measures	During constr location by the     The illegal col Personnel shou     No fires shou     No fuelwood     No dogs or ca     If any parts of (such as most L     All hazardous accidental cher	uction any faun ECO or other sulection, hunting Id not be allowed Id be allowed w collection shoul ts should be allowed site such as con EDs), which do materials shoul	a directly threat itably qualified or harvesting o ed to wander off ithin the site as Id be allowed or owed on site appropriate instruction camponent attract insect Id be stored in the il spills that occur	ened by the corperson.  f any plants or a  the construction there is a risk of a-site.  art from that of as must be lit at a  its and which sho	nimals at the sit n site. runaway veld fin the landowners. night, this should ould be directed nanner to preve	ies should be remove e should be strictly for res. d be done with low-U	orbidden. V type lights the site. Any	
	With Mitigation	1	2	2	3	15	Low	-	
	Nature of impact:					Direct			
	Without Mitigation	2	2	8	4	48	Medium	-	
	degree to which impact can be reversed:				Moderate	e			
	degree of impact on irreplaceable resources:				Moderate	9			
Increased Soil Erosion risk during construction	Mitigation Measures	Roads should vegetation.     Disturbance r activities shoul     Regular moni     Erosion probl     Sediment trapresent during	have runoff cornear to drainage d demarcated astoring for erosic ems should be ros may be necesthe wet season.	lines should be s no-go areas. on problems alor ectified on a reg ssary to prevent	management inf avoided and ser ng the access ro- gular basis. erosion and soil	nsitive drainage ads and other cl	sent to limit erosion a areas near to the con	estruction her waste heaps	

	With Mitigation	2	2	2	3	18	Low	-					
	Nature of impact:					Direct							
	Without Mitigation	2	1	6	3	27	Low	-	Medium				
	degree to which impact can be reversed:				High								
	degree of impact on irreplaceable resources:				Low								
destruction and disturbance associated with the construction of the powerlines	Mitigation Measures	<ul> <li>Access to the species.</li> <li>Measures to one of the species.</li> <li>Maximum use minimum as faired.</li> <li>The recommendation of the species.</li> </ul>	uction activity should be restricted to the immediate footprint of the infrastructure. to the remainder of the site should be strictly controlled to prevent unnecessary disturbance of priority res to control noise and dust should be applied according to current best practice in the industry. um use should be made of existing access roads and the construction of new roads should be kept to a n as far as practical. commendations of the ecological and botanical specialist studies must be strictly implemented, especially limitation of the construction footprint and rehabilitation of disturbed areas is concerned.										
	With Mitigation	2	1	4	2	14	Low	-	Medium				
	Nature of impact:		Direct										
	Without Mitigation	1	1	4	3	18	Low	-	Medium				
Displacement of Red Data	degree to which impact can be reversed:		High										
avifauna duo to habitat	irreplaceable				Low								
disturbance associated with the construction of the substation	Mitigation Measures	<ul><li>Access to the species.</li><li>Measures to one Maximum use minimum as fair</li></ul>	remainder of the control noise and should be mader as practical.	d dust should be	e strictly controll e applied accord cess roads and th	led to prevent uling to current k	infrastructure.  Innecessary disturbance  Dest practice in the indust  of new roads should be  t be strictly implemente	stry. kept to a					
	With Mitigation	1	1	2	3	12	Low	-	Medium				
	Nature of impact:					Direct							
	Without Mitigation	4	5	8	2	34	Medium	-	Medium				

	degree to which impact can be reversed:		Low									
archaeological sites during	degree of impact on irreplaceable resources:				High							
the construction of the powerlines		area; • If any high conotified;	ncentrations of remains are und	archaeological r	naterial, such as	stone artefacts	on 1 and must be declar are recovered, HWC m	ust be				
	With Mitigation	4										
	Nature of impact:		Direct									
	Without Mitigation	4										
	degree to which impact can be reversed:				Low							
Physical disturbance of archaeological sites during	degree of impact on irreplaceable resources:				Moderate							
the construction of Substation 1		<ul><li>A 20m buffer area;</li><li>If any high conotified;</li></ul>	must be placed ncentrations of remains are unc	around the colo	nel ruins identif naterial, such as	ied at Substationstations stone artefacts for pylons, work	mage to the colonel ruir in 1 and must be declare are recovered, HWC m	ed a "No-Go" ust be				
	With Mitigation	4	1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									
	Nature of impact:					Direct						
	Without Mitigation	1	5	2	2	16	Low	-	Medium			
	degree to which impact can be reversed:		Low									

Physical disturbance of palaeontological sites	degree of impact on irreplaceable resources:				Low								
	Mitigation Measures	bones, teeth, for safeguarding followed by report Recording an	onitoring of all surface clearances and substantial excavations (>1m deep) by the ECO for fossil material (e.g. es, teeth, fossil wood) on an on-going basis during the construction phase. feguarding of chance fossil finds (preferably in situ) during the construction phase by the responsible ECO, bwed by reporting of finds to Heritage Western Cape. ecording and judicious sampling of significant chance fossil finds by a qualified palaeontologist, together with the inent contextual data.										
	With Mitigation	1	5	2	1	8	Low	-	Medium				
	Nature of impact:					Direct							
	Without Mitigation	2	2	6	4	40	Medium	-	Medium- High				
	degree to which impact can be reversed:	High- The v	The visual impact can be completely reversed if vehicles, equipment, rubble and any other construction materials are removed after construction.										
Visual impact during construction due to dust,	degree of impact on irreplaceable resources:	I	Low- Dust and equipment are not likely to impact on any irreplaceable visual resources.										
vehicles and equipment	Mitigation Measures	conditions.  • The building s	The handling and transportation of materials which may generate dust must be avoided during high wind onditions. The building site and construction facilities must be well maintained and strictly controlled. Dust and Litter control measures must be included in the EMPr.										
	With Mitigation	2	2	4	3	24	Low	-	Medium- High				
	Nature of impact:					Direct			, ,				
	Without Mitigation	2	2	4	4	32	Medium	-	Medium- High				
Visual impact during construction due to	degree to which impact can be reversed:		High- The visu	ual impact can l	pecompletely re	versed, if veget	ation is rehabilitated.						
vegetation clearing	degree of impact on irreplaceable resources:					e can be re-estal							
	Mitigation Measures	• The constructive vegetation.	·	ust be kept as s	mall as possibk	e, to avoid unne	ccessary disruption to th	e existing					
	With Mitigation	2	2	4	3	24	Low	-	Medium- High				

	Without Mitigation	2	1	2	3	15	Low	-		
	degree to which impact can be reversed:				Low					
Increased traffic generation around the study area by	degree of impact on irreplaceable resources:				Low					
onstruction vehicles  The posted speed limit on the R354 in the vacinity of the proposed development is currently 120km/h. it is suggested that the speed limit should be reduced in advance of the intersection with the access road.  intersection warning signs should be erected either side of the access road in accordance with the requirement the South African Road Traffic Signs Manual.  Construction vehicles should only use the roads during the daylight hours. no construction vehicles should be operational from 6pm- 6am.										
	With Mitigation	2	1	2	2	10	Low	-		
	Nature of impact:			T	T	Direct	Т	1	T	
	Without Mitigation	2	2	4	4	32	Medium	-	High	
Acoustic impact on	degree to which impact can be reversed:				High					
residential receptors	degree of impact on irreplaceable resources:				None					
	Mitigation Measures						at activities witj the grea east disturbance.	atest potential		
	With Mitigation	2	2	4	3	24	Low	-	High	
	Nature of impact:					Direct				
	Without Mitigation	3	2	4	3	27	Low	+	Medium	
Increase in employment	degree to which impact can be reversed:	None								
opportunities	degree of impact on irreplaceable resources:				None					
	Mitigation Measures	Appointment of local contractors; Employment of local labour as far as possible, particularly semi-skilled and unskilled opportunities;								

	With Mitigation	3	2	4	4	36	Medium	+	Medium			
	Nature of impact:					Indirect						
	Without Mitigation	2	2	6	3	30	Low	-	Medium			
Disruption through influx of	degree to which impact can be reversed:	N	ledium - difficul	t to manage or o	control influx of	job seekers and	associated local impact	S				
job seeks	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures						nent, engage with local n by contractors/develop					
	With Mitigation	2	2	6	2	20	Low	-	Medium			
	Nature of impact:		1	1	l	Indirect			1			
	Without Mitigation	2	2	6	3	30	Low	-	Medium			
Increase in communicable	degree to which impact can be reversed:	Medium - diffi	icult to manage	or control comr	nunicable disea	se which could p	permanently impact loca	l populations				
diseases and reduced public health	degree of impact on irreplaceable resources:		High									
	Mitigation Measures	Developme	Development of a labour force Health and Safety Plan, HIV/AIDS awareness, prevention and testing campaign									
	With Mitigation	2	2	6	2	20	Low	1	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	4	3	24	Low	-	Medium			
	degree to which impact can be reversed:	Medium - ir	mplementation (	of EMPr measur	es to reduce no negate comp		ffic related impacts, but	unlikely to				
Nuisance from noise, dust and traffic disturbances	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	Air quality, no	ise and traffic re	elated mitigation	n measures reco the EMP		ne relevant specialists an	nd included in				
	With Mitigation	2	2	2	2	12	Low	-	Medium			
	Nature of impact:		l	l	l.	Indirect			l			
	Without Mitigation 2 2 6 3 30 Low - Med											

	degree to which impact can be reversed:	Hi	High - provision of compensation to farmers for damage to infrastructure, stock theft, etc.									
Increased risk to neighbouring land users	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures						he contractor; Contrac ed to construction wor					
	With Mitigation	2	2	4	3	24	Low	-	Medium			
	Nature of impact:		Direct									
	Without Mitigation	2	2 2 6 4 40 Medium - Medium									
Increased risk of veld fires	degree to which impact can be reversed:		High - provision of compensation to farmers for losses resulting from veld fires									
increased risk of veid files	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures		nplementation of EMPr i.e. mitigation in respect of construction phase activities that may pose a fire risk (i.e. no pen fires allows on site for cooking/heating; activities that pose a fire risk to be property managed and confined to									
	With Mitigation	2	2	4	3	24	Low	-	Medium			
				Powerline	- No-Go							
Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence			
	Nature of impact:					Direct			_			
	Without Mitigation	1	1	0	1	2	Low	+	Medium			
	degree to which impact can be reversed:	N/A										
protected plant species	degree of impact on irreplaceable resources:				N/A							
	Mitigation Measures	N/A										
	With Mitigation											

	Nature of impact:					Direct				
	Without Mitigation	1	1	0	1	2	Low	+	Medium	
Faunal impacts due to	degree to which impact can be reversed:				N/A					
construction activities	degree of impact on irreplaceable resources:				N/A					
	Mitigation Measures				N/A					
	With Mitigation Nature of impact:					Direct				
	Without Mitigation	1	1	0	1	2	Low	+	Medium	
Increased Soil Erosion risk	degree to which impact can be reversed:				N/A					
during construction	degree of impact on irreplaceable resources:	ble N/A								
	Mitigation Measures				N/A					
	With Mitigation					Direct				
	Nature of impact:					Direct				
	Without Mitigation									
The no-go option will result in no additional impacts on avifauna and will maintain	degree to which impact can be reversed:				N/A					
the current ecological integrity	degree of impact on irreplaceable resources:				N/A					
	Mitigation Measures				N/A					
	With Mitigation									
	Nature of impact:					Direct				
	Without Mitigation	2	5	2	5	45	Medium	-	Medium	

	degree to which				N/A							
Loss of employment and local economic development	degree of impact on irreplaceable resources:		N/A									
	Mitigation Measures				None							
	With Mitigation	3	5	2	5	50	Medium	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	5	2	5	45	Medium	+				
Maintenance of the existing	degree to which				Direct							
landscape and sense of place	degree of impact on irreplaceable resources:				N/A							
	Mitigation Measures				None							
	With Mitigation	2	5	2	5	45	Medium	+	Medium			

# {insert specialist filed here}

				Operation	al Phase				
		А	Iternative <sup>*</sup>	1- Substati	on 1, Route	Option 1			
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence
	Nature of impact:					N/A			_
	Without Mitigation								
	degree to which impact can be reversed:								
geology	degree of impact on irreplaceable resources:								
	Mitigation Measures								
	With Mitigation								
	Nature of impact:					Direct			
	Without Mitigation	2	4	4	5	50	Medium	-	Medium
Reduction in land	degree to which impact can be reversed:				Medium				
animals due to theland being occupied by the	degree of impact on irreplaceable resources:				Low				
substation infrastructure	IIV/IIII AATIAN IV/IAACI IRAC		substation Infra site should be k			he extent of th	e project footprint, and	d activities	

	With Mitigation	1	4	2	3	21	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	4	4	3	30	Low	-	Medium			
Vegetation cleared for	degree to which impact can be reversed:				High							
powerlines and substation, soil disturbance and stockpiles, and increased	degree of impact on irreplaceable resources:				Low							
traffic movement on site, resulting in a higher potential for soil erosion.	Mitigation Measures	outside of the s reduce soil con appropriately s action is consid	of disturbance should be (where practical) limited to the extent of the project footprint, and activities e of the site should be kept to a minimum. Traffic of maintenance vehicles should be kept to a minimum to soil compaction, and limited to existing roadways where practical. Long term soil stockpiles should be briately stored with the use of vegetation cover. Wind erosion is dominant for the region. Water erosion is considered limited, however backfilling with soil and use of gabions or Reno Mattresses should be used evidence of erosion is present.									
	With Mitigation	1	2	2	2	10	Low	-				
	Nature of impact:											
	Without Mitigation	2	4	2	2	16	Low	-	Medium			
Potential spillage of	degree to which impact can be reversed:		High									
hazardous substances such as oils, fuel, grease from maintenance vehicles.	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	· · · · · · · · · · · · · · · · · · ·		ages are possib		unding around	anding in storage areas storage of hazardous ma es.					
	With Mitigation	1	4	0	1	5	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	5	4	4	44	Medium	-	Medium			
Alterations of flow regimes	degree to which impact can be reversed:				High							

proximity to the site, or that is proposed to be traversed.	degree of impact on irreplaceable resources:				Low					
ti avei seu.	Mitigation Measures	span across the	e watercourse i as possible). Th	s minimalised to	restrict the nur	mber of pylons v	lignment must endeavo within a system (which sositioned above the 1:1	should be		
	With Mitigation	2	1	2	2	10	Low	-	Medium	
	Nature of impact:					Not Applicable				
	Without Mitigation									
Permanent degradation of wetland/riparian habitat due to the	impact can be reversed:									
proposedproposed positioning of the powerlines and pylons	degree of impact on irreplaceable resources:									
	Mitigation Measures									
	With Mitigation									
	Nature of impact:					Direct				
	Without Mitigation	2	5	2	3	27	Low	-		
	degree to which impact can be reversed:				High					
groundwater through leaks	degree of impact on irreplaceable resources:				Low					
or spills of oil, grease or fuel.	Mitigation Measures	All equipment that has the potential to leak oil or fuel must be placed under a drip tray. Vehicles associated with the maintenace activities are to be serviced and kept in good working order.								
	With Mitigation	1	5	0	2	12	Low	-		
	Nature of impact:					Direct				

	Without Mitigation	2	5	4	3	33	Medium	-				
	degree to which impact can be reversed:				Moderate	e						
Previously disturbed areas	degree of impact on irreplaceable resources:				Moderate	е						
will remain vulnerable to erosion for some time into the operational phase	Mitigation Measures	<ul><li>All roads and dissipate any e</li><li>Regular moni of the disturba</li><li>All erosion pr</li></ul>	sion problems observed should be rectified as soon as possible, using the appropriate erosion control as and revegetation techniques.									
	With Mitigation	2	2	4	3	24	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	4	4	3	30	Low	-	Medium			
	degree to which impact can be reversed:				Moderate	е						
Previously disturbed areas will remain vulnerable to	degree of impact on irreplaceable resources:				Moderate							
alien plant invasion for some time	Mitigation Measures	natural regene • Due to the di plant species a implemented. rapidly if not co • Regular moni runoff from the	Wherever excavation is necessary, topsoil should be set aside and replaced after construction to encourage atural regeneration of the local indigenous species.  Due to the disturbance at the site as well as the increased runoff generated by the hard infrastructure, alien lant species are likely to be a long-term problem at the site and a long-term control plan will need to be increase apidly if not controlled.  Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive unoff from the facility as there are also likely to be prone to invasion problems.									
	With Mitigation	1	4	2	2	14	Low					
	Nature of impact:		Direct									

	Without Mitigation	3	4	10	4	68	High	-	Medium				
Collisions of Red Data avifauna with the	degree to which impact can be reversed:				Low								
earthwire of the proposed 132kV powerlines	degree of impact on irreplaceable resources:				High								
	Mitigation Measures				vifaunal speciali e mitigated with		le positions have been o erters (BFDs).	determined, to					
	With Mitigation	3	4	10	3	51	Medium	-	Medium				
	Nature of impact:		Direct										
	Without Mitigation	3	4	0	1	7	Low	-	Medium				
	degree to which impact can be reversed:		High Low										
Electrocution of Red Data avifauna	degree of impact on irreplaceable resources:												
	Mitigation Measures	No mitiga	No mitigation is required due to the low risk of electrocution posed by the steel monopole double circuit structures										
	With Mitigation	3	4	0	1	7	Low	-	Medium				
	Nature of impact:		-	-	1	Direct			!				
	Without Mitigation	3	4	0	1	7	Low	-	Medium				
Electrocution of Red Data avifauna in the substation	degree to which impact can be reversed:				High								
yard	degree of impact on irreplaceable resources:												
	Mitigation Measures		ne hardware within the substation yard is too complex to warrant any mitigation for electrocution at this stage. It is recommended that if on-going impacts are recorded once operational, site specific mitigation be applied										
	With Mitigation	3	4	0	1	7	Low	-	Medium				
	Nature of impact:					Not Applicable							

