APPENDIX G: OTHER INFORMATION

IMPACT ASSESSMENT:

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
PLANNING & DESIGN PHASE									
GENERAL IMPACTS									
Compliance with relevant environmental legislation and policy	Failure to comply with existing policiesand legal obligations can lead to the project conflicting with local, provincial and national policies, legislation etc. This can result in legal non-compliances, fines, delays in construction activity, overall project failure and undue disturbance to the natural environment.	**DIRECT/ CUMULATIVE**	**Localised**	**Long-term**	**Possible**	**Severe**	**MODERATE NEGATIVE**	• All relevant legislation and policy must be consulted and the proponent must ensure that the project is compliant with such legislation and policy. • The relevant legislation and policies must include but not restricted to the following: NEMA, NWA, Local and District Spatial Development Frameworks, Eastern Cape Biodiversity Conservation Plan (ECBCP), and Local Municipal bylaws.	**LOW NEGATIVE**
Stormwater runoff	Inappropriate stormwater design may lead to an increased risk of erosion on site.	**DIRECT/ CUMULATIVE**	**Study area**	**Long-term**	**Probable**	**Severe**	**MODERATE NEGATIVE**	• Appropriate stormwater structures must be designed and implemented.	**LOW NEGATIVE**
Waste management	Failure to plan for the storage and disposal of waste may lead to increased litter, pollution of the environment, unsanitary conditions, and health risks.	**DIRECT INDIRECT**	**Localised**	**Medium-term**	**Probable**	**Moderately Severe**	**LOW NEGATIVE**	• A proper waste management plan for handlingonsite waste must be designed. • An appropriate area where waste can be storedbefore disposal must be identified. • Waste will be removed from site via municipal waste removal services. • Consider recycling alternatives.	**LOW NEGATIVE**
Alien vegetation Management	Improper planning to manage alien vegetation on site may lead to overgrowth of alien vegetation onto the shooting site.	**DIRECT**	**Study Area**	**Long-Trem**	**Probable**	**Severe**	**HIGH NEGATIVE**	• Alien plant growth/regrowth within the shooting range should be monitored/maintained, and any such species should be removed on an ongoing basis.	**LOW NEGATIVE**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
CONSTRUCTION PHASE									
GENERAL IMPACTS									
Compliance with relevant environmental legislation and policy	Failure of the contractor to implement mitigation measures specified in the EMPr and EA could result in fines, overall project failure or delays in construction and undue disturbance to the natural environment.	**INDIRECT**	**Localised**	**Long-term**	**Possible**	**Moderately Severe**	**MODERATE NEGATIVE**	• The developer must employ an independent Environmental Control Officer (ECO) for the duration of the construction phase to ensure that construction is implemented according to conditions of the EA, EMPr and WUL.	**LOW NEGATIVE**
Stormwater management	Inadequate stormwater infrastructure will lead to an increase in erosion risk.	**DIRECT CUMULATIVE**	**Study area**	**Long-term**	**Probable**	**Severe**	**MODERATE NEGATIVE**	• Stormwater infrastructure must be implemented to capture stormwater and promote infiltration. • The construction site must be managed (with silt traps and erosion berms etc.) to prevent pollution of environments surrounding the project site. • The project area must be monitored by an ECO on a monthly basis during construction.	**LOW NEGATIVE**
Waste management	Littering on site may attract vermin andpollute the surrounding areas.	**DIRECT**	**Study area**	**Permanent**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• There must be sufficient solid waste bins available for the temporary storage of waste. • No waste must be buried or burned on site. • Waste must be collected on a regular basis anddisposed of at a licensed landfill site. • Consider recycling options	**LOW NEGATIVE**
Visual aesthetics of the area	The proposed project site will be transformed as a result of construction vehicles, large machinery and workers moving throughout the area.	**DIRECT**	**Localised**	**Short-term**	**Probable**	**Slight**	**LOW NEGATIVE**	• All construction activity should take place duringdaylight working hours (i.e., 7am – 5pm). • All construction activity and equipment must belimited to the demarcated areas. • Storage of construction materials, stockpiles and waste must be positioned to avoid visibility from the adjacent roads. • Building rubble and construction materials to be stored neatly.	**LOW NEGATIVE**
	The development of the shooting range and associated infrastructure will visually transform the aesthetics of the site.	**DIRECT CUMULATIVE**	**Localised**	**Permanent**	**Definite**	**Severe**	**HIGH NEGATIVE**	• Erosion, waste and dust to be mitigated as per the abovementioned mitigation measures. • No visually intrusive practices (e.g., night lighting) will be allowed on site or in the surrounding areas. • Good housing-keeping to be implemented on site and waste to be collected on a regular basis.	**HIGH NEGATIVE**
Dust control	Any levelling at this site will increase the potential for dust. During the construction phase of the activity, construction vehicles operating on site as well as moving to and from the construction site will generate dust pollution. The effects of dust will be exacerbated during high wind conditions.	**DIRECT**	**Study site**	**Short-term**	**Probable**	**Severe**	**MODERATE NEGATIVE**	• During windy periods un-surfaced and un-vegetated areas must be dampened down to reduce dust. • Construction work to be halted during periods of strong winds. • The maximum amount of vegetation cover must be maintained on site to prevent dust. • Vehicles carrying dusty materials must be securely and properly covered before they leave the site. • Excavations and other clearing activities mustonly take place during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas. • Any complaints or claims emanating from dust issues must be attended to immediately by the Contractor.	**LOW NEGATIVE**