	Without Mitigation									
Physical disturbance of archaeological sites	degree to which impact can be reversed: degree of impact on									
aronasorogical sites	irreplaceable resources:									
	Mitigation Measures									
	With Mitigation					Not Applicable				
	Nature of impact: Without Mitigation					Пот Аррисаые				
Physical disturbance of	degree to which impact can be reversed:									
palaeontological sites	degree of impact on irreplaceable resources:									
	Mitigation Measures									
	With Mitigation									
	Nature of impact:					Direct			_	
	Without Mitigation	2	5	2	2	18	Low	-	Medium	
Intrusion on sense of place	degree to which impact can be reversed:	Low- The visua	al impact can be	•	ersed after clos regetation rehal	•	power infrastructure is	s removed and		
and rural landscape	on sense of place									
Mitigation Measures  Natural Vegetation must be re-established on disturbed areas after construction. Roads should be appropriately stabilised to avoid erosion and visual scars. Ensure all structures are well maintained.										
	With Mitigation	2	5	2	2	18	Low		Medium	
	Nature of impact:					Direct				
	Without Mitigation	2	5	2	3	27	Low	-		

Visual impact of transmission lines and	degree to which impact can be reversed:	Low- The visua	al impact can be	, ,	ersed after clos regetation rehab	,	power infrastructure is	s removed and				
power tower	degree of impact on irreplaceable resources:	L	Low-No impact on irreplaceable resource, if landforms remain unaffected as proposed.									
	Mitigation Measures						ction. Roads should be es are well maintained.	appropriately				
	With Mitigation	2	5	2	3	27	Low	-				
	Nature of impact:					Direct						
	Without Mitigation	2	1	2	2	10	Low	-				
Increased traffic generation around the	eration around the reversed:											
study area by maintenance vehicles degree of impact on irreplaceable resources:												
	Mitigation Measures		ne posted speed limit on the R354 in the vacinity of the proposed development is currently 120km/h. it is gested that the speed limit should be reduced in advance of the intersection with the access road.									
	With Mitigation	2	1	2	2	10	Low	-				
	Nature of impact:					Not Applicable			_			
	Without Mitigation											
Acoustic impact on	degree to which impact can be reversed:											
residential receptors	degree of impact on irreplaceable resources:											
	Mitigation Measures											
	With Mitigation											
	Nature of impact:					Direct						
	Without Mitigation	2	4	4	4	40	Medium	-	Medium			
Change in sense of place	degree to which impact can be reversed:		High - removal of the proposed infrastructure									

опануе ін зензе огріасе	degree of impact on irreplaceable resources:		Low									
	Mitigation Measures		Implementati	on of recomme	ndations contair	ned in the Visu	al Impact Assessment					
	With Mitigation	2	4	4	4	40	Medium	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	4	4	8	5	80	High	-	Medium			
Evacuation of power	degree to which impact can be reversed:				N/A							
Evacuation of power	degree of impact on irreplaceable resources:				N/A							
	Mitigation Measures				N/A							
	With Mitigation	4	4	8	5	80	High	-	Medium			
				Powerline	- No-Go							
Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		ignificance ·(E+D+M)*P)	Status (+ve or -ve)	Confidence			
	Nature of impact:					Direct						
	Without Mitigation	1	1	0	1	2	Low					
will remain vulnerable to	reversed:				N/A							
erosion for some time into the operational phase.	degree of impact on irreplaceable resources:				N/A							
	Mitigation Measures				N/A							
	With Mitigation											
	Nature of impact:			1		Direct						
	Without Mitigation	1	1	0	1	2	Low					

Previously disturbed areas will remain vulnerable to	reversed:				N/A							
alien plant invasion for some time	degree of impact on irreplaceable resources:				N/A							
	Mitigation Measures				N/A							
	With Mitigation											
	Nature of impact:					Direct						
	Without Mitigation	3	5	2	5	50	Medium	+	Medium			
Maintenance of the existing landscape and	degree to which impact can be reversed:				N/A							
sense of place	degree of impact on irreplaceable resources:		N/A									
	Mitigation Measures											
	With Mitigation											
	Nature of impact:					Direct						
	Without Mitigation	4	5	8	5	85	High	-	Medium			
No infrastructure for the	degree to which impact can be reversed:				N/A							
evacuation of power	degree of impact on irreplaceable resources:				N/A							
	Mitigation Measures				N/A							
	With Mitigation	4	5	8	5	85	High					

# {insert specialist filed here}

Decommissioning Phase												
	Substation 1 Route Option 1- Powerline Alternative 1											
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence			
	Nature of impact:		, ,			Not Applicable						
	Without Mitigation											
Disturbance to underlying	degree to which impact can be reversed:											
geology	degree of impact on irreplaceable resources:											
	Mitigation Measures											
	With Mitigation											
	Nature of impact:					Direct						
	Without Mitigation	2	2	4	3	24	Low	-	Medium			
	degree to which impact can be reversed:											
	degree of impact on				Low							

Increased potential of soil erosion	Mitigation Measures	outside of the s be kept to a mi stockpiles shou decommissioni conditions for t period is expect the topsoil. As impacted land	of disturbance should be (where practical) limited to the extent of the project footprint, and activities de of the site should be kept to a minimum. Traffic from vehicles associated with the decommissioning should pt to a minimum to reduce soil compaction, and limited to existing roadways where practical. Long term soil poles should be appropriately redistributed to the site to infill any excavations incurred during the mmissioning phase. Artificial erosion control measured should be removed to establish natural erosion tions for the area. Although expected to be nominal in this area, the topsoil removed during the construction dis expected to have a higher fertility than the subsoil horizons. In addition, vegetation seeds are stored in opsoil. As a result, the topsoil should be kept separate from the subsoils, and should be returned to the ceted land to reinstate the land capability, with topsoil being returned as the top layer. Soil compaction during tatement should be minimised to ensure infiltration representative of the regional soils is maintained.										
	With Mitigation	1	2	2	2	10	Low	-	Medium				
	Nature of impact:		ı			Direct							
	Without Mitigation	2	2	2	2	12	Low	-	Medium				
as oils, fuel, grease from	degree to which impact can be reversed:		High										
construction vehicles, and sewage from on-site sanitation systems	degree of impact on irreplaceable resources:		Low										
	Mitigation Measures		bstances and where spillages are possible. The use of bunding around storage of hazardous materials and										
	With Mitigation	1	2	0	1	3	Low	-	Medium				
	Nature of impact:					Direct							
	Without Mitigation	2	2	4	4	32	Medium	-	Medium				
Alterations of flow regimes of watercourses, in close proximity to the site, or	degree to which impact can be reversed:				High								
that is proposed to be traversed.	degree of impact on irreplaceable resources:				Low								
	Iviitigation Measures		er the decommissioning, rehabilitation of the site must occur immediately to ensure no residual impacts ain. A rehabilitation specialist must compile the rehabilitation plan and monitoring its implementation.										
	With Mitigation	2	1	2	2	10	Low	-	Medium				
	Nature of impact:					Direct							
	Without Mitigation	2	3	4	4	36	Medium	-					

Temporary/ Permanent degradation of	degree to which impact can be reversed:												
wetland/riparian habitat due to the proposed traversing powerlines	degree of impact on irreplaceable resources:				Low								
	Mitigation Measures						to ensure no residual ir onitoring its implement						
	With Mitigation	2											
	Nature of impact:					Direct							
	Without Mitigation	2	1	6	3	27	Low	-					
	degree to which impact can be reversed:		High										
Potential contamination of groundwater through	degree of impact on irreplaceable resources:		Low										
	Mitigation Measures	<ul> <li>Adequate ab</li> </ul>	All equipment that has the potential to spill or leak must have a drip tray underneath at all times.  Adequate ablution facilities must be placed onsite.  All hazardous chemicals and materials must be stored within a lockable area on an impermeable surface.										
	With Mitigation	1	1	2	2	8	Low	-					
	Nature of impact:					Direct							
	Without Mitigation	2	2	4	3	24	Low	-	Medium				
	degree to which impact can be reversed:				Modera	te							
degree of impact on irreplaceable Low resources:													

Faunal Impacts due to decommissioning of the wind farms	Mitigation Measures	removed to a s  • All hazardous accidental cher related to the r  • All vehicles as susceptible spe  • All above-gro	by potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be oved to a safe location.  I hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any dental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as ted to the nature of the spill.  I vehicles accessing the site should adhere to a low speed limit (40km/h max) to avoid collisions with septible species such as snakes and tortoises.  I above-ground infrastructure should be removed from the site. Below-ground infrastructure such as cabling be left in place if it does not pose a risk, as removal of such cables may generate additional disturbance and fact.											
	With Mitigation	2												
	Nature of impact:					Direct								
	Without Mitigation	2												
	degree to which													
	impact can be	Moderate												
	reversed:													
	degree of impact on													
	irreplaceable				Low									
Call Faraday falls day	resources:													
Soil Erosion follwing decommissioning	Mitigation Measures	dissipate any e • There should ensure that no erosion control • All erosion pr structures and	nergy in the war be regular mon erosion probler I measures. roblems observe revegetation te	ter which may p litoring for eros ms develop as ro ed should be rea chniques.	oose an erosion ion for at least 2 esult of the dist ctified as soon a	risk. 2 years after dec urbance, and if s possible, using	which redirect water floor commissioning by the ap they do, to immediately g the appropriate erosic ennial shrubs and grasse	oplicant to implement on control						
	With Mitigation	2	2	4	2	16	Low	-						
	Nature of impact:					Direct								
	Without Mitigation	2	2	2	3	18	Low	-	Medium					
	degree to which impact can be reversed:		Moderate											

	degree of impact on irreplaceable resources:		Low										
Alien Plant Invasion following decommissioning		<ul><li>construction to</li><li>Due to the di decommissioni returned.</li><li>Regular moni</li><li>Regular alien</li></ul>	encourage nate sturbance at the ing and regular of itoring for alien clearing should	ural regeneratio e site alien plant control will need plants within th	n of the local in species are like to be implement e disturbed are using the best-p	ndigenous specion ely to be a long- ented until a coverast as for at least to	et aside and replaced a es. term problem at the site er of indigenous specie vo years after decommi s for the species concer	e following s has ssioning.					
	With Mitigation	2											
	Nature of impact:					Direct							
	Without Mitigation	2	1	6	3	27	Low	-	Medium				
	degree to which impact can be reversed:												
Displacement due to habitat destruction and	degree of impact on irreplaceable resources:		Low										
disturbance associated with the de-commissioning of the powerlines	Mitigation Measures	<ul> <li>Access to the species.</li> <li>Measures to</li> <li>Maximum us minimum as fa</li> <li>The recomme as far as limital</li> </ul>	Activity should be restricted to the immediate footprint of the infrastructure.  Access to the remainder of the site should be strictly controlled to prevent unnecessary disturbance of priority ecies.  Measures to control noise and dust should be applied according to current best practice in the industry.  Maximum use should be made of existing access roads and the construction of new roads should be kept to a inimum as far as practical.  The recommendations of the ecological and botanical specialist studies must be strictly implemented, especially far as limitation of the footprint and rehabilitation of disturbed areas is concerned.										
	With Mitigation	2	1	4	2	14 Direct	Low						
	Nature of impact: Without Mitigation	1	1	4	3	Direct 18	Low	-	Medium				
	degree to which impact can be reversed:												

[	degree of impact on											
	rreplaceable				Low							
	resources:				LOW							
destruction and	C30di CC3.	• Docomissioni	na activity shou	ld bo rostricted	to the immedia	ato footprint of t	he infrastructure.					
disturbance associated							unnecessary disturbanc	o of priority				
with the decomissioning of			remainder or ti	ie site siloulu b	e strictly cornic	med to prevent	uririecessai y disturbanc	e or priority				
the substation		species.	control noice an	ad dust should b	o applied accor	ding to current	hast practice in the ind	uetru				
							best practice in the ind					
	Mitigation Measures		Maximum use should be made of existing access roads and the construction of new roads should be kept to a sinimum as far as practical.									
				and aginal and	hataniaal anaai	aliat atudiaa muu	at ba atriatly implamant	tad capacially				
		• The recommendations of the ecological and botanical specialist studies must be strictly implemented, especially as far as limitation of the construction footprint and rehabilitation of disturbed areas is concerned.										
		as iai as iimitat	ion or the const	ruction rootprii	it and renabilita	ation of disturbe	d areas is concerned.					
	With Mitigation	1	1	2	3	12	Low	-				
<u>l</u>	Nature of impact:		Not Applicable									
,	Without Mitigation											
	degree to which											
	mpact can be											
3	reversed:											
	degree of impact on											
	rreplaceable											
1	resources:											
l l	Mitigation Measures											
					I	1		I				
	With Mitigation					Not Applicable						
<u>-</u>	Nature of impact:				Τ	Not Applicable						
,	Without Mitigation											
	degree to which											
	mpact can be											
	reversed:											
9	degree of impact on											
	rreplaceable											
	resources:											
	Mitigation Measures											
1	With Mitigation					1						
	Nature of impact:					Direct						

	Without Mitigation	2	2	4	4	32	Medium	-	Medium- High			
Visual impact during	degree to which impact can be reversed:				High							
decommissing due to dust, vehicles and equipment.	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures					•	mmissioning. The decor must be included in the	•				
	With Mitigation	2										
	Nature of impact:		Direct									
	Without Mitigation	2	1	2	3	15	Low	-	Medium			
lugare and traffic	degree to which impact can be reversed:											
Increased traffic generation around the study area by vehicles	degree of impact on irreplaceable resources:				Low							
associated with decommissioning.	Mitigation Measures	<ul><li>suggested that</li><li>intersection voil the South Af</li><li>Vehicles asso</li></ul>	the speed limit warning signs sh rican Road Traf ciated with the	should be redu nould be erected fic Signs Manua	ced in advance deither side of the line of	of the intersect the access road	ment is currently 120kr ion with the access road in accordance with the uring the daylight hours	d. requirements				
	With Mitigation	2	1	2	2	10	Low	-				
	Nature of impact:					Dircet						
	Without Mitigation	2										
	degree to which impact can be reversed:		High									
Acoustic impact on residential receptors	degree of impact on irreplaceable resources:				Low							

	Mitigation Measures	potential to ge • When workir minimum as fa	g construction activities in consultation with local communities so that activities with the greatest to generate noise are planned during periods of the day that will result in the least disturbance. vorking near (within 500 m) a potential sensitive receptor, limit the number of simultaneous activities to a as far as possible.  g or minimizing project transportation through community areas.									
	With Mitigation	2	2	4	3	24	Low	-	High			
	Nature of impact:					Direct						
	Without Mitigation	2	1	6	3	27	Low	+	Medium			
Gain of short term	degree to which impact can be reversed:		N/A									
employment	degree of impact on irreplaceable resources:	replaceable Low										
	Mitigation Measures	Appointme	semi- and									
	With Mitigation	2	1	6	4	36	Medium	+				
	Nature of impact:					Direct						
	Without Mitigation	2	1	4	4	28	Low	-	Medium			
Nuisance from noise, dust	degree to which impact can be reversed:				High							
and traffic disturbances	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	Air quality, noi	se and traffic re	lated mitigation	n measures reco EMPr	mmended by r	elevant specialists and i	ncluded in the				
	With Mitigation	2	2 1 4 3 21 Low -									
	Nature of impact:					Direct						
	Without Mitigation	2	1	6	3	27	Low	-	Medium			
	degree to which impact can be reversed:											

Increased risk to neighbouring land users	degree of impact on irreplaceable resources:				Low				
	Mitigation Measures		e held liable for				e signed by the contrac amage that can be linke		
	With Mitigation	2	1	4	3	21	Low		
	Nature of impact:		т	1		Г			T
	Without Mitigation								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								
	Mitigation Measures								
	With Mitigation								
	Nature of impact:		I	I					
	Without Mitigation								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								
	Mitigation Measures								
	With Mitigation								
				Powerline	- No-Go				
Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence
	Nature of impact:					Direct		· ·	
	Without Mitigation	3	5	2	5	50	Medium	-	Medium

Loss of employment and local economic development opportunities	degree to which impact can be reversed: degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				None				
	With Mitigation	3	2	2	5	35	Medium	-	
	Nature of impact:					Direct			_
	Without Mitigation	2	5	2	5	45	Medium	-	Medium
Maintenance of existing landscape and sense of	degree to which impact can be reversed:				N/A				
place	degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				None				
	With Mitigation	2	5	2	5	45	Medium	-	

## Impacts Identified in the BAR

				Constructio	on Phase							
		Al	ternative 2	(Substatio	n 1, Route	Option 2)						
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence			
	Nature of impact:					Direct						
	Without Mitigation	1	1	0	1	2	Low	-				
Disturbance to underlying geology for the	degree to which impact can be reversed:				Low							
construction of the powerlines	degree of impact on irreplaceable resources:		Low									
	Mitigation Measures	Du	Due to the low impact significance, mitigation measures are not considered to be necessary.									
	With Mitigation	1	1	0	1	2	Low	-				
	Nature of impact:					Direct						
	Without Mitigation	1	1	0	1	2	Low	-				
Disturbance to underlying geology for the	degree to which impact can be reversed:				Low							
construction of the Substation	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	Du	e to the low imp	act significance	, mitigation mea	asures are not c	onsidered to be necessa	ıry.				
	With Mitigation	1	1	0	1	2	Low	-				
	Nature of impact:					Dircet						
	Without Mitigation	2	2	4	5	40	Medium	-	Medium			

Reduction in land availaibility for grazing animals due to the land	degree to which impact can be reversed:				Low						
being occupied by the transmission and substation infrastructure	degree of impact on irreplaceable resources:				Low						
	Mitigation Measures	Areas of co	nstruction shou		ctical) limited to should be kept		he project footprint, ar	nd activities			
	With Mitigation	1	2	2	4	20	Low	-	Medium		
	Nature of impact:					Direct					
	Without Mitigation	2	2	4	3	24	Low	-	Medium		
· ·	degree to which impact can be reversed:				High						
clearance, soil disturbance and a high traffic movement onsite.	degree of impact on irreplaceable resources:		Low								
	Mitigation Measures		eas of construction should be (where practical) limited to the extent of the project footprint, and activities itside should be kept to a minimum. Traffic of construction vehicles should be kept to a minimum to reduce soil								
	With Mitigation	1	2	2	2	10	Low	-	Medium		
	Nature of impact:					Direct					
	Without Mitigation	2	2	2	2	12	Low	-	Medium		
Potential spillage of hazardous substances such as oils, fuel, grease from	degree to which impact can be reversed:				High						
construction vehicles, and sewage from on-site sanitation systems	degree of impact on irreplaceable resources:				Low						
samtation systems	Mitigation Measures						nding in storage areas o ge of hazardous materi				
	With Mitigation	1	Medium								
	Nature of impact:					Direct					
	Without Mitigation	2	2	4	4	32	Medium	-	Medium		
Alterations of flow regimes of watercourses, in close	degree to which impact can be reversed:										

	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures						e rehabilitated before m the chosen alignment m					
	With Mitigation	2	2	2	3	18	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	6	5	50	Medium	-	Medium			
	degree to which impact can be reversed:											
wetland/riparian habitat	degree of impact on irreplaceable resources:		Low									
due to the proposedproposed positioning of the powerlines and pylons	Mitigation Measures	habitats potent freshwater sper functional asse freshwater hab habitats. A fres an in-depth site	cially affected by cialist to assess ssment should be itat assessment hwater habitat se walkover prior	the site and po specific areas we se conducted sh must provide re specialist be pre to any site work	werlines. At this ithin the site. Th ould BioTherm b ecommendation esent onsite duri	erefore, a more perecognised as s in terms of py ng the constructions and wet	IS and EcoServices) of free tails should be available in-depth and thorough as a Preferred Bidder. The ylon positions in relationation phase of the projections and watercourses	e allowing the freshwater e detailed n to freshwater t, and conduct				
	With Mitigation	1	2	4	3	21	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	1	6	3	27	Low	-				
Potential contamination of	degree to which impact can be reversed:				High							
aroundwater through	degree of impact on irreplaceable resources:		Low									
	Mitigation Measures				or leak must have urface and not c		derneath at all times. und.					
	With Mitigation	1	1	2	2	8	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	1	6	3	27	Low	-	Medium			

	degree to which impact can be reversed:				Moderat	e					
	degree of impact on irreplaceable		Moderate								
Impacts on vegetation and protected plant species		are be avoided • Ensure that la transformed ar • Minimise the by the operatic • All roads buil steep areas. • Preconstruct principles are a spills, avoiding • Demarcate al	where possible. ay-down and other as if possible. development for an all phase of the transfer construction environmental dhered to. This fire hazards, min	ner temporary in potprint as far as e development. In should have votal induction for includes aware nimizing wildlife ared with const	affrastructure is variety diversion a all construction ness as to no little interactions, reduction tape or struction ta	within low sensite the disturt of the staff on site to the staff on site	ure that sensitive habita civity areas, preferably p bed areas that are no lo rol structures present, e ensure that basic environate handling of pollution demarcated construction However caution shoul	oreviously onger required especially in onmental a and chemical in areas etc.			
	With Mitigation	2	1	4	2	14	Low	-	Medium		
	Nature of impact:					Direct					
	Without Mitigation	2	2	4	3	24	Low	-	Medium		
	degree to which impact can be reversed:		Low								
	degree of impact on irreplaceable resources:										

Impacts on Fauna due to constructtion activities	Mitigation Measures  With Mitigation	<ul> <li>During constr</li> <li>Iocation by the</li> <li>The illegal col</li> <li>Personnel shou</li> <li>No fires shou</li> <li>No fuelwood</li> <li>No dogs or ca</li> <li>If any parts of</li> <li>(such as most L</li> <li>All hazardous</li> <li>accidental cher</li> <li>related to the r</li> <li>No unauthori</li> </ul>	uction any faun ECO or other sulection, hunting Id not be allowed w collection shoul ts should be allowed f site such as con EDs), which do nature and on inical, fuel and on pature of the spi zed persons shoules.	a directly threat a directly qualified or harvesting of the wander of the ithin the site as do be allowed or lowed on site apportant attract insected be stored in the ill spills that occill.	person.  f any plants or a  f the construction there is a risk of a-site.  art from that of as must be lit at a  its and which sh he appropriate r ur at the site sho	nstruction activi inimals at the si on site. Trunaway veld f the landowners night, this shoul ould be directed manner to prevenued be cleaned d site access should	ties should be removed te should be strictly forb ires. S. d be done with low-UV t	type lights e site. Any anner as	Medium		
	Nature of impact:  Direct										
	Without Mitigation	2	2	6	3	30	Low	-	Medium		
	degree to which impact can be reversed:				Moderate	е					
	degree of impact on irreplaceable resources:				Low						
Increased Soil Erosion risk during construction	Mitigation Measures	<ul> <li>Roads should vegetation.</li> <li>Disturbance r activities should</li> <li>Regular moni</li> <li>Erosion probl</li> <li>Sediment trappresent during</li> <li>A low cover of</li> </ul>	Runoff management and erosion control should be integrated into the project design. Roads should have runoff control and water management infrastructure present to limit erosion and damage to egetation. Disturbance near to drainage lines should be avoided and sensitive drainage areas near to the construction ctivities should demarcated as no-go areas. Regular monitoring for erosion problems along the access roads and other cleared areas. Erosion problems should be rectified on a regular basis. Sediment traps may be necessary to prevent erosion and soil movement if there are topsoil or other waste heaps resent during the wet season. A low cover of vegetation should be left wherever possible within the construction footprint to bind the soil, revent erosion and promote post-disturbance recovery of an indigenous ground cover.								
	With Mitigation	2	2	2	3	18	Low	-	Medium		

	Nature of impact:					Direct											
	Without Mitigation	2	1	8	3	33	Medium	-	Medium								
	degree to which																
	impact can be				High												
	reversed:																
	degree of impact on																
Displacement of Red Data	irreplaceable				Low												
avifauna due to habitat	resources:																
destruction and disturbance associated with the construction of the powerlines	Mitigation Measures	<ul> <li>Access to the species.</li> <li>Measures to a maximum use minimum as fall</li> <li>The recommendation</li> </ul>	activity should lead to remainder of the control noise and eshould be mader as practical. Endations of the const														
	With Mitigation	2	1	4	2	14	Low	-	Medium								
	Nature of impact:					Direct											
	Without Mitigation	1	1	4	3	18	Low	-	Medium								
	degree to which																
	impact can be				High												
	reversed:																
	degree of impact on				1												
1	irreplaceable				Low												
avifauna due to habitat destruction and disturbance associated with the construction of the substation	resources:  Mitigation Measures	<ul> <li>Access to the species.</li> <li>Measures to e</li> <li>Maximum use minimum as fall</li> <li>The recommendation</li> </ul>	remainder of the control noise and should be made as practical.	ne site should be d dust should b le of existing acc ecological and	e applied accordi cess roads and th botanical special	ed to prevent u ing to current to be construction ist studies mus	infrastructure. unnecessary disturbance pest practice in the indus of new roads should be at be strictly implemente d areas is concerned.	stry. kept to a									
	With Mitigation	1	1	2	3	12	Low	-									
	Nature of impact:					Direct											

	Without Mitigation	4	5	8	2	34	Medium	-	Medium		
	degree to which impact can be reversed:				Low						
Physical disturbance of archaeological sites during	degree of impact on irreplaceable resources:				Low						
the construction of the powerlines	Mitigation Measures	area; • If any high co notified;	ncentrations of remains are und	archaeological n	naterial, such as	s stone artefacts	on 1 and must be declar s are recovered, HWC m c must stop in that area	ust be			
	With Mitigation	4	5	6	1	15	Low	-			
	Nature of impact:					Indirect					
	Without Mitigation	4	5	6	3	45	Medium	-	Medium		
	degree to which impact can be reversed:				Low						
Vandalism of Heritage items	degree of impact on irreplaceable resources:				Low						
	Mitigation Measures						by a temporary fence de e other line options.	uring			
	With Mitigation	4	5	6	1	15	Low	-	Medium		
	Nature of impact:					Direct					
	Without Mitigation	4	4 5 8 4 68 High - Me								
	degree to which impact can be reversed:		Low								
Physical disturbance of archaeological sites during	degree of impact on irreplaceable resources:		Moderate								

the construction of Substation 1	Mitigation Measures	<ul><li>A 20m buffer area;</li><li>If any high conotified;</li><li>If any human</li></ul>	any high concentrations of archaeological material, such as stone artefacts are recovered, HWC must be fied; any human remains are uncovered during the excavations for pylons, work must stop in that area and HWC to be alerted immediately.										
	With Mitigation	4	5	6	1	15	Low	-	Medium				
	Nature of impact:					Direct							
	Without Mitigation	1	5	2	2	16	Low	-	Medium				
	degree to which impact can be reversed:		High										
Physical disturbance of	degree of impact on irreplaceable resources:		Low										
palaeontological sites	Mitigation Measures	bones, teeth, for Safeguarding followed by representation of the Recording and pertinent contests.	Monitoring of all surface clearances and substantial excavations (>1m deep) by the ECO for fossil material (e.g. pones, teeth, fossil wood) on an on-going basis during the construction phase.  Safeguarding of chance fossil finds (preferably in situ) during the construction phase by the responsible ECO, collowed by reporting of finds to Heritage Western Cape.  Recording and judicious sampling of significant chance fossil finds by a qualified palaeontologist, together with the pertinent contextual data.  Curation of fossil material within an approved repository by a qualified palaeontologist.										
	With Mitigation	1	5	2	1	8	Low	-	Medium				
	Nature of impact:			ı		Direct							
	Without Mitigation	2	2 2 6 4 40 <u>Medium</u> - Medium- H										
	degree to which impact can be reversed:	High- The visual impact can be completely reversed if vehicles, equipment, rubble and any other construction materials are removed after construction.											
Visual impact during construction due to dust,	degree of impact on irreplaceable resources:	I	Low- Dust and e	quipment are no	ot likely to impac	t on any irrepla	aceable visual resources.						

vehicles and equipment	Mitigation Measures	conditions. • The building	ne building site and construction facilities must be well maintained and strictly controlled.  st and Litter control measures must be included in the EMPr.										
	With Mitigation	2	2	4	3	24	Low	-	Medium- High				
	Nature of impact:					Direct							
	Without Mitigation	2	2	4	4	32	Medium	-	Medium- High				
Visual impact during construction due to	degree to which impact can be reversed:		High- The visual impact can becompletely reversed, if vegetation is rehabilitated.										
vegetation clearing	degree of impact on irreplaceable resources:		Low- From a visual perspective can be re-established.										
	Mitigation Measures	<ul> <li>The construction.</li> </ul>	The construction footprint must be kept as small as possibke, to avoid unneccessary disruption to the existing egetation.										
	With Mitigation	2	2	2	4	24	Low	-	Medium- High				
	Nature of impact:					Direct							
	Without Mitigation	2	1	2	3	15	Low	-					
lincreased traffic deneration	degree to which impact can be reversed:				Low								
construction vahicles	degree of impact on irreplaceable resources:				Low								
	Mitigation Measures						nent is currently 120km in with the access road						
	With Mitigation	2											
	Nature of impact:					Direct							
	Without Mitigation	2	2	4	4	32	Medium	-	High				
	degree to which impact can be reversed:	High											

	degree of impact on irreplaceable resources:		None anning construction activities in consultation with local communities so that activities witj the greatest potentia								
	Mitigation Measures					nmunities so that ill result in the lea		eatest potential			
	With Mitigation	2	2	4	3	24	Low	-	High		
	Nature of impact:					Direct					
	Without Mitigation	3	2	4	3	27	Low	+	Medium		
	degree to which impact can be reversed:				None						
opportunities	degree of impact on irreplaceable resources:				None						
	Mitigation Measures		ointment of local contractors; Employment of local labour as far as possible, particularly semi-skilled and killed opportunities;								
	With Mitigation	3	2	4	4	36	Medium	+	Medium		
	Nature of impact:					Indirect					
	Without Mitigation	2	2	6	3	30	Low	-	Medium		
	degree to which impact can be reversed:	N	ledium - difficul	t to manage or c	ontrol influx of j	ob seekers and a	ssociated local impa	cts			
Disruption through influx of job seeks	degree of impact on irreplaceable resources:				Low						
	Mitigation Measures					local employmer ea by contractors	nt, engage with local s/developer	municipality in			
	With Mitigation	2	2	6	2	20	Low	-	Medium		
	Nature of impact:					Indirect					
	Without Mitigation	2	2	6	3	30	Low	-	Medium		
	degree to which impact can be reversed:	Medium - diff	icult to manage	or control comm	nunicable diseas	e which could pe	rmanently impact loo	cal populations			
diseases and reduced public health	degree of impact of										

	Mitigation Measures	Develonment o	of a labour force	Health and Safe	ty Plan HIV/AID	S awareness inc	vention and testing ca	mnaign				
	9						, and the second	mpaign	D.A. J.			
	With Mitigation	2	2	6	2	20 Direct	Low	-	Medium			
	Nature of impact:	2	2	4	2		Levis		N 4			
	Without Mitigation	2	2	4	3	24	Low	-	Medium			
Nuisance from noise, dust	degree to which impact can be reversed:	Medium - iı	mplementation o	of EMPr measur	es to reduce nois negate compl		ic related impacts, but	unlikely to				
and traffic disturbances	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	Air quality, noi the EMPr	se and traffic rel	ated mitigation	measures recom	mended by the r	elevant specialists and	l included in				
	With Mitigation	2	2	2	2	12	Low	-	Medium			
	Nature of impact:					Indirect			,			
	Without Mitigation	2	2	6	3	30	Low	-	Medium			
	degree to which impact can be reversed:	Н	High - provision of compensation to farmers for damage to infrastructure, stock theft, etc.									
Increased risk to neighbouring land users	degree of impact on irreplaceable resources:		Low									
	Mitigation Measures						e contractor; Contracto d to construction work					
	With Mitigation	2	2	4	3	24	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	6	4	40	Medium	-	Medium			
	degree to which impact can be reversed:		High - provis	sion of compens	ation to farmers	for losses resulti	ing from veld fires					
Increased risk of veld fires	degree of impact on irreplaceable resources:				Low							
		open fires allow	mplementation of EMPr i.e. mitigation in respect of construction phase activities that may pose a fire risk (i.e. no open fires allows on site for cooking/heating; activities that pose a fire risk to be property managed and confined to designated areas; adequate fire-fighting equipment and necessary training to be provided)									

	With Mitigation	2	2	4	3	24	Low	-	Medium
				Powerline	- No-Go				
Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence
	Nature of impact:					Direct			
	Without Mitigation	1	1	0	1	2	Low	+	Medium
lana ata an manatatian and	degree to which				N/A				
Impacts on vegetation and protected plant species	degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				N/A				
	With Mitigation								
	Nature of impact:		ı	1		Direct			I
	Without Mitigation	1	1	0	1	2	Low	+	Medium
Found immediate due to	degree to which								
Faunal impacts due to construction activities	degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				N/A				
	With Mitigation								
	Nature of impact:			1		Direct		1	1
	Without Mitigation	1	1	0	1	2	Low	+	Medium
Increased Soil Erosion risk	degree to which impact can be reversed:				N/A				
during construction	degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				N/A				
	With Mitigation Nature of impact:					Direct			
	Without Mitigation								

The no-go option will result in no additional impacts on					N/A				
avifauna and will maintain the current ecological integrity	degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				N/A				
	With Mitigation								
	Nature of impact:					Direct		1	
	Without Mitigation	2	5	2	5	45	Medium	-	Medium
Loss of employment and local economic	degree to which impact can be reversed:				N/A				
development	degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				None				
	With Mitigation	3	5	2	5	50	Medium	-	Medium
	Nature of impact:		<u> </u>	1		Direct	1		
	Without Mitigation	2	5	2	5	45	Medium	+	
Maintenance of the existing landscape and sense of	reversed:				Direct				
place	degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				None				
	With Mitigation	2	5	2	5	45	Medium	+	Medium

# BioTherm Energy - Esizayo Powerline

## {insert specialist filed here}

## Significance Rating Table

	Operational Phase											
		Substa	tion 1 Rou	te Option 2	2- Powerlin	e Alternat	ive 2					
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	(S=	ignificance (E+D+M)*P)	Status (+ve or -ve)	Confidence			
	Nature of impact:			_	_	Not Applicable	9					
	Without Mitigation											
	degree to which impact can be reversed:											
geology	degree of impact on irreplaceable resources:											
	Mitigation Measures											
	With Mitigation											
	Nature of impact:					Direct		•				
	Without Mitigation	2	4	4	5	50	Medium	-	Medium			
Reduction in land availaibility for grazing animals due to theland	degree to which impact can be reversed:				Low							
transmission and	degree of impact on irreplaceable resources:		Low									
	Mitigation Measures	Powerline a	nd substation Ir		ould be limited to site should be		f the project footprint, a mum.	and activities				
	With Mitigation	1	1 4 0 1 5 Low - Medium									
	Nature of impact:					Direct						

	\\/\!theatte	2	4	4	2	20	Law		N A o elis une				
Vegetation cleared for	Without Mitigation	2	4	4	3	30	Low	-	Medium				
powerlines and substation, soil disturbance and stockpiles, and increased	degree to which impact can be reversed:				High								
traffic movement on site, resulting in a higher potential for soil erosion.	degree of impact on irreplaceable resources:				Low								
potential for soil erosion.	Mitigation Measures	Traffic of main	ntenace vehicle	•	t to a minimum sed roadways w		compaction, and limited	to existing or					
	With Mitigation	1	4	2	2	14	Low	-	Medium				
	Nature of impact:			<u> </u>		Direct							
	Without Mitigation	2	4	2	2	16	Low	-	Medium				
Potential spillage of hazardous substances such	degree to which impact can be reversed:		High										
as oils, fuel, grease from maintenance vehicles.	degree of impact on irreplaceable resources:		Low										
	Mitigation Measures		he proper handling and storage of hazardous materials, the use of hardstanding in storage areas of hazardous substances and where spillages are possible. The use of bunding around storage of hazardous materials and										
	With Mitigation	1	4	0	1	5	Low	-	Medium				
	Nature of impact:			1		Direct	_						
	Without Mitigation	2	5	8	4	60	Medium	-	Medium				
Alterations of flow regimes	degree to which impact can be reversed:				High								
of watercourses, in close proximity to the site, or that is proposed to be	degree of impact on irreplaceable resources:				Low								
traversed.	Mitigation Measures	span across the	e watercourse is as possible). The	s minimalised to	restrict the nur	mber of pylons	alignment must endeavo within a system (which ositioned above the 1:1	should be					
	With Mitigation	2	1	2	2	10	Low	-	Medium				
	Nature of impact:					Direct							