Noise	It can be expected that there will be an increase in noise levels during the site preparation and construction phase of the development and may become a nuisance for surrounding residents. The increase in noise will be associated with the operation of construction vehicles, equipment and laborers. There will be an increase in noise levels during the site and preparation phase	**DIRECT**	**Study area**	**Short-term**	**Probable**	**Moderately severe**	**LOW NEGATIVE**	• During construction, activities which include the movement of construction vehicles and the operation of machinery should be restricted to normal working hours (7am – 5pm weekdays, 7am – 1pm on Saturdays and no work on Sundays or public holidays). • A complaints register must be kept on site and any complaints must be recorded and reported to the ECO. • Construction equipment must be kept in good working order and, where appropriate, fitted with silencers which are kept in good working order. • As construction workers operate in a noisy environment, it must be ensured that their working conditions comply with the requirements of the Occupational Health and Safety Act (Act No 85 of 1993). • Where necessary, ear protection gear must be worn.	**LOW NEGATIVE**
Construction traffic and Road Impacts	There will be an increase in traffic volumes including heavy construction vehicles along approach roads which may result in the degradation of the road condition.	**DIRECT**	**Study Area**	**Short-term**	**Probable**	**Moderately severe**	**LOW SEVERE**	• Residents must be made aware of the presence of construction vehicles through highly visible signage. • Avoid transportation of construction materials during peak hours. • Speed must be limited to 30km/hr on site. • Overloading of vehicles must not occur. • Whenever possible, construction vehicles shouldbe limited to low-volume periods. • Road condition should be recorded prior to construction vehicles making use of the roads and any damage caused by construction vehicles should be repaired immediately. • Appropriate speed limits must be put in place. • All construction vehicles should be parked onsite not to block traffic.	**LOW NEGATIVE**
Disturbance to Fauna	Large Indigenous fauna such as large predatory birds, duikers as well as small indigenous fauna such as snakes, lizards, moles, mongoose and field mice present on site may be impacted upon by construction activities.	**DIRECT/ INDIRECT**	**Localised**	**Short-term**	**Definite**	**Moderately severe**	**LOW NEGATIVE**	• No fauna on site may be intentionally harmed or killed. • All personnel should be made aware of the need to protect fauna on site. • All open excavations must be barricaded or fenced. • Excavations must be checked daily for trapped fauna and trapped animals be rescued and released. • Injured fauna should be referred to an appropriate rehabilitation facility.	**LOW NEGATIVE**
Soil Erosion	Exposed soils are easily susceptible to erosion by water runoff and wind during periods of heavy rainfall or strong winds. The non-cohesive nature of the *in-situ* material coupled with the lack of vegetation creates a potential for soil erosion at the proposed site. This may result in increased surface water flow as opposed to water absorption and subsequently contribute to soil erosion.	**DIRECT**	**Study area**	**Short-term**	**Definite**	**Moderately severe**	**MODERATE NEGATIVE**	• Temporary stabilization measures (e.g silt traps) should be implemented until the site is fully rehabilitated. • Appropriate erosion control measures must be implemented to ensure that no erosion is taking place. At the first sign of erosion, the necessary remedial action must be taken. • Care must be taken to ensure that runoff is well dispersed so as to limit erosion. • A site-specific stormwater management plan should be implemented and managed to eliminate the potential of surface erosion. • All temporarily impacted areas must be rehabilitated with indigenous vegetation as soon as construction in the particular area or phase of work is complete, I.e., rehabilitation is on-going throughout construction.	**LOW NEGATIVE**
General Waste Pollution	The construction phase of the activity will produce construction waste in the form of cleared vegetation, excavated soil, as well as general waste (e.g., litter	**DIRECT**	**Localised**	**Short-term**	**Definite**	**Moderately severe**	**LOW NEGATIVE**	• Vegetation that is cleared from the site (and is not replanted or relocated as per the recommendations) must be removed to a registered garden refuse site.	**LOW NEGATIVE**