	Without Mitigation	2	2	8	5	60	Medium	-	Medium				
Permanent degradation of wetland/riparian habitat	degree to which impact can be reversed:				High								
positioning of the	degree of impact on irreplaceable resources:				Low								
powerlines and pylons	Mitigation Measures		l where spillage	s are possible. 7			ling in storage areas of h age of hazardous mater						
	With Mitigation	1											
	Nature of impact:					Direct							
	Without Mitigation	2	4	2	3	24	Low	-					
	degree to which impact can be reversed:		High										
Potential contamination of groundwater through leaks	degree of impact on irreplaceable resources:		Low										
or spills of oil, grease or fuel.	Mitigation Measures	All equipment	Il equipment that has the potential to leak oil or fuel must be placed under a drip tray. Vehicles associated with the maintenace activities are to be serviced and kept in good working order.										
	With Mitigation	1 5 0 2 12 Low - Med											
	Nature of impact:					Direct							
	Without Mitigation	1	5	4	3	30	Low	-	Medium				
	degree to which impact can be reversed:				Moderate	Э							

Previously disturbed areas	degree of impact on irreplaceable resources:				Moderate	е						
will remain vulnerable to erosion for some time into the operational phase	Mitigation Measures	<ul><li>All roads and dissipate any e</li><li>Regular moni of the disturba</li></ul>	other hardened nergy in the wa toring for erosionce. oblems observe	d surfaces shoul ter which may p on after constru ed should be rec	d have runoff co loose an erosion loction to ensure	ontrol features risk. that no erosior	and Rehabilitation Plan which redirect water flo n problems have develo g the appropriate erosio	ow and ped as result				
	With Mitigation	1	5	4	2	20	Low	-	Medium			
	Nature of impact:			T	T	Direct	l					
	Without Mitigation	1	1 5 4 3 30 Low -									
	degree to which											
	impact can be reversed:				Moderate	е						
Previously disturbed areas	degree of impact on irreplaceable resources:		Moderate									
will remain vulnerable to alien plant invasion for some time	Mitigation Measures	natural regene • Due to the di plant species a implemented. rapidly if not co • Regular moni runoff from the • Regular alien	<ul> <li>Wherever excavation is necessary, topsoil should be set aside and replaced after construction to encourage natural regeneration of the local indigenous species.</li> <li>Due to the disturbance at the site as well as the increased runoff generated by the hard infrastructure, alien plant species are likely to be a long-term problem at the site and a long-term control plan will need to be implemented. Problem woody species such as Prosopis are already present in the area and are likely to increase rapidly if not controlled.</li> <li>Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.</li> <li>Regular alien clearing should be conducted using the best-practice methods for the species concerned. The use of herbicides should be avoided as far as possible.</li> </ul>									
	With Mitigation	2	2	4	3	24	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation 2 4 4 3 3 30 Low - Medium											

degree to which impact can be reversed: degree of impact on impact can be reversed:  **Moderate**  **Medium of the bool of the species concerned. The use within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problements.  **Negular almolerate part are also likely to be prone to invasion problements.  **Negular almolerate part are also likely to be prone to invasion problements.  **Negular almolerate part are also likely to be prone to invasion problements.  **Negular almolerate part are also likely to be prone to invasion problements.  **Negular almolerate part are also likely t														
Previously disturbed areas will remain vulnerable to allen plant invasion for some time  **Mitigation Measures**  **A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).  **Without Mitigation A 10 1 7 Low		degree to which												
degree of impact on irreplaceable resources:  Will remain vulnerable to allen plant invasion for some time  Will generated by the disturbance at the site as well as the increased runoff generated by the hard infrastructure, alien plant species are likely to be a long-term problem at the site and a long-term control plan will need to be implemented. Problem woody species such as Prosopis are already present in the area and are likely to increase rapidly if not controlled.  Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  Regular monitorin		impact can be				Moderat	e							
Previously disturbed areas will remain vulnerable to allen plant invasion for some time		reversed:												
will remain vulnerable to allen plant invasion for some time  **Wherever excavation is necessary, topsoil should be set aside and replaced after construction to encourage natural regeneration of the local indigenous species.  **Due to the disturbance at the site as well as the increased runoff generated by the hard infrastructure, allen plant species are likely to be a long-term problem at the site and a long-term control plan will need to be implemented. Problem woody species such as Prosopis are already present in the area and are likely to increase rapidly if not controlled.  **Regular monitoring for allen plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  **Regular allen clearing should be conducted using the best-practice methods for the species concerned. The use without Mitigation.  **Nature of impact:**  **With Mitigation**  **Nature of impact:**  **Without Mitigation**  **A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).  **With Mitigation**  **A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).  **Without Mitigation**  **A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).  **Without Mitigation**  **A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).  **Without Mitigation**  **A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined,		degree of impact on												
will remain vulnerable to allen plant invasion for some time  **Wherever excavation is necessary, topsoil should be set aside and replaced after construction to encourage natural regeneration of the local indigenous species.  **Due to the disturbance at the site as well as the increased runoff generated by the hard infrastructure, allen plant species are likely to be a long-term problem at the site and a long-term control plan will need to be implemented. Problem woody species such as Prosopis are already present in the area and are likely to increase rapidly if not controlled.  **Regular monitoring for allen plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  **Regular allen clearing should be conducted using the best-practice methods for the species concerned. The use in the area and are likely to increase rapidly if not controlled.  **Regular allen clearing should be conducted using the best-practice methods for the species concerned. The use in the area and reliated to be method in the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  **Regular allen clearing should be conducted using the best-practice methods for the species concerned. The use in the area and are likely to be prone to invasion problems.  **Regular allen clearing should be conducted using the best-practice methods for the species concerned. The use in the area and are likely to be prone to invasion problems.  **Regular allen clearing should be conducted using the best-practice methods for the species concerned. The use in the area and are likely to be prone to invasion problems.  **Regular allen clearing should be conducted using the best-practice methods for the species concerned. The use in the area and area along sterile and	Previously disturbed areas	irreplaceable				Moderat	e							
alien plant invasion for some time  * Wherever excavation is necessary, topsoil should be set aside and replaced after construction to encourage natural regeneration of the local indigenous species.  * Due to the disturbance at the site as well as the increased runoff generated by the hard infrastructure, alien plant species are likely to be a long-term problem at the site and a long-term control plan will need to be Mitigation Measures implemented. Problem woody species such as Prosopis are already present in the area and are likely to increase rapidly if not controlled.  * Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  * Regular alien clearing should be conducted using the best-practice methods for the species concerned. The use without Mitigation 1 4 2 2 1 14 Low		resources:												
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Due to the disturbance at the site as well as the increased runoff generated by the hard infrastructure, allen plant species are likely to be a long-term problem at the site and a long-term control plan will need to be implemented. Problem woody species such as Prosopis are already present in the area and are likely to increase rapidly if not controlled.	•		natural regener	ation of the loc	al indigenous s	pecies.								
Mitigation Measures implemented. Problem woody species such as Prosopis are already present in the area and are likely to increase rapidly if not controlled.  Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.  Regular alien clearing should be conducted using the best-practice methods for the species concerned. The use with Mitigation 1 4 2 2 14 Low Medium  Nature of impact:  Without Mitigation 3 4 10 2 34 Medium Medium Medium  Low reversed:  degree to which impact can be reversed:  degree of impact on irreplaceable resources:  Mitigation Measures  With Mitigation 3 4 10 1 17 Low Medium  Nature of impact:  Without Mitigation 3 4 10 1 7 Low Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low Medium  Nature of impact:  Without Mitigation 3 4 10 1 7 Low Medium  Nature of impact:  Without Mitigation 3 4 10 1 7 Low Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low Medium  Nature of impact:  Without Mitigation 4 No	some time		• Due to the dis	sturbance at the	e site as well as	the increased re	unoff generated	by the hard infrastruct	ure, alien					
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Regular monitoring for alien plants within the development footprint as well as adjacent areas which receive runoff from the facility as there are also likely to be prone to invasion problems.   Regular alien clearing should be conducted using the best-practice methods for the species concerned. The use		Mitigation Measures	implemented.	Problem woody	species such a	s Prosopis are a	Iready present	in the area and are likely	y to increase					
runoff from the facility as there are also likely to be prone to invasion problems.  Regular alien clearing should be conducted using the best-practice methods for the species concerned. The use  With Mitigation 1 4 2 2 14 Low Medium  Nature of impact:  Without Mitigation 3 4 10 2 34 Medium Medium Medium  degree to which impact can be reversed:  degree of impact on irreplaceable resources:  Mitigation Measures  With Mitigation 3 4 10 1 17 Low Medium  Nature of impact:  With Mitigation 3 4 10 1 17 Low Medium  Nature of impact:  With Mitigation 3 4 0 1 1 7 Low Medium  Nature of impact:  With Mitigation 3 4 0 1 1 7 Low Medium  High Medium  Nature of impact:  With Mitigation 3 4 0 1 1 7 Low Medium  Medium  High Medium  High Medium  High Medium  High Medium  High Medium  Medium  High Medium			rapidly if not co											
Regular alien clearing should be conducted using the best-practice methods for the species concerned. The use    With Mitigation   1			• Regular moni	gular monitoring for alien plants within the development footprint as well as adjacent areas which receive										
With Mitigation 1 4 2 2 1 14 Low - Medium  Nature of impact:  Without Mitigation 3 4 10 2 34 Medium - Medium  degree to which impact can be reversed: degree of impact on irreplaceable resources:  Mitigation Measures  Mitigation Measures  With Mitigation 3 4 10 1 17 Low - Medium  Nature of impact can be mitigated with Bird Flight Diverters (BFDs).  With Mitigation 3 4 0 1 7 Low - Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low - Medium  High resources:  With Mitigation 3 4 0 1 7 Low - Medium  High resources:  Without Mitigation 3 4 0 1 7 Low - Medium  High resources:  Without Mitigation 3 4 10 1 7 Low - Medium  High resources:  Without Mitigation 3 4 10 1 7 Low - Medium  High resources:  Without Mitigation 3 4 10 1 7 Low - Medium  High resources:  Without Mitigation 3 4 10 1 7 Low - Medium  High resources:  Without Mitigation 3 4 10 1 7 Low - Medium  High resources:  Without Mitigation 3 4 10 1 7 Low - Medium  High resources:  Without Mitigation 3 4 10 1 7 Low - Medium  High resources:  Without Mitigation 3 4 10 1 7 Low - Medium  High resources:  Without Mitigation 3 4 10 1 17 Low - Medium  High resources:  Without Mitigation 3 4 10 1 17 Low - Medium			runoff from the											
Collisions of Red Data avifauna with the earthwire of the proposed 132kV powerlines  - A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).  With Mitigation  Nature of impact:  Without Mitigation  3 4 10 1 17 Low - Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low - Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low - Medium  High  Nature of impact:  Without Mitigation 3 4 0 1 7 Low - Medium  High  High			• Regular alien											
Without Mitigation 3 4 10 2 34 Medium - Medium  Collisions of Red Data avifauna with the earthwire of the proposed 132kV powerlines  Mitigation Measures  Mitigation Measures  Without Mitigation 3 4 10 1 17 Low - Medium  Nature of impact:  Without Mitigation 3 4 0 1 1 7 Low - Medium  High  Nature of impact:  Without Mitigation 3 4 0 1 1 7 Low - Medium  High		With Mitigation	1											
Collisions of Red Data avifauna with the earthwire of the proposed 132kV powerlines  Mitigation Measures With Mitigation Nature of impact:  Without Mitigation  Nature of impact:  Without Mitigation  Megree to which impact can be reversed:  Low  High resources:  A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).  With Mitigation Nature of impact:  Without Mitigation  Megree to which impact can be High  High		Nature of impact:												
Collisions of Red Data avifauna with the earthwire of the proposed 132kV powerlines    Mitigation Measures   - A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).    With Mitigation   3   4   10   1   17   Low   -   Medium		Without Mitigation	3 4 10 2 34 Medium - Medium											
Collisions of Red Data avifauna with the earthwire of the proposed 132kV powerlines    Mitigation Measures   - A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).    With Mitigation   3   4   10   1   17   Low   -   Medium		degree to which					l.							
avifauna with the earthwire of the proposed 132kV powerlines 132kV powerli	Collisions of Red Data	•				Low								
132kV powerlines   Irreplaceable   resources:     A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).     With Mitigation   3   4   10   1   17   Low   -   Medium		•												
132kV powerlines   Irreplaceable   resources:     A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).     With Mitigation   3   4   10   1   17   Low   -   Medium	earthwire of the proposed	degree of impact on												
resources:  Mitigation Measures  A walk-through must be conducted by the avifaunal specialist after final pole positions have been determined, to demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).  With Mitigation 3 4 10 1 17 Low - Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low - Medium  High						High								
demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).  With Mitigation 3 4 10 1 17 Low - Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low -   degree to which impact can be  High	·					· ·								
demarcate sections of line that will need to be mitigated with Bird Flight Diverters (BFDs).  With Mitigation 3 4 10 1 17 Low - Medium  Nature of impact:  Without Mitigation 3 4 0 1 7 Low -   degree to which impact can be  High			A walk-through	gh must be cond	ducted by the a	vifaunal speciali	st after final po	le positions have been o	letermined, to					
Nature of impact:  Without Mitigation 3 4 0 1 7 Low -  degree to which impact can be  High		Mitigation Measures	demarcate sect	ions of line that	will need to be	e mitigated with	Bird Flight Dive	erters (BFDs).						
Nature of impact:  Without Mitigation 3 4 0 1 7 Low -  degree to which impact can be  High		With Mitigation	3	4	10	1	17	Low	-	Medium				
degree to which impact can be High		ū					Direct							
degree to which impact can be High		\^/!+!+!	2											
impact can be High		without wiitigation	3   4   0   1   / LOW -											
impact can be High		degree to which												
		· ·				High								
reversed:		reversed:												
Electrocution of Red Data degree of impact on	Electrocution of Red Data	degree of impact on												
avifauna irreplaceable Low				Low										
resources:														

	Mitigation Measures	No mitiga	tion is required	due to the low	risk of electrocu structure		he steel monopole dou	ble circuit				
	With Mitigation	3	4	0	1	7	Low	-	Medium			
	Nature of impact:				T	Direct						
	Without Mitigation	3	4	0	1	7	Low	-				
Electrocution of Red Data avifauna in the substation	degree to which impact can be reversed:				High							
yard	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures		nardware within the substation yard is too complex to warrant any mitigation for electrocution at this stag is recommended that if on-going impacts are recorded once operational, site specific mitigation be applied									
	With Mitigation	3	4	0	1	7	Low	-	Medium			
	Nature of impact:					Not Applicable			1			
	Without Mitigation											
Physical disturbance of	degree to which impact can be reversed:											
archaeological sites	degree of impact on irreplaceable resources:											
	Mitigation Measures											
	With Mitigation											
	Nature of impact:					Not Applicable						
	Without Mitigation											
Physical disturbance of	degree to which impact can be reversed:											
palaeontological sites	degree of impact on irreplaceable resources:											

	Mitigation Measures											
	With Mitigation											
	Nature of impact:		-			Direct						
	Without Mitigation	2	5	2	2	18	Low	-	Medium			
	degree to which											
	impact can be	Low	- The visual imp	act can be comp	oletely reversed	after closure of	facility, if towers remo	ved.				
Intrusion on sense of place	reversed:											
and rural landscape	degree of impact on											
and rural landscape	irreplaceable	L	ow- No impact o	on irreplaceable	resource, if lan	dforms remain	unaffected as proposed	l.				
	resources:											
	Mitigation Measures						ction. Roads should be a es are well maintained.	appropriately				
	With Mitigation	2	5	2	2	18	Low	-	Medium			
	Nature of impact:					Direct						
	\\\(\frac{1}{1} = \cdot \tau \\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\											
	Without Mitigation	2	2 5 2 3 27 Low N									
	degree to which											
Visual impact of	impact can be	Low	Low- The visual impact can be completely reversed after closure of facility, if towers removed.									
transmission lines and	reversed:											
power tower	degree of impact on											
power tower	irreplaceable	L	Low- No impact on irreplaceable resource, if landforms remain unaffected as proposed.									
	resources:											
	Mitigation Measures		Natural Vegetation must be re-established on disturbed areas after construction. Roads should be appropriately									
	-			oid erosion and		sure all structur	es are well maintained.					
	With Mitigation	2	5	2	3	27	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	1	2	2	10	Low	-				
	degree to which											
Increased traffic	impact can be				Low							
generation around the	reversed:											
study area by maintenance	degree of impact on											
vehicles	irreplaceable				Low							
	resources:											
	Mitigation Measures	<ul> <li>The posted s</li> </ul>	The posted speed limit on the R354 in the vacinity of the proposed development is currently 120km/h. it is									
		suggested that	suggested that the speed limit should be reduced in advance of the intersection with the access road.									
	With Mitigation	2	1	2	1	5	Low	-				
	Nature of impact: Not Applicable											

	Without Mitigation											
Acoustic impact on	degree to which impact can be reversed:											
residential receptors	degree of impact on irreplaceable resources:											
	Mitigation Measures											
	With Mitigation Nature of impact:					Direct						
	Without Mitigation	2	2 4 4 4 40 <u>Medium</u> - M									
Change in sense of place	degree to which impact can be reversed:		High - removal of the proposed infrastructure									
change in sense of place	degree of impact on irreplaceable resources:											
	Mitigation Measures		Implementat	ion of recomme	ndations contai	ned in the Visua	al Impact Assessment					
	With Mitigation	2	4	4	4	40	Medium	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	4	4	8	5	80	High	-	Medium			
Evacuation of power	degree to which impact can be reversed:				N/A							
Evacuation of power	degree of impact on irreplaceable resources:		N/A									
	Mitigation Measures		N/A									
	With Mitigation	4	4	8	5	80	High	-	Medium			
				Powerline	- No-Go							
Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence			

	Nature of impact:					Direct					
	Without Mitigation	1	1	0	1	2	Low				
will remain vulnerable to	reversed:				N/A						
erosion for some time into the operational phase.	degree of impact on irreplaceable resources:				N/A						
	Mitigation Measures				N/A						
	With Mitigation Nature of impact:					Direct					
	Without Mitigation	1	1	0	1	2	Low				
Previously disturbed areas will remain vulnerable to	reversed:				N/A						
alien plant invasion for some time	degree of impact on irreplaceable resources:		N/A								
	Mitigation Measures				N/A						
	With Mitigation										
	Nature of impact:				,	Direct		1			
	Without Mitigation	3	5	2	5	50	Medium	+	Medium		
Maintenance of the existing landscape and	degree to which impact can be reversed:				N/A						
sense of place	degree of impact on irreplaceable resources:				N/A						
	Mitigation Measures				N/A						
	With Mitigation Nature of impact:					Direct					
	Without Mitigation	4	5	8	5	85	High	-	Medium		

No infrastructure for the	degree to which impact can be reversed:				N/A			
evacuation of power	degree of impact on irreplaceable resources:				N/A			
	Mitigation Measures				N/A			
	With Mitigation	4	5	8	5	85	High	

# BioTherm Energy - Esizayo Powerline

## {insert specialist filed here}

## Significance Rating Table

Decommissioning Phase												
	Substati	ion 1 Route	Option 2-	Powerline	Alternativ	/e 2 (Prefei	rred Alternative	•)				
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	(S=	gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence			
	Nature of impact:					Not Applicable						
	Without Mitigation											
Disturbance to underlying	degree to which impact can be reversed:											
geology degree of impact on irreplaceable resources:												
	Mitigation Measures											
	With Mitigation											
	Nature of impact:			<u> </u>		Direct						
	Without Mitigation	2	2	4	3	24	Low	-				
Increased potential of soil	degree to which impact can be reversed:				High							
erosion (	degree of impact on irreplaceable resources:				Low							
		outside of the	site should be k	ept to a minimu	m. Traffic of de	-construction v	<del>project rootprint, and a</del> ehicles should be kept Long torm soil stocknil	to a minimum				
	With Mitigation	1	2	2	2	10	Low	-				
	Nature of impact:					Direct						

	Without Mitigation	2	2	2	2	12	Low	-					
Potential spillage of hazardous substances such as oils, fuel, grease from	reversed:				High								
construction vehicles, and sewage from on-site sanitation systems	degree of impact on irreplaceable resources:				Low								
	Mitigation Measures		•	•			anding in storage areas a storage of hazardous ma						
	With Mitigation	1	2	0	1	3	Low	-					
	Nature of impact:					Direct	1	•					
	Without Mitigation	2	3	6	5	55	Medium	-					
Alterations of flow regimes of watercourses, in close proximity to the site, or	degree to which impact can be reversed:		High										
that is proposed to be traversed.	degree of impact on irreplaceable resources:		Low										
	Mitigation Measures		After the decommissioning, rehabilitation of the site must occur immediately to ensure no residual impacts remain. A rehabilitation specialist must compile the rehabilitation plan and monitoring its implementation.										
	With Mitigation	2	1	2	2	10	Low	-					
	Nature of impact:					Direct							
	Without Mitigation	2	3	6	5	55	Medium	-					
Temporary/ Permanent degradation of wetland/riparian habitat	degree to which impact can be reversed:				High								
due to the proposed traversing powerlines	degree of impact on irreplaceable Low resources:  After the decommissioning, rehabilitation of the site must occur immediately to ensure no residual impacts												
	Mitigation Measures						itely to ensure no residund monitoring its impler						
	With Mitigation												
	Nature of impact:					Direct							
	Without Mitigation	2	1	6	3	27	Low	-					

Additional contamination of groundwater through a gene of impact can be reversed:													
Potential contamination of groundwater through in reversed:    Potential contamination of groundwater through in groundwater through in replaceable resources:   Low   Low   Low   Sequence   All equipment that has the potential to spill or leak must have a drip tray underneath at all times.   Adequate ablution facilities must be placed onsite.   All hazardous chemicals and materials must be stored within a lockable area on an impermeable surface.		· ·											
Potential contamination of groundwater through groundwater through groundwater through a groundwater through groundwater through groundwater through a groundwater through groundwater through a groun						High							
groundwater through resources:  - All equipment that has the potential to spill or leak must have a drip tray underneath at all times Adequate ablution facilities must be placed onsite All hazardous chemicals and materials must be stored within a lockable area on an impermeable surface.  With Mitigation    Nature of impact:													
resources:  - All equipment that has the potential to spill or leak must have a drip tray underneath at all times Adequate ablution facilities must be placed onsite All hazardous chemicals and materials must be stored within a lockable area on an impermeable surface.  With Mitigation  Nature of impact:  Without Mitigation 2 2 4 4 3 24 Low - Medium  degree to which impact can be reversed: decommissioning of the wind farms  All farms  **Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  With Mitigation 2 2 4 3 3 24 Low - Nature of impact:  Without Mitigation 2 2 4 3 3 24 Low - Medium  **Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  With Mitigation 2 2 4 3 3 24 Low - Mature of impact:  Without Mitigation 2 2 4 3 3 24 Low - Moderate  **Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  With Mitigation 2 2 4 3 3 24 Low - Moderate  **Mitigation Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  Without Mitigation 2 2 4 3 3 24 Low - Moderate  **Mitigation Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  **Mitigation Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  **Mitigation Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  **Mitigation Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  **Mitigation Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe lo													
All equipment that has the potential to spill or leak must have a drip tray underneath at all times.  Adequate ablution facilities must be placed onsite.  All hazardous chemicals and materials must be stored within a lockable area on an impermeable surface.  With Mitigation  Nature of impact:  Without Mitigation  2 2 4 3 24 Low - Medium  degree to which impact can be reversed: degree of impact on irreplaceable resources:  Mitigation Measures  Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  With Mitigation 2 2 4 3 4 5 5 6 7 7 8 7 8 7 8 7 8 7 8 7 8 8 7 8 8 7 8 8 7 8 8 8 8 9 8 9	groundwater through	irreplaceable				Low							
* Adequate ablution facilities must be placed onsite.  * All hazardous chemicals and materials must be stored within a lockable area on an impermeable surface.  With Mitigation  Nature of impact:  Faunal impacts due to decommissioning of the wind farms  Without Mitigation  2 2 4 4 3 24 Low - Medium  Moderate  Four resources:  Mitigation Measures  * Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  With Mitigation 2 2 4 3 2 16 Low -  Nature of impact:  Without Mitigation 2 2 4 3 3 24 Low -  Nature of impact:  Without Mitigation 2 2 4 3 3 24 Low -  Nature of impact:  Without Mitigation 2 2 4 3 3 24 Low -  Moderate		resources:											
Faunal impacts due to decommissioning of the wind farms  **Mitigation Measures**  **Mitigation M		Mitigation Measures	<ul> <li>Adequate abl</li> </ul>	ution facilities r	must be placed	onsite.			urface.				
Faunal impacts due to decommissioning of the wind farms  **Partial impacts due to decommissioning of the wind farms**  **Indicate the decommissioning of the wind farms**  **Indicate the decommissioning of the wind farms**  **Indicate the decommissioning of the resources:  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning activities should be removed to a safe location.**  **Indicate the decommissioning		With Mitigation											
Faunal impacts due to decommissioning of the wind farms  Faunal impact can be reversed:  degree of impact on irreplaceable resources:  Mitigation Measures  Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  With Mitigation  2 2 4 2 16 Low  - Nature of impact:  Without Mitigation 2 2 4 3 24 Low  Without Mitigation 2 2 4 3 3 24 Low  - Moderate		Nature of impact:					Direct						
Faunal impacts due to decommissioning of the wind farms    Impact can be reversed:		Without Mitigation	2	Low	-	Medium							
Faunal impacts due to decommissioning of the wind farms    Variable   Variabl		degree to which											
decommissioning of the wind farms    reversed:   degree of impact on irreplaceable resources:	Faunal impacts due to	impact can be				Moderate	е						
wind farms    Compact of Impact of Irreplaceable resources:   Compact of Irreplaceable resources:   Compact of Irreplaceable resources:   Compact of Irreplaceable resources:   Compact of Irreplaceable removed to a safe location.   Compact of Irreplaceable resources:   Compact of Irrep		reversed:											
irreplaceable resources:  Mitigation Measures  * Any potentially dangerous fauna such snakes or fauna threatened by the decommissioning activities should be removed to a safe location.  With Mitigation 2 2 4 2 16 Low -  Nature of impact:  Without Mitigation 2 2 4 3 24 Low -  degree to which impact can be  Moderate		degree of impact on											
Mitigation Measures removed to a safe location.  With Mitigation 2 2 4 2 16 Low -  Nature of impact: Direct  Without Mitigation 2 2 4 3 24 Low -  degree to which impact can be Moderate	WITH TAITIS	irreplaceable				Low							
With Mitigation Vieasures removed to a safe location.  With Mitigation 2 2 4 2 16 Low -  Nature of impact:  Without Mitigation 2 2 4 3 24 Low -  degree to which impact can be  Moderate		resources:											
Nature of impact:  Without Mitigation 2 2 4 3 24 Low -  degree to which impact can be  Nature of impact:  Without Mitigation 2 2 4 Moderate		Mitigation Measures			una such snake	s or fauna threa	tened by the de	ecommissioning activitie	es should be				
Without Mitigation 2 2 4 3 24 Low - degree to which impact can be Moderate		With Mitigation	2	2	4	2	16	Low	-				
degree to which impact can be Moderate		Nature of impact:					Direct						
impact can be Moderate		Without Mitigation	2 2 4 3 24 Low -										
		degree to which											
		impact can be		Moderate									
		reversed:											
degree of impact on		degree of impact on											
irreplaceable Low			Low										
resources:		resources:											

Soil Erosion follwing decommissioning	Mitigation Measures	dissipate any e • There should ensure that no erosion contro • All erosion pr structures and	nergy in the wa be regular mor erosion probler measures. oblems observe revegetation te	ter which may p litoring for eros ms develop as ro ed should be rec chniques.	oose an erosion ion for at least esult of the dist stified as soon a	risk. 2 years after de urbance, and if as possible, usin	s which redirect water floor commissioning by the ap they do, to immediately g the appropriate erosic ennial shrubs and grasse	oplicant to implement on control					
	With Mitigation	2	2	4	2	16	Low	-					
	Nature of impact:					Direct							
	Without Mitigation	2	2	2	3	18	Low	-	Medium				
	degree to which impact can be reversed:		Moderate										
Alien Plant Invasion following decommissioning	Mitigation Measures	<ul><li>construction to</li><li>Due to the di decommissioni returned.</li><li>Regular moni</li><li>Regular alien</li></ul>	Wherever excavation is necessary for decommissioning, topsoil should be set aside and replaced after construction to encourage natural regeneration of the local indigenous species.  Due to the disturbance at the site alien plant species are likely to be a long-term problem at the site following ecommissioning and regular control will need to be implemented until a cover of indigenous species has eturned.  Regular monitoring for alien plants within the disturbed areas for at least two years after decommissioning.  Regular alien clearing should be conducted using the best-practice methods for the species concerned. The use f herbicides should be avoided as far as possible.										
	With Mitigation												
	Nature of impact:					Direct							
	Without Mitigation	2	1	6	3	27	Low	-	Medium				
habitat destruction and	degree to which impact can be reversed:				High				High				

with the de-commissioning of the powerlines	degree of impact on irreplaceable resources:				Low				High		
	Mitigation Measures		Activity sho	ould be restricte	ed to the immed	liate footprint o	f the infrastructure.				
	With Mitigation	2	1	4	2	14	Low		Medium		
	Nature of impact:					Direct					
	Without Mitigation	1	1	4	3	18	Low	-	Medium		
Displacement of Red Data avifauna due to habitat destruction and	degree to which impact can be reversed:				High						
disturbance associated with the decomissioning of the substation	degree of impact on irreplaceable resources:				Low						
	Mitigation Measures		ecomissioning activity should be restricted to the immediate footprint of the infrastructure. ccess to the remainder of the site should be strictly controlled to prevent unnecessary disturbance of priority								
	With Mitigation	1	1	2	3	12	Low	-			
	Nature of impact:					Not Applicable					
	Without Mitigation										
Physical disturbance of	degree to which impact can be reversed:										
archaeological sites	degree of impact on irreplaceable resources:										
	Mitigation Measures										
	With Mitigation										
	Nature of impact:					Not Applicable					
	Without Mitigation										
	degree to which impact can be										
Physical disturbance of	reversed:										
palaeontological site	degree of impact on irreplaceable										
	resources:										

	Mitigation Measures											
	With Mitigation											
	Nature of impact:					Direct						
	Without Mitigation	2	2	6	4	40	Medium	-				
Visual impact during decommissionig due to	degree to which impact can be reversed:				Low							
dust, vehicles and equipment	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	footprint must	I vegetation must be re-established on disturbed areas following decommissioning. The decommissioning nt must be kept as small as possible. Dust and litter control measures must be included in the EMPr.									
	With Mitigation	2	2	2	3	18	Low	-				
	Nature of impact:					Direct						
	Without Mitigation	2	1	2	3	15	Low	-				
Increased traffic generation around the study area by vehicles	degree to which impact can be reversed:		Low									
associated with decommissioning.	degree of impact on irreplaceable resources:		Low									
	Mitigation Measures		The posted speed limit on the R354 in the vacinity of the proposed development is currently 120km/h. it is aggested that the speed limit should be reduced in advance of the intersection with the access road.									
	With Mitigation	2	1	2	2	10	Low	-				
	Nature of impact:					Direct						
	Without Mitigation	2	2	4	4	32	Medium	-	High			
Acoustic impact on	degree to which impact can be reversed:				High							
residential receptors	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures						hat activities with the gr sult in the least disturba					
	With Mitigation	2	2	4	3	24	Low	-				

	Nature of impact:					Direct						
	Without Mitigation	2	1	6	3	27	Low	+	Medium			
Gain of short term	degree to which impact can be reversed:				N/A							
employment	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	Appointm	ent of local cont		ment of local la unskilled opport	unities.	oossible, particularly for	semi- and				
	With Mitigation	2	1	6	4	36	Medium	+				
	Nature of impact:		T	1		Direct	<u> </u>	<u> </u>	Т			
	Without Mitigation	2	1	4	4	28	Low	-	Medium			
					High							
and traffic disturbances	degree of impact on irreplaceable resources:		Low									
	Mitigation Measures	Air quality, no	ir quality, noise and traffic related mitigation measures recommended by relevant specialists and included in the EMPr									
	With Mitigation	2	1	4	3	21	Low	-				
	Nature of impact:		_			Indirect						
	Without Mitigation	2	1	6	3	27	Low	-	Medium			
Increased risk to	degree to which impact can be reversed:				High							
neighbouring land users	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures						e signed by the contract amage that can be linke					
	With Mitigation	2	1	4	3	21	Low					
				Powerline	- No-Go							
Potential Impact	Mitigation	Extent	Duration	Magnitude	Probability	Si	gnificance	Status	Confidence			

i otentiai iiripact	iviitiyatioii	(E)	(D)	(M)	(P)	(S=	(E+D+M)*P)	(+ve or -ve)	COHHUCHUC				
	Nature of impact:					Direct							
	Without Mitigation	3	5	2	5	50	Medium	-	Medium				
Loss of employment and	degree to which impact can be reversed:				N/A								
development opportunities irrep	degree of impact on irreplaceable resources:		N/A										
	Mitigation Measures				None								
	With Mitigation	3	2	2	5	35	Medium	-					
	Nature of impact:												
	Without Mitigation	2	5	2	5	45	Medium	-	Medium				
Maintenance of existing	degree to which				N/A								
landscape and sense of place	degree of impact on irreplaceable resources:				N/A								
ī	Mitigation Measures				None								
	With Mitigation	2	5	2	5	45	Medium	-					

## BioTherm Energy - Esizayo Powerline

### Impacts Identified in the BAR

### Significance Rating Table

Construction Phase											
		Al	ternative 3	(Substatio	n 2, Route	Option 1)					
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence		
	Nature of impact:					Direct					
	Without Mitigation	1	1	0	1	2	Low	-			
Disturbance to underlying geology for the	degree to which impact can be reversed:				Low						
construction of the powerlines	degree of impact on irreplaceable resources:	on Low									
_	Mitigation Measures	Du	Due to the low impact significance, mitigation measures are not considered to be necessary.								
	With Mitigation	1	1	0	1	2	Low	-			
	Nature of impact:					Direct					
	Without Mitigation	1	1	0	1	2	Low	-			
Disturbance to underlying geology for the	degree to which impact can be reversed:				Low						
construction of the Substation	degree of impact on irreplaceable resources:				Low						
	Mitigation Measures	Du	e to the low imp	act significance	, mitigation mea	asures are not co	onsidered to be necessa	ıry.			
	With Mitigation	1	1	0	1	2	Low	-			
	Nature of impact:					Dircet					
	Without Mitigation	2	2	4	5	40	Medium	-	Medium		