	from workers on site). The incorrect management of these wastes may result in pollution of the surrounding natural areas.							• Staff must be trained to implement waste control and to identify hazardous waste. • Construction material must be reused or recycled wherever possible. • Other waste to be removed to a licensed landfill site. • General good housekeeping must be implemented. No litter to remain on site. • Disposal certificates must be obtained for all waste disposals. • Spills must be avoided during transportation of waste material. • Sufficient and appropriate weather-and scavenger-proof bins must be made available on site.	
Impacts on Health, Safety and Fire Risk	The use of construction machinery during the construction phase poses a potential risk to the health and safety of people working at the construction site. The movement of construction vehicles also increases the risk of road accidents. The risk of accidents, fires and explosions must be mitigated effectively.	**DIRECT**	**Localised**	**Short-term**	**Probable**	**Moderately Severe**	**LOW NEGATIVE**	• All relevant Health and Safety legislation as required in South Africa should be strictly adhered to, including but not limited to the Occupational Health and Safety Act, 1993 (No. 85 of 1993). • Smoking should be prohibited in the vicinity of flammable substances. • Ensure availability of fire extinguishers • All employees must be aware of emergency/contingency plans to ensure an understanding of the hazards and procedures required during and emergency situation.	**LOW NEGATIVE**

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OPERATION PHASE									
GENERAL IMPACTS									
Stormwater runoff	Ensure that all stormwater infrastructure has been maintained and that it works properly.	**DIRECT**	**Localised**	**Long-term**	**Probable**	**Moderately severe**	**MODERATE NEGATIVE**	• Stormwater management infrastructuremust be properly maintained and monitored regularly. • If the stormwater management measuresput in place are deemed insufficient, a qualified engineer must be approached to assist with additional stormwater attenuation mechanisms and remediation.	**LOW NEGATIVE**
Waste management	Inappropriate waste storage (general waste) and disposal practices may lead to litter, pollution, attraction of pests (flies, vermin) and general health risks.	**DIRECT**	**Localised**	**Long-term**	**Probable**	**Moderately Severe**	**MODERATE NEGATIVE**	• All waste to be removed from site via municipal waste removal service regularly. • In addition, an adequate backup system for waste managementshould be in place in case of service delivery strikes. • Consider recycling options.	**LOW NEGATIVE**
Utilization of Water Resources	The proposed development will rely entirely on water from rainwater harvesting tanks (I.e., Jojo tanks). This will relieve the pressure on the current drought situation in the area.	**DIRECT/ CUMULATIVE**	**Localised**	**Long-term**	**Definite**	**Severe**	**HIGH NEGATIVE**	• Excessive use of water to be avoided wherever possible. • Make use of water saving products such as water saving toilets I.e., chemical toilets, water saving taps with spray cartridges and timed turn-off taps. • Monitor water consumption	**MODERATE NEGATIVE**
Invasives and Alien Species Management	There is a high risk of alien invasive species spreading into the shooting ranges as the surrounding areas consists of a large volume of alien invasive species such as Wattle and Gum Trees. The lack of alien vegetation management may result in large scale alien plant invasion. However, should the property management implement an effective alien vegetation management plan both within the shooting range and potentially within the surrounding areas, this could result in significantly positive improvement to alien species management.	**DIRECT**	**Localised**	**Permanent**	**Probable**	**Moderate**	**MODERATE NEGATIVE**	• Alien plant growth/regrowth within the shooting range should be monitored/maintained, and any such species should be removed on an ongoing basis.	**LOW NEGATIVE**
Soil Erosion	There is an increased risk of erosion of sand mounds at each shooting range.	**DIRECT**	**STUDY AREA**	**Long-term**	**Probable**	**Moderate**	**MODERATE NEGATIVE**	• It is therefore recommended to stabilize sand mounds by allowing some vegetation to grow back or alternative stabilization methods should be considered e.g;, sand traps, covering the sand mound with netting, lining etc.	**LOW NEGATIVE**
Soil Pollution	Bullets contain pollutants such as Lead, Copper, Antimony and Zinc which are harmful to the environment. When these bullets are embedded into the sand mounds, they get into contact with soil and water and thus exposed to chemical and physical reactions in the soil. This is a health hazard and endangering the lives of humans, wildlife and vegetation. (Lead causes a decrease in the pH of the soil). Shooting range pollutants do not usually cause immediate or short-term environmental impacts	**DIRECT**	**STUDY AREA**	**Long-term**	**Unlikely**	**Severe**	**HIGH NEGATIVE**	• Remove bullets periodically from sand mounds	**LOW NEGATIVE**
Noise Pollution	Shooting generates noise that may be damaging or harmful to its hearer.	**DIRECT**	**LOCALISED**	**Long-term**	**Definite**	**Moderate**	**MODERATE NEGATIVE**	• Because the area is surrounded by dense vegetation, noise generated from the shooting site will be insignificant and not impact on surrounding residents as the noise	**LOW NEGATIVE**

								• gets muffled by surrounding vegetation. • The nearest semi-formal residents are 500m to the south of the site with a high-density urban area being greater than 1km away and thus shooting will not be heard by residents.	

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NO-GO									
NO-GO ***This refers to the current status quo and the risks and impacts associated with it***	None of the positive impacts and none of the negative impacts will occur if development does not proceed. Some job opportunities may be lost.	**DIRECT**	**Localised**	**Long-term**	**Unlikely**	**Moderately severe**	***LOW* NEGATIVE**	• No mitigation	***LOW* NEGATIVE**