Reduction in land availaibility for grazing animals due to the land	degree to which impact can be reversed:				Low							
being occupied by the transmission and substation infrastructure	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	Areas of co	nstruction shou		ctical) limited to should be kept		he project footprint, ar	nd activities				
	With Mitigation	1	2	2	4	20	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	4	3	24	Low	-	Medium			
· ·	degree to which impact can be reversed:				High							
clearance, soil disturbance and a high traffic movement onsite.	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures		eas of construction should be (where practical) limited to the extent of the project footprint, and activities tside should be kept to a minimum. Traffic of construction vehicles should be kept to a minimum to reduce so									
	With Mitigation	1	2	2	2	10	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	2	2	12	Low	-	Medium			
Potential spillage of hazardous substances such as oils, fuel, grease from	degree to which impact can be reversed:		High									
construction vehicles, and sewage from on-site sanitation systems	degree of impact on irreplaceable resources:				Low							
samtation systems	Mitigation Measures						nding in storage areas o ge of hazardous materi					
	With Mitigation	1	2	0	1	3	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	4	4	32	Medium	-	Medium			
Alterations of flow regimes of watercourses, in close	degree to which impact can be reversed:	High										

proximity to the site, or	degree of impact on											
,	irreplaceable				Low							
traversed.	resources:											
	Mitigation Measures		•				e rehabilitated before r the chosen alignment r	•				
	With Mitigation	2	2	2	3	18	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	4	4	32	Medium	-	Medium			
Temporary degradation of wetland/riparian habitat due to the	degree to which impact can be reversed:				High							
nronosednronosed	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	· ·	e in-depth and thorough freshwater functional assessment should be conducted should BioTherm be nised as a Preferred Bidder. The detailed freshwater habitat assessment must provide recommendations in									
	With Mitigation	1	2	4	3	21	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	1	6	3	27	Low	-				
	degree to which impact can be reversed:	High										
groundwater through	degree of impact on irreplaceable				Low							
	resources:	A.II										
	Mitigation Measures					e a drip tray und on the bare grou	derneath at all times. nd.					
	With Mitigation	1	1	2	2	8	Low	-				
	Nature of impact:					Direct						
	Without Mitigation	2	2	8	4	48	Medium	<u>-</u>	Medium			
	degree to which											
	impact can be				Moderate	е						
	reversed:											
	degree of impact on											
	irreplaceable				Moderate	е						
	resources:											

Mitigation Measures  With Mitigation	are be avoided • Ensure that la transformed ar • Minimise the by the operatio • All roads built steep areas. • Preconstructi principles are a spills, avoiding • Demarcate al	ecconstruction environmental induction for all construction staff on site to ensure that basic environmental ciples are adhered to. This includes awareness as to no littering, appropriate handling of pollution and chemical s, avoiding fire hazards, minimizing wildlife interactions, remaining within demarcated construction areas etc. emarcate all areas to be cleared with construction tape or similar material. However caution should be exercised wold using material that might entangle fauna.  2 2 4 3 24 Low - N										
Nature of impact:	1	Direct										
Without Mitigation	2	2	4	3	24	Low	-	Medium				
degree to which impact can be reversed:		Low										
degree of impact on irreplaceable resources:				Low								
Mitigation Measures	Personnel shou No fires shou No fuelwood No dogs or ca If any parts of (such as most L All hazardous accidental cher related to the r No unauthori	The illegal collection, hunting or harvesting of any plants or animals at the site should be strictly forbidden. Personnel should not be allowed to wander off the construction site.  No fires should be allowed within the site as there is a risk of runaway veld fires.  No fuelwood collection should be allowed on-site.  No dogs or cats should be allowed on site apart from that of the landowners.  If any parts of site such as construction camps must be lit at night, this should be done with low-UV type lights such as most LEDs), which do not attract insects and which should be directed downwards.  All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any occidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as elated to the nature of the spill.  No unauthorized persons should be allowed onto the site and site access should be strictly controlled and vehicles which need to roam around the site should be accompanied by the ECO or security personnel.										
With Mitigation	1	2	2	3	15	Low	-	Medium				

	Nature of impact:					Direct							
	Without Mitigation	2	2	8	4	48	Medium	-	Medium				
	degree to which impact can be reversed:				Moderat	e							
	degree of impact on irreplaceable resources:				Moderat	e							
Increased Soil Erosion risk during construction	Mitigation Measures	<ul> <li>Roads should vegetation.</li> <li>Disturbance r activities should</li> <li>Regular moni</li> <li>Erosion probl</li> <li>Sediment trappresent during</li> <li>A low cover o</li> </ul>	nanagement and erosion control should be integrated into the project design.  nould have runoff control and water management infrastructure present to limit erosion and damage to ince near to drainage lines should be avoided and sensitive drainage areas near to the construction should demarcated as no-go areas.  monitoring for erosion problems along the access roads and other cleared areas.  problems should be rectified on a regular basis.  at traps may be necessary to prevent erosion and soil movement if there are topsoil or other waste heaps uring the wet season.  over of vegetation should be left wherever possible within the construction footprint to bind the soil, rosion and promote post-disturbance recovery of an indigenous ground cover.										
	With Mitigation	2	2	2	3	18	Low	-	Medium				
	Nature of impact:		Direct										
	Without Mitigation	2	1	6	3	27	Low	-	Medium				
	degree to which impact can be reversed:		High										
Displacement of Red Data avifauna due to habitat	degree of impact on irreplaceable resources:				Low								
destruction and disturbance associated with the construction of the powerlines	Mitigation Measures	<ul> <li>Access to the species.</li> <li>Measures to one of the species.</li> <li>Maximum use minimum as faired.</li> <li>The recommendation of the species.</li> </ul>	Construction activity should be restricted to the immediate footprint of the infrastructure.  Access to the remainder of the site should be strictly controlled to prevent unnecessary disturbance of priority becies.  Measures to control noise and dust should be applied according to current best practice in the industry.  Maximum use should be made of existing access roads and the construction of new roads should be kept to a minimum as far as practical.  The recommendations of the ecological and botanical specialist studies must be strictly implemented, especially as far as limitation of the construction footprint and rehabilitation of disturbed areas is concerned.										
	With Mitigation	2	1	4	2	14	Low	-	Medium				

	Nature of impact:					Direct					
	Without Mitigation	1	1	4	3	18	Low	-	Medium		
	degree to which impact can be reversed:				High						
Displacement of Red Data avifauna due to habitat	degree of impact on irreplaceable resources:				Low						
destruction and disturbance associated with the construction of the substation	Mitigation Measures	<ul> <li>Access to the species.</li> <li>Measures to endowners the endowners t</li></ul>	remainder of the control noise and e should be mader as practical.	d dust should be de of existing acc ecological and l ruction footprin	e applied accord ess roads and the cotanical special t and rehabilita	led to prevent u ling to current b he construction list studies mus	infrastructure. unnecessary disturbance pest practice in the indus of new roads should be t be strictly implemented d areas is concerned.	stry. kept to a			
	With Mitigation	1	1	2	3	12	Low	-	Medium		
	Nature of impact:					Direct					
	Without Mitigation	4	5	4	2	26	Low	-	Medium		
	degree to which impact can be reversed:		Low								
archaeological sites during	degree of impact on irreplaceable resources:				High						
the construction of the powerlines	Mitigation Measures	area; • If any high co notified;	ncentrations of remains are und	archaeological r	naterial, such as	s stone artefacts	on 1 and must be declares are recovered, HWC milk	ust be			
	With Mitigation	4	5	4	1	13	Low	-	Medium		
	Nature of impact:					Direct					
	Without Mitigation	4	5	4	2	26	Low	-	Medium		

	degree to which impact can be reversed:				Low								
Physical disturbance of archaeological sites during the construction of	degree of impact on irreplaceable resources:				High								
Substation 1	Mitigation Measures	<ul><li>area;</li><li>If any high conotified;</li></ul>	ncentrations of remains are und	archaeological r	naterial, such a	s stone artefacts	on 1 and must be declare are recovered, HWC mi	ust be					
	With Mitigation	4											
	Nature of impact:		Direct										
	Without Mitigation	1	1 5 2 2 16 Low - Med										
	degree to which impact can be reversed:				Low								
Physical disturbance of palaeontological sites	degree of impact on irreplaceable resources:		Low										
		bones, teeth, for Safeguarding followed by report Recording an pertinent contests.	ossil wood) on a of chance fossil oorting of finds t d judicious samp extual data.	n on-going basis finds (preferabl to Heritage West bling of significat	during the con y in situ) during tern Cape. nt chance fossil	struction phase. the constructio	n phase by the responsil	ble ECO,					
	With Mitigation	1	5	2	1	8	Low	-	Medium				
	Nature of impact:					Direct							
	Without Mitigation	2	2 2 4 4 32 Medium - Medium-High										
	degree to which impact can be reversed:	High- The v	isual impact can			cles, equipment, fter construction	rubble and any other co	onstruction					
Visual impact during construction due to dust,	degree of impact on irreplaceable resources:	I	Low- Dust and equipment are not likely to impact on any irreplaceable visual resources.										

vernores and equipment														
	Mitigation Measures	conditions.  • The building s	e building site and construction facilities must be well maintained and strictly controlled. st and Litter control measures must be included in the EMPr.											
	With Mitigation	2	2	2	3	18	Low	-	Medium- High					
	Nature of impact:					Direct								
	Without Mitigation	2	2	4	3	24	Low	-	Medium- High					
	degree to which impact can be reversed:		High- The visu	ıal impact can b	e completely re	versed, if veget	tation is rehabilitated.							
Visual impact during construction due to	degree of impact on irreplaceable resources:		Low- From a visual perspective can be re-established.											
vegetation clearing	Mitigation Measures	vegetation.	The construction footprint must be kept as small as possibke, to avoid unneccessary disruption to the existing regetation.  No blanket clearing or removal of vegetation outside of the building zone is allowed.											
	With Mitigation	2	2	2	3	18	Low	-	Medium- High					
	Nature of impact:					Direct								
	Without Mitigation	2	1	2	3	15	Low	-						
Increased traffic generation around the study area by	degree to which impact can be reversed:				Low									
construction vehicles-	degree of impact on irreplaceable resources:		Low											
	Mitigation Measures	· ·				•	nent is currently 120km/ on with the access road.	/h. it is						
	With Mitigation	2	1	2	2	10	Low	-						
	Nature of impact:					Direct								
	Without Mitigation	2	2	4	4	32	Medium	-	High					

Acoustic impact on	degree to which impact can be reversed:				High							
residential receptors	degree of impact on irreplaceable resources:				None							
	Mitigation Measures						nt activities witj the gre east disturbance.	atest potential				
	With Mitigation	2	2	4	3	24	Low	-	High			
	Nature of impact:					Direct						
	Without Mitigation	3	2	4	3	27	Low	+	Medium			
Increase in employment	degree to which impact can be reversed:		None									
opportunities	degree of impact on irreplaceable resources:											
	Mitigation Measures	Appointme	nt of local contra	-skilled and								
	With Mitigation	3	2	4	4	36	Medium	+	Medium			
	Nature of impact:											
	Without Mitigation	2	2	6	3	30	Low	-	Medium			
Disruption through influx of	degree to which impact can be reversed:	N	ledium - difficul	t to manage or o	control influx of j	ob seekers and	associated local impact	ts				
job seeks	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures						ent, engage with local r by contractors/develop					
	With Mitigation	2 2 6 2 20 Low - Medi										
	Nature of impact:					Indirect						
	Without Mitigation	2	2	6	3	30	Low	-	Medium			
	degree to which											
Increase in communicable diseases and reduced	impact can be reversed:	Medium - diff	icult to manage	or control comm	nunicable diseas	e which could po	ermanently impact loca	al populations				
public health	irrenlaceable				High							

		_				=					
	Mitigation Measures	Developme	nt of a labour fo	rce Health and S	Safety Plan, HIV	'AIDS awarenes	ss, prevention and testin	g campaign			
	With Mitigation	2	2	6	2	20	Low	-	Medium		
	Nature of impact:					Direct					
	Without Mitigation	2	2	4	3	24	Low	-	Medium		
Nuisance from noise, dust and traffic disturbances	degree to which impact can be reversed:	Medium - ir	mplementation (	of EMPr measur	es to reduce noi negate compl		affic related impacts, bu	t unlikely to			
and traine distarbances	uegree or impact on irreplaceable				Low						
	Mitigation Measures	Air quality, no	ise and traffic re	elated mitigation	n measures reco the EMPi	•	he relevant specialists a	nd included in			
	With Mitigation	2	2	2	2	12	Low	-	Medium		
	Nature of impact:					Indirect					
	Without Mitigation	2	2	6	3	30	Low	-	Medium		
Increased risk to	degree to which impact can be reversed:	Hi	High - provision of compensation to farmers for damage to infrastructure, stock theft, etc.								
neighbouring land users	S degree or impact on Low										
	irrenlaceable Mitigation Measures	•	evelopment of a code of conduct for construction workers, to be signed by the contractor; Contractor to be held ble for compensating farmers for any losses and/or damage that can be linked to construction workers								
	With Mitigation	2	2	4	3	24	Low	-	Medium		
	Nature of impact:					Direct					
	Without Mitigation	2	2	6	4	40	Medium	-	Medium		
Increased risk of veld fires	degree to which impact can be reversed:		High - provis	sion of compens	ation to farmers	s for losses resu	ulting from veld fires				
	uegree or impact on irreplaceable				Low						
	Mitigation Measures						ities that may pose a fire be property managed a				
	With Mitigation	2	2	4	3	24	Low	-	Medium		
				Powerline	- No-Go						
Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		ignificance ·(E+D+M)*P)	Status (+ve or -ve)	Confidence		
	Nature of impact:					Direct					
	Without Mitigation	1	1	0	1	2	Low	+	Medium		
Impacts on vegetation and	degree to which		l .		N/A						
moacis on vegerandii and											

protected plant species	degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				N/A				
	With Mitigation								
	Nature of impact:					Direct			
	Without Mitigation	1	1	0	1	2	Low	+	Medium
	degree to which impact can be				N/A				
construction activities	degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				N/A				
	With Mitigation								
	Nature of impact:					Direct			
	Without Mitigation	1	1	0	1	2	Low	+	Medium
	uegree το wnich impact can be				N/A				
during construction	degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				N/A				
	With Mitigation								
	Nature of impact:					Direct		•	
The ne go ention will recult	Without Mitigation								
Commence of all the control of the c	aegree to wnich		•		N/A				
avifauna and will maintain the current ecological	impact can be degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				N/A				
	With Mitigation		1		IV/A				
	Nature of impact:					Direct			
	·								Ī
	Without Mitigation	2	5	2	5	45	Medium	-	Medium
	degree το wnich				N/A				

local economic development	degree of impact on irreplaceable resources:		N/A								
	Mitigation Measures		None								
	With Mitigation	3	3 5 2 5 50 <u>Medium</u> - Me								
	Nature of impact:		Direct								
	Without Mitigation	2	5	2	5	45	Medium	+			
Maintenance of the existing	degree το wnich				Direct						
landscape and sense of place	degree of impact on irreplaceable resources:				N/A						
	Mitigation Measures		None								
	With Mitigation	2	5	2	5	45	Medium	+	Medium		

# BioTherm Energy - Esizayo Powerline

## {insert specialist filed here}

## Significance Rating Table

	Operational Phase										
		SI	ubstation 2	2 Route Op	tion 1- Alte	ernative 3					
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	(S=	gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence		
	Nature of impact:				<u> </u>	Not Applicable					
	Without Mitigation										
Disturbance to underlying	degree to which impact can be reversed:										
geology	degree of impact on irreplaceable resources:										
	Mitigation Measures										
	With Mitigation										
	Nature of impact:		1	1	ı	Direct	1				
	Without Mitigation	2	4	4	5	50	Medium	-	Medium		
Reduction in land availaibility for grazing animals due to theland	degree to which impact can be reversed:				Low						
being occupied by the transmission and substation infrastructure	degree of impact on irreplaceable resources:		Low								
	Mitigation Measures	Powerline a	nd substation Ir		ould be limited t e site should be		the project footprint, a num.	and activities			
	With Mitigation	1	4	2	3	21	Low	-	Medium		
	Nature of impact:					Direct					

	Without Mitigation	2	4	4	3	30	Low	-	Medium			
Vegetation cleared for powerlines and substation, soil disturbance and	degree to which impact can be reversed:				High							
stockpiles, and increased traffic movement on site, resulting in a higher	degree of impact on irreplaceable resources:				Low							
potential for soil erosion.	Mitigation Measures	Traffic of mail	ntenace vehicle		t to a minimum sed roadways w		ompaction, and limited	to existing or				
	With Mitigation	1	1 7 2 3 21 600									
	Nature of impact:		Not Applicable									
	Without Mitigation											
Potential spillage of	degree to which impact can be reversed:											
hazardous substances such as oils, fuel, grease from maintenance vehicles.	degree of impact on irreplaceable resources:											
	Mitigation Measures											
	With Mitigation											
	Nature of impact:					Direct						
	Without Mitigation	2	5	8	4	60	Medium	-	Medium			
Alterations of flow regimes of watercourses, in close	degree to which impact can be reversed:				High							
proximity to the site, or that is proposed to be traversed.  Low resources:												
traversed.	owerlines must only cross perpendicular to a watercourse and the chosen alignment must endeavour that the span across the watercourse is minimalised to restrict the number of pylons within a system (which should be avoided as far as possible). The proposed powerlines and pylons should be positioned above the 1:100 floodline of any watercourse.											

	With Mitigation	2	1	2	2	10	Low	-	Medium				
	Nature of impact:					Not Applicable							
	Without Mitigation												
wetland/riparian habitat due to the	degree to which impact can be reversed:												
proposedproposed positioning of the powerlines and pylons	degree of impact on irreplaceable resources:												
	Mitigation Measures												
	With Mitigation												
	Nature of impact:		Direct										
	Without Mitigation	2	5	2	3	27	Low	-					
	degree to which impact can be reversed:				High								
	degree of impact on												
Potential contamination of	irreplaceable				Low								
groundwater through leaks	resources:												
or spills of oil, grease or fuel.	Mitigation Measures		the mainte	nace activities a	re to be service	ed and kept in go	r a drip tray. Vehicles as bod working order.	sociated with					
	With Mitigation	1	5	0	2	12	Low	-					
	Nature of impact:					Direct	I						
	Without Mitigation	2	5	4	3	33	Medium	-					
Previously disturbed areas will remain vulnerable to	degree to which impact can be reversed:				Moderat	e							

erosion for some time into the operational phase	degree of impact on irreplaceable resources:				Moderate								
	Mitigation Measures						and Rehabilitation Plan which redirect water flo						
	With Mitigation	2	2	4	3	24	Low	-					
	Nature of impact:					Direct							
	Without Mitigation	2	4	4	3	30	Low	-	Medium				
	degree to which impact can be reversed:				Moderate	е							
Previously disturbed areas will remain vulnerable to	degree of impact on irreplaceable resources:	_ ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Moderate ever excavation is necessary, topsoir snould be set aside and replaced after construction to encourage										
alien plant invasion for some time	Mitigation Measures	natural regene • Due to the di plant species a implemented. rapidly if not co • Regular mon runoff from the	ration of the loc isturbance at the ire likely to be a Problem woody ontrolled. itoring for alien e facility as there	al indigenous special indigenous special as well as long-term proby species such a plants within the are also likely	pecies. the increased rulem at the site as Prosopis are a e development to be prone to i	unoff generated and a long-term lready present footprint as we nvasion proble	d by the hard infrastruct control plan will need t in the area and are likel	cure, alien o be y to increase ch receive					
	With Mitigation	1	4	2	2	14	Low	leu lieuse					
	Nature of impact:		_			Negative			_				
	Without Mitigation	3	4	10	4	68	High	-	Medium				
Collisions with the earthwire of the proposed	degree to which impact can be reversed:				Low				Medium				
132kV powerlines	degree of impact on irreplaceable resources:	High											
	Mitigation Measures		gh must be cond tions of line that				le positions have been derters (BFDs).	determined, to	Medium				
	With Mitigation	3											
	Nature of impact:					Negative							

	Without Mitigation	3	4	0	1	7	Low		High			
Electrocution of Red Data	degree to which impact can be reversed:				High				High			
avifauna	degree of impact on irreplaceable resources:				Low				High			
	Mitigation Measures	No mitiga	tion is required	due to the low	risk of electrocu structure	•	the steel monopole dou	ıble circuit	High			
	With Mitigation	3	4	0	1	7	Low		High			
	Nature of impact:		Negative									
	Without Mitigation	3	3 4 0 1 7 Low Hi									
	degree to which impact can be reversed:		High									
avifauna in the substation yard	degree of impact on irreplaceable resources:											
	Mitigation Measures						gation for electrocution , site specific mitigation		High			
	With Mitigation	3	4	0	1	7	Low		High			
	Nature of impact:					Not Applicable	)					
	Without Mitigation											
Physical disturbance of	degree to which impact can be reversed:											
archaeological sites	degree of impact on irreplaceable resources:											
	Mitigation Measures											
	With Mitigation											
	Nature of impact:					Not Applicable						
	Without Mitigation											

Physical disturbance of	degree to which impact can be reversed:											
palaeontological sites	degree of impact on irreplaceable resources:											
	Mitigation Measures											
	With Mitigation											
	Nature of impact:					Direct						
	Without Mitigation	2	5	4	2	22	Low	-	Medium			
Intrusion on sense of place		Low- The visua	The visual impact can be completely reversed after closure of facility, if power infrastructure is removed and vegetation rehabilitated.									
and rural landscape	degree of impact on irreplaceable resources:	Low- No impact on irreplaceable resource, if landforms remain unaffected as proposed.										
	Mitigation Measures	_	Natural Vegetation must be re-established on disturbed areas after construction. Roads should be appropriate stabilised to avoid erosion and visual scars. Ensure all structures are well maintained.									
	With Mitigation	2	5	4	2	22	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	5	4	3	33	Medium	-	Medium			
Visual impact of transmission lines and	degree to which impact can be reversed:	Low- The visua	ıl impact can be		ersed after clos egetation rehab		power infrastructure is	removed and				
power tower	degree of impact on irreplaceable resources:	U	ow- No impact o	on irreplaceable	resource, if lan	dforms remain	unaffected as proposec	I.				
	Mitigation Measures	0					ction. Roads should be es are well maintained.	appropriately				
	With Mitigation	2	5	4	3	33	Medium	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	1	2	2	10	Low	-				
Increased traffic generation around the	degree to which impact can be reversed:				Low							

study area by maintenance vehicles	degree of impact on irreplaceable resources:				Low				
							ment is currently 120ki ion with the access roa		
	With Mitigation	2	1	2	1	5	Low	-	
	Nature of impact:					Not Applicable			
	Without Mitigation								
Acoustic impact on	degree to which impact can be reversed:								
residential receptors	degree of impact on irreplaceable resources:								
	Mitigation Measures								
	With Mitigation								
	Nature of impact:					Direct			
	Without Mitigation	2	4	4	4	40	Medium	-	Medium
Change in sense of place	degree to which impact can be reversed:			High - remo	oval of the propo	osed infrastruct	ure		
change in sense of place	degree of impact on irreplaceable resources:				Low				
	Mitigation Measures		Implementati	on of recomme	ndations contai	ned in the Visua	al Impact Assessment		
	With Mitigation	2	4	4	4	40	Medium	-	Medium
	Nature of impact:					Direct			
	Without Mitigation	4	4	8	5	80	High	-	Medium
Evacuation of power	degree to which impact can be reversed:				N/A				
Evacuation of power	degree of impact on irreplaceable resources:				N/A				

	Mitigation Measures				N/A				
	With Mitigation	4	4	8	5	80	High	-	Medium
				Powerline	- No-Go				
Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence
	Nature of impact:					Direct			
	Without Mitigation	1	1	0	1	2	Low		
ill remain vulnerable to impa sistematic properties in the constraint of the constra	degree to which impact can be reversed:				N/A				
	degree of impact on irreplaceable				N/A				
	Mitigation Measures				N/A				
	With Mitigation Nature of impact:					Direct			
	Without Mitigation	1	1	0	1	2	Low		
Previously disturbed areas	degree to which impact can be reversed:				N/A				
some time	degree of impact on irreplaceable resources:				N/A				
	Mitigation Measures				N/A				
	With Mitigation								
	Nature of impact:				1	Direct		1	1
	Without Mitigation	3	5	2	5	50	Medium	+	Medium
Maintenance of the	degree to which impact can be reversed:				N/A				
sense of place	degree of impact on irreplaceable resources:				N/A				

Mitigation Measures		N/A								
With Mitigation										
Nature of impact:					Direct					
Without Mitigation	4	5	8	5	85	High	-	Medium		
degree to which impact can be reversed:				N/A						
degree of impact on irreplaceable resources:				N/A						
Mitigation Measures				N/A						
With Mitigation	4	5	8	5	85	High				

# BioTherm Energy - Esizayo Powerline

## {insert specialist filed here}

## Significance Rating Table

Decommissioning Phase											
		Substa	tion 1 Rou <sup>r</sup>	te Option 2	2- Powerlin	e Alternat	ive 3				
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	(S=	gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence		
	Nature of impact:					Not Applicable	)				
	Without Mitigation										
Disturbance to underlying	degree to which impact can be reversed:										
geology	degree of impact on irreplaceable resources:										
	Mitigation Measures										
	With Mitigation										
	Nature of impact:		1	T	T	Direct		•			
	Without Mitigation	2	2	4	3	24	Low	-			
Increased potential of soil	degree to which impact can be reversed:				High						
erosion	degree of impact on irreplaceable resources:		Low								
	Mitigation Measures						project footprint, and a ehicles should be kept t				
	With Mitigation	1	2	2	2	10	Low	-			
	Nature of impact:					Direct					

	Without Mitigation	2	2	2	2	12	Low	-					
Potential spillage of hazardous substances such as oils, fuel, grease from	reversed:				High								
construction vehicles, and sewage from on-site sanitation systems	degree of impact on irreplaceable resources:				Low								
	Mitigation Measures		•	•			anding in storage areas storage of hazardous m						
	With Mitigation	1	2	0	1	3	Low	-					
	Nature of impact:					Direct							
	Without Mitigation	2	2 4 4 32 <u>Medium</u> -										
Alterations of flow regimes of watercourses, in close proximity to the site, or	degree to which impact can be reversed:		High										
that is proposed to be traversed.	degree of impact on irreplaceable resources:		Low										
	Mitigation Measures		After the decommissioning, rehabilitation of the site must occur immediately to ensure no residual impacts remain. A rehabilitation specialist must compile the rehabilitation plan and monitoring its implementation.										
	With Mitigation												
	Nature of impact:					Direct							
	Without Mitigation	2	3	4	4	36	Medium						
Temporary/ Permanent degradation of wetland/riparian habitat	degree to which impact can be reversed:				High								
due to the proposed traversing powerlines	o the proposed degree of impact on irreplaceable.												
	Mitigation Measures						ately to ensure no resident and monitoring its imple						
	With Mitigation	2	1	2	2	10	Low	-					
	Nature of impact:					Direct							
	Without Mitigation		Direct										

Increased potential of soil erosion due to removal of powerlines and	degree to which impact can be reversed:											
substations, soil disturbance and a high traffic movement on site.	degree of impact on irreplaceable resources:											
	Mitigation Measures											
	With Mitigation											
	Nature of impact:					Direct						
	Without Mitigation	2	1	6	3	27	Low	-				
Potential contamination of			High									
groundwater	degree of impact on irreplaceable resources:											
	Mitigation Measures	<ul><li>All equipmen</li><li>Adequate abl</li></ul>										
	With Mitigation	1	1	2	2	8	Low	-				
	Nature of impact:					Direct						
	Without Mitigation	2	2	4	3	24	Low	-	Medium			
Faunal impacts due to decommissioning of the	degree to which impact can be reversed:				Moderate	9						
wind farms	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	<ul> <li>Any potential removed to a s</li> </ul>		una such snake:	s or fauna threa	tened by the de	ecommissioning activitie	es should be				
	With Mitigation	2										
	Nature of impact:					Direct						
	Without Mitigation	2	2	4	4	32	Medium	-	Medium			
	degree to which impact can be reversed:				Moderate	e						

Call areaign fallowing the	degree of impact on irreplaceable resources:		Low										
Soil erosion following the decommissining	J	dissipate any e There should ensure that no erosion contro All erosion p structures and All disturbed local area.	energy in the wad be regular more of crossion proble of measures. I roblems observoir revegetation to and cleared are	nter which may phitoring for eros ms develop as r ed should be reachingues.	oose an erosion ion for at least 2 esult of the districtified as soon a vegetated with	risk. 2 years after dec urbance, and if s possible, using	which redirect water floor commissioning by the ap they do, to immediately g the appropriate erosic ennial shrubs and grasse	oplicant to implement n control					
	With Mitigation Nature of impact:	2	2 4 2 16 Low - Direct										
	Without Mitigation	2											
Alien Plant Invasion	degree to which impact can be reversed:	Moderate											
following decommissioning	degree of impact on irreplaceable resources:		Low										
	Mitigation Measures		cavation is nece o encourage nat	•			et aside and replaced a es.	fter					
	With Mitigation	2	2	2	2	12	Low	-					
	Nature of impact:				T	Direct							
	Without Mitigation	2	1	6	3	27	Low	-	Medium				
Displacement due to habitat destruction and disturbance associated	degree to which impact can be reversed:				High				High				
with the de-commissioning of the powerlines	resources:												
	Mitigation Measures		Activity sh	ould be restricted	ed to the immed	liate footprint o	f the infrastructure.						
	With Mitigation	2	2 1 4 2 14 Low Medium										
	Nature of impact:					Direct							

	Without Mitigation	1	1	4	3	18	Low	-	Medium			
Displacement of Red Data avifauna due to habitat destruction and	degree to which impact can be reversed:				High				High			
disturbance associated with the decomissioning of the substation	degree of impact on irreplaceable resources:				Low				High			
	Mitigation Measures	• De	comissioning ac	tivity should be	restricted to th		otprint of the infrastruc	ture.				
	With Mitigation  Nature of impact:  Without Mitigation	1	1	2	3	Not Applicable	Low		Medium			
Dhysical disturbance of	degree to which impact can be reversed:											
Physical disturbance of archaeological sites	degree of impact on irreplaceable resources:											
	Mitigation Measures											
	With Mitigation Nature of impact:					Not Applicable						
	Without Mitigation											
Physical disturbance of	degree to which impact can be reversed:											
palaeontological site	degree of impact on irreplaceable resources:											
	Mitigation Measures											
	With Mitigation Nature of impact:					Direct						
	Without Mitigation	2	2	4	4	32	Medium	-				

Visual impact during decommissionig due to	degree to which impact can be reversed:												
dust, vehicles and equipment	degree of impact on irreplaceable resources:				Low								
	Mitigation Measures						mmissioning. The decor must be included in the						
	With Mitigation	2	2	2	3	18	Low	-					
	Nature of impact:					Drect							
	Without Mitigation	2	1	2	3	15	Low	-					
Increased traffic generation around the study area by vehicles	degree to which impact can be reversed:		Low										
associated with decommissioning.	degree of impact on irreplaceable resources:		Low										
	Mitigation Measures		• The posted speed limit on the R354 in the vacinity of the proposed development is currently 120km/h. it is suggested that the speed limit should be reduced in advance of the intersection with the access road.										
	With Mitigation	2	1	2	2	10	Low	-					
	Nature of impact:												
	Without Mitigation	2	2	4	4	32	Medium	-					
Acoustic impact on	degree to which impact can be reversed:				High								
residential receptors	degree of impact on irreplaceable resources:				Low								
	Mitigation Measures						nat activities with the gr sult in the least disturba						
	With Mitigation	2	2	4	3	24	Low	-					
	Nature of impact:					Direct							
	Without Mitigation	2	1	6	3	27	Low	+	Medium				
Gain of short term	degree to which impact can be reversed:				N/A								

employment	degree of impact on irreplaceable resources:		Low  Appointment of local contractors; Employment of local labour as far as possible, particularly for semi- and									
	Mitigation Measures	Appointme	ent of local cont		ment of local la unskilled opport		oossible, particularly for	semi- and				
	With Mitigation	2	1	6	4	36	Medium	+				
	Nature of impact:					Direct						
	Without Mitigation	2	1	4	4	28	Low	-	Medium			
Nuisance from noise, dust	degree to which impact can be reversed:				High							
and traffic disturbances	degree of impact on irreplaceable resources:		Low									
	Mitigation Measures	Air quality, noi	quality, noise and traffic related mitigation measures recommended by relevant specialists and included in the EMPr									
	With Mitigation	2	1	4	3	21	Low	-				
	Nature of impact:					Indirect						
	Without Mitigation	2	1	6	3	27	Low	-	Medium			
Increased risk to	degree to which impact can be reversed:		High									
neighbouring land users	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures						e signed by the contractamage that can be linke					
	With Mitigation	2	1	4	3	21	Low					
				Powerline	- No-Go							
Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		ignificance (E+D+M)*P)	Status (+ve or -ve)	Confidence			
	Nature of impact:	, ,	. , ,		. , ,	Direct	. , ,	, , , , , ,				
	Without Mitigation	3	5	2	5	50	Medium	_	Medium			

Loss of employment and	degree to which impact can be reversed:				N/A						
development opportunities	degree of impact on irreplaceable resources:				N/A						
	Mitigation Measures				None						
	With Mitigation	3	2	2	5	35	Medium	-			
	Nature of impact:		Direct								
	Without Mitigation	2	5	2	5	45	Medium	-	Medium		
Maintenance of existing	degree to which				N/A						
landscape and sense of place	degree of impact on irreplaceable resources:				N/A						
	Mitigation Measures				None						
	With Mitigation	2	5	2	5	45	Medium	-			

# BioTherm Energy - Esizayo Powerline

# Impacts Identified in the BAR

## Significance Rating Table

	Construction Phase											
		А	Iternative 4	4- Substatio	on 2, Route	Option 2						
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence			
	Nature of impact:					Direct						
	Without Mitigation	1	1	0	1	2	Low	-				
	degree to which impact can be reversed:				Low							
construction of the	degree of impact on irreplaceable resources:		Low									
	Mitigation Measures	Du	Due to the low impact significance, mitigation measures are not considered to be necessary.									
	With Mitigation	1	1	0	1	2	Low	-				
	Nature of impact:					Direct						
	Without Mitigation	1	1	0	1	2	Low	-				
	degree to which impact can be reversed:				Low							
construction of the	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	Du	e to the low imp	act significance	, mitigation mea	asures are not co	onsidered to be necessa	ary.				
	With Mitigation	1	1	0	1	2	Low	-				
	Nature of impact:					Dircet						
	Without Mitigation	2	2	4	5	40	Medium	-	Medium			

Reduction in land availaibility for grazing animals due to theland	degree to which impact can be reversed:				Low							
being occupied by the transmission and substation infrastructure	degree of impact on irreplaceable resources:				Low							
	Mitigation Measures	Areas of co	nstruction shou	•	ctical) limited to should be kept		he project footprint, ar	nd activities				
	With Mitigation	1	2	2	4	20	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	4	3	24	Low	-	Medium			
· ·	degree to which impact can be reversed:		High									
clearance, soil disturbance and a high traffic movement onsite.	degree of impact on irreplaceable resources:	Low										
	Mitigation Measures		eas of construction should be (where practical) limited to the extent of the project footprint, and activities tside should be kept to a minimum. Traffic of construction vehicles should be kept to a minimum to reduce soi									
	With Mitigation	1	2	2	2	10	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	2	2	12	Low	-	Medium			
Potential spillage of hazardous substances such as oils, fuel, grease from	degree to which impact can be reversed:				High							
construction vehicles, and sewage from on-site sanitation systems	degree of impact on irreplaceable resources:				Low							
samtation systems	Mitigation Measures						nding in storage areas o ge of hazardous materi					
	With Mitigation	1	2	0	1	3	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	6	4	40	Medium	-	Medium			
Alterations of flow regimes of watercourses, in close	degree to which impact can be reversed:				High							

proximity to the site, or	degree of impact on											
that is proposed to be	irreplaceable				Low							
traversed.	resources:											
		Construction of	f the powerlines	s should occur d	uring the dry sea	ason and the site	e rehabilitated before n	najor rainfall				
	Mitigation Measures	events occur. P	owerlines must	only cross perpe	endicular to a wa	atercourse and t	the chosen alignment m	nust				
	With Mitigation	2	2	2	3	18	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	2	8	5	60	Medium	-	Medium			
Temporary degradation of	degree to which											
wetland/riparian habitat	impact can be		High									
due to the	reversed:											
proposedproposed	degree of impact on		Low									
positioning of the	irreplaceable											
powerlines and pylons	resources:	A	a in denth and thorough freshwater functional assessment should be conducted should RioTherm be									
	IN /IITIMATIAN IN/IDAGI IPAG	·	e in-depth and thorough freshwater functional assessment should be conducted should BioTherm be nised as a Preferred Bidder. The detailed freshwater habitat assessment must provide recommendations in									
				ı				ndations in	N A = elitrore			
	With Mitigation	1	2	4	3	21	Low	-	Medium			
	Nature of impact:	0		, 1	2	Direct	1	· · · · · · · · · · · · · · · · · · ·	Т			
	Without Mitigation	2	1	6	3	27	Low	-				
	degree to which				Lliada							
	impact can be				High							
Potential contamination of	reversed: degree of impact on											
groundwater through	irreplaceable				Low							
	resources:				LOVV							
		All equipmen	t that has the po	otential to spill o	r leak must have	e a drip trav und	lerneath at all times.					
	Mitigation Measures			impermeable su								
	With Mitigation	1	1	2	2	8	Low	-				
	Nature of impact:					Direct						
	Without Mitigation	2	2	8	4	48	Medium	-	Medium			
	degree to which											
	impact can be				Moderate	е						
	reversed:											
	degree of impact on											
	irreplaceable				Moderate	Э						
	resources:											

Impacts on vegetation and protected plant species	Mitigation Measures  With Mitigation	are be avoided • Ensure that Is transformed ar • Minimise the by the operatio • All roads buil steep areas. • Preconstruct principles are a spills, avoiding • Demarcate a to avoid using	construction environmental induction for all construction staff on site to ensure that basic environmental ples are adhered to. This includes awareness as to no littering, appropriate handling of pollution and chemical avoiding fire hazards, minimizing wildlife interactions, remaining within demarcated construction areas etc. narcate all areas to be cleared with construction tape or similar material. However caution should be exercised bid using material that might entangle fauna.  2 2 4 3 24 Low - Me										
	Nature of impact:	2	2 4 3 24 Low - Me										
	Without Mitigation	2	2	4	3	24	Low		Medium				
	degree to which impact can be reversed:		Low										
	degree of impact on irreplaceable resources:				Low								
Impacts on Fauna due to constructtion activities	Mitigation Measures	Personnel shou No fires shou No fuelwood No dogs or ca If any parts o (such as most I All hazardous accidental chei related to the i No unauthor	e illegal collection, hunting or harvesting of any plants or animals at the site should be strictly forbidden. onnel should not be allowed to wander off the construction site. of fires should be allowed within the site as there is a risk of runaway veld fires. of dogs or cats should be allowed on-site. of ogs or cats should be allowed on site apart from that of the landowners. any parts of site such as construction camps must be lit at night, this should be done with low-UV type lights has most LEDs), which do not attract insects and which should be directed downwards. hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any dental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as seed to the nature of the spill. of unauthorized persons should be allowed onto the site and site access should be strictly controlled and vehicles the need to roam around the site should be accompanied by the ECO or security personnel.										
	With Mitigation	1	2	2	3	15	Low	-	Medium				
	Nature of impact:		Direct										

	Without Mitigation	2	2	8	4	48	Medium	-	Medium			
	degree to which impact can be reversed:				Moderate	)						
	degree of impact on irreplaceable resources:				Moderate	9						
Increased Soil Erosion risk during construction	Mitigation Measures	Roads should vegetation.     Disturbance ractivities shoul     Regular moni     Erosion probl     Sediment trapresent during     A low cover of	have runoff cornear to drainage d demarcated astoring for erosic ems should be ros may be neces the wet season. If vegetation should be roses as the wet season.	lines should be s no-go areas. on problems alor ectified on a reg sary to prevent	avoided and ser ng the access roa gular basis. erosion and soil	rastructure pre nsitive drainage ads and other c movement if th ithin the constr	sent to limit erosion and areas near to the const leared areas.  here are topsoil or other uction footprint to bind	ruction waste heaps				
	With Mitigation	2	2	2	3	18	Low	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	1	8	4	44	Medium	-	Medium			
	degree to which impact can be reversed:		High									
avifauna due to habitat	degree of impact on irreplaceable resources:				Low							
destruction and disturbance associated with the construction of the powerlines	Mitigation Measures	<ul><li>Access to the species.</li><li>Measures to</li><li>Maximum us minimum as fa</li><li>The recomme</li></ul>	remainder of the control noise and e should be mader as practical.	e site should be d dust should be le of existing acc ecological and b	e applied accord eess roads and th ootanical special	ed to prevent u ing to current b ne construction list studies mus	infrastructure. nnecessary disturbance best practice in the indus of new roads should be t be strictly implemente d areas is concerned.	stry. kept to a				
	With Mitigation	2	1	4	2	14	Low	-	Medium			
	Nature of impact:		Direct									

	Without Mitigation	1	1	4	3	18	Low	-	Medium
	degree to which impact can be reversed:				High				
Displacement of Red Data avifauna due to habitat	degree of impact on irreplaceable resources:				Low				
destruction and disturbance associated with the construction of the substation	Mitigation Measures	<ul> <li>Access to the species.</li> <li>Measures to end of the species.</li> <li>Maximum use minimum as falled.</li> <li>The recommendation</li> </ul>	control noise an e should be mad r as practical. endations of the	e site should be d dust should be e of existing acc ecological and b	e applied accord ess roads and the cotanical special	ed to prevent u ling to current b ne construction list studies must	nfrastructure. nnecessary disturbance est practice in the indus of new roads should be t be strictly implemente d areas is concerned.	stry. kept to a	
	With Mitigation	1	1	2	3	12	Low	-	Medium
	Nature of impact:					Direct		1	
	Without Mitigation	4	5	4	2	26	Low	-	Medium
Physical disturbance of archaeological sites during	degree to which impact can be reversed:				Low				
the construction of the powerlines	degree of impact on irreplaceable resources:				High				
	Mitigation Measures	<ul> <li>A 20m buffer area;</li> </ul>	must be placed	around the colo	nel ruins ideniti	fied at Substatio	on 1 and must be declar	ed a "No-Go"	
	With Mitigation	4	5	4	1	13	Low	-	Medium
	Nature of impact:					Direct			
Physical disturbance of	Without Mitigation	4	5	4	2	26	Low	-	Medium
archaeological sites during the construction of	degree to which impact can be reversed:	Low							

	degree of impact on irreplaceable resources:				High									
	Mitigation Measures	<ul> <li>A 20m buffer area;</li> </ul>	must be placed	around the cold	onel ruins ideniti	ified at Substati	on 1 and must be declar	red a "No-Go"						
	With Mitigation	4	5	4	1	13	Low	-	Medium					
	Nature of impact:					Indirect								
	Without Mitigation	4	5	6	3	45	Medium	-	Medium					
Vandalism of Heritage items	degree to which impact can be reversed:		Low											
	degree of impact on irreplaceable resources:		Low											
	Mitigation Measures		The rock art site next to the R354 must be protected from vandalism, either by a temporary fence during onstruction, or else by supervision of construction staff. Alternatively, use the other line options.											
	With Mitigation	4	5	6	1	15	Low	-	Medium					
	Nature of impact:					Direct								
	Without Mitigation	1	5	2	2	16	Low	-	Medium					
Physical disturbance of	degree to which impact can be reversed:				Low									
palaeontological sites	degree of impact on irreplaceable resources:				Low									
	Mitigation Measures	•	onitoring of all surface clearances and substantial excavations (>1m deep) by the ECO for fossil material (e.g. es, teeth, fossil wood) on an on-going basis during the construction phase.											
	With Mitigation	1	5	2	1	8	Low	-	Medium					
	Nature of impact:					Direct	1		1					
	Without Mitigation	2	2	6	4	40	Medium	-	Medium- High					

Visual impact during construction due to dust,	degree to which impact can be reversed:	High- The v	isual impact can		reversed if vehic are removed af		rubble and any other co	onstruction				
vehicles and equipment	degree of impact on irreplaceable resources:		Low- Dust and e	quipment are no	ot likely to impac	ct on any irrepla	ceable visual resources.					
	Mitigation Measures	<ul> <li>The handling conditions.</li> </ul>	and transportat	ion of materials	which may gene	erate dust must	be avoided during high	wind				
	With Mitigation	2	2	4	3	24	Low	-	Medium- High			
	Nature of impact:		•			Direct			· ·			
	Without Mitigation	2	2	4	4	32	Medium	-	Medium- High			
Visual impact during construction due to	degree to which impact can be High- The visual impact can becompletely reversed, if vegetation is rehabilitated. reversed:											
vegetation clearing	degree of impact on irreplaceable resources:		Low- From a visual perspective can be re-established.									
	Mitigation Measures	<ul> <li>The construction.</li> </ul>										
	With Mitigation	2	2	4	3	24	Low	-	Medium- High			
	Nature of impact:					Direct						
	Without Mitigation	2	1	2	3	15	Low	-				
	degree to which											
Increased traffic generation	impact can be				Low							
around the study area by	reversed:											
construction vehicles-	degree or impact on				Low							
	irrenlaceable	The posted si	peed limit on the	e R354 in the vac	cinity of the pro	oosed developm	nent is currently 120km/	/h. it is				
	Mitigation Measures						n with the access road.					
	With Mitigation	2	1	2	2	10	Low	-				
	Nature of impact:					Direct						
	Without Mitigation	2	2	4	4	32	Medium	-	High			
	degree to which		_	·	·	<u> </u>	outum		· ··g· ·			
Acoustic impact on	impact can be				High							
residential receptors	reversed: degree of impact on				1							
	irrenlaceable				Low							
	Mitigation Measures						at activities witj the grea east disturbance.	atest potential				
	With Mitigation	2	2	4	3	24	Low	-	High			

	Nature of impact:		Direct										
	Without Mitigation	3	2	4	3	27	Low	+	Medium				
	degree to which												
Increase in employment	impact can be				None								
opportunities	reversed: degree of impact on												
	irrenlaceable				None								
	Mitigation Measures	Appointme	nt of local contr		nent of local lab unskilled oppor		sible, particularly semi	i-skilled and					
	With Mitigation	3	2	4	4	36	Medium	+	Medium				
	Nature of impact:		Indirect           2         2         6         3         30         Low         -         Me										
	Without Mitigation	2											
Disruption through influx of job seeks	degree to which impact can be reversed:	N	Medium - difficult to manage or control influx of job seekers and associated local impacts										
Job social	uegree or impact on irreplaceable		Low ge employment expectations as far as possible, prioritise local employment, engage with local municipality in respect of accommodation of labour / staff brought into the area by contractors/developer										
	Mitigation Measures												
	With Mitigation	2	2	6	2	20	Low	-	Medium				
	Nature of impact:		Indirect										
	Without Mitigation	2	2	6	3	30	Low	-	Medium				
Increase in communicable diseases and reduced public health	degree to which impact can be reversed:	Medium - diff	icult to manage	or control comr		se which could p	ermanently impact loc	cal populations					
public riculti	irrenlaceable				High								
	Mitigation Measures	Developme	nt of a labour fo	orce Health and S	Safety Plan, HIV	/AIDS awareness	, prevention and testir	ng campaign					
	With Mitigation	2	2	6	2	20	Low	-	Medium				
	Nature of impact:					Direct							
	Without Mitigation	2	2	4	3	24	Low	-	Medium				
Nuisance from noise, dust and traffic disturbances	degree to which impact can be reversed:	Medium - i	Medium - implementation of EMPr measures to reduce noise, dust and traffic related impacts, but unlikely to negate completely										
and traine disturbances	uegree or impact on irreplaceable				Low								
	Mitigation Measures	Air quality, no	oise and traffic r	elated mitigatio	n measures reco	•	e relevant specialists a	ind included in					
	With Mitigation	2	2	2	2	12	Low	-	Medium				
	Nature of impact:					Indirect							

	Without Mitigation	2	2	6	3	30	Low	-	Medium				
Increased risk to	degree to which impact can be reversed:	Hi	gh - provision of	fcompensation	to farmers for d	amage to infras	structure, stock theft, et	C.					
neighbouring land users	uegree or impact on				Low								
	Mitigation Measures						he contractor; Contractored to construction work						
	With Mitigation	2	2	4	3	24	Low	-	Medium				
	Nature of impact:					Direct							
	Without Mitigation	2	2	6	4	40	Medium	-	Medium				
	degree to which impact can be reversed:		High - provision of compensation to farmers for losses resulting from veld fires  Low										
Increased risk of veld fires	degree of impact on irreplaceable resources:												
	Mitigation Measures		plementation of EMPr i.e. mitigation in respect of construction phase activities that may pose a fire risk (i. een fires allows on site for cooking/heating; activities that pose a fire risk to be property managed and conf										
	With Mitigation	2	2	4	3	24	Low	-	Medium				
				Powerline	- No-Go								
Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence				
	Nature of impact:					Direct							
	Without Mitigation	1	1	0	1	2	Low	+	Medium				
	degree to which				N/A								
Impacts on vegetation and protected plant species	degree of impact on irreplaceable resources:				N/A								
	Mitigation Measures				N/A								
	With Mitigation												
	Nature of impact:					Direct							
	Without Mitigation	1	1	0	1	2	Low	+	Medium				
Faunal impacts due to	degree to which		N/A										

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construction activities	degree of impact on				N1/A							
	irreplaceable				N/A							
	resources:											
	Mitigation Measures				N/A							
	With Mitigation											
	Nature of impact:					Direct			_			
	Without Mitigation	1	1	0	1	2	Low	+	Medium			
	aegree to wnich				N/A							
IIIOI Casca Coll El Csicil i isk	impact can be degree of impact on											
during construction	irreplaceable				N/A							
	resources:		IVA									
	Mitigation Measures		N/A									
	With Mitigation		T .		IV/A			T				
	Nature of impact:					Direct						
	Nature of impact:					Direct		T	T			
The no-go option will result	Without Mitigation											
in no additional impacts on	uegree to wnich				N/A							
-	degree of impact on											
the current ecological	irreplaceable				N/A							
integrity	resources:											
	Mitigation Measures				N/A							
	With Mitigation											
	Nature of impact:					Direct						
	Without Mitigation	2	5	2	5	45	Medium	-	Medium			
Loss of employment and	aegree to wnich				N/A		<u> </u>					
local economic	impact can be degree of impact on											
development	irrenlaceable				N/A							
	Mitigation Measures				None							
	With Mitigation	3	5	2	5	50	Medium	-	Medium			
	Nature of impact:					Direct						
	Without Mitigation	2	5	2	5	45	Medium	+				
	degree to which											
	impact can be				Direct							
Maintenance of the existing					D.: 00t							
atoriarioo or trio oxisting	TOVOI JCU.											

landscape and sense of place	degree of impact on irreplaceable resources:		N/A							
	Mitigation Measures				None					
	With Mitigation	2	5	2	5	45	Medium	+	Medium	
	Nature of impact:									
	Without Mitigation									
	degree to which impact can be reversed:									
	degree of impact on irreplaceable resources:									
	Mitigation Measures									
	With Mitigation									
	Nature of impact:									
	Without Mitigation									
	degree to which impact can be reversed:									
	degree of impact on irreplaceable resources:									
	Mitigation Measures									
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	Nature of impact:									
	Without Mitigation									
	degree to which impact can be reversed:									
	degree of impact on irreplaceable resources:									
	Mitigation Measures									

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	Nature of impact:					T			
	Without Mitigation								
	degree to which impact can be reversed: degree of impact on irreplaceable								
	resources:								
	Mitigation Measures								
	With Mitigation								
			Su	bstation Al	ternative 1				
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)		gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence
	Nature of impact:		<u> </u>	ı		ı			
	Without Mitigation								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								
	Mitigation Measures								
	With Mitigation								
	Nature of impact: Without Mitigation								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								
	Mitigation Measures								

With Mitigation					
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degree of impact on irreplaceable resources:					
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	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								
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	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								
	Mitigation Measures								
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	Nature of impact:			,					
	Without Mitigation								
	degree to which impact can be reversed:								
	degree of impact on irreplaceable resources:								
	Mitigation Measures								
	With Mitigation								
			Sul	bstation Al	ternative 2				
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Si	gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence
	Nature of impact:	\-/	(-)	,	ζ. /			( 11 11 10)	
	Without Mitigation								
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degree to which					
impact can be					
reversed:					
degree of impact on					
irreplaceable					
resources:					
Mitigation Measures					
With Mitigation					
Nature of impact:					
Without Mitigation					
degree to which					
impact can be					
reversed:					
degree of impact on					
irreplaceable					
resources:					
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degree of impact on	degree of impact on irreplaceable								
	resources:								
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Nature of impact:					1	ı			
Without Mitigation									
degree to which impact can be reversed:									
degree of impact on irreplaceable resources:									

	Mitigation Measures							
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	Nature of impact:						,	
	Without Mitigation							
	degree to which impact can be reversed:							
	degree of impact on irreplaceable resources:							
	Mitigation Measures							
	With Mitigation							
			(	Substation	- No-Go			
Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	gnificance (E+D+M)*P)	Status (+ve or -ve)	Confidence
	Nature of impact:	, ,	. ,		, ,		,	
	Without Mitigation							
	degree to which impact can be reversed:							
	degree of impact on irreplaceable resources:							
	Mitigation Measures							
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	degree to which impact can be reversed:							
	degree of impact on irreplaceable resources:							

Mitigation Measures									
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	degree to which impact can be reversed:								
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