

TABLE 1: ASSESSMENT OF POTENTIAL ENVIRONMENTAL IMPACTS

Key: C - Construction, O - Operation, L - low, M - moderate, H - high, Lo - Local, R - Regional, N - National, P- permanent, LT - long term, MT - medium term, ST - short term (as suggested and defined by DEAT's Integrated Environmental Management Series: Impact Significance) – negative, + positive. Mitigation measures are identified and potential impacts are rated with these measures in effect.

Issue	Potential Impact without mitigation	Phase	Probability	Significance	Scale	Duration	Mitigation	Probability	Significance
Geology	None identified	-	-	-	-	-	-	-	-
Topography	The warehouse will be cut into the slope in order to lower its profile in the landscape and reduce the amount of fill required, but the impact of this is highly localised and will not affect the topography of the valley at any significant scale	C/O	H	L -	Lo	LT	-	-	-
Hydrology	Minor alteration to sub-surface flow of water down the slope due to cut for placement of warehouse and compaction of soils thereunder	C/O	M	L -	Lo	LT	The limited expected seepage from the cutline will be directed into the storm water attenuation system	M	L -
Soils	Erosion is likely to occur if the cleared and prepared site sits bare for a considerable period of time during the rainy season	C	M	L – M -	Lo	ST	Time construction in order that there is no break between site clearing and preparation and the construction phase. Construct an earth berm on the northern side of the site in order to prevent runoff down the slope whilst the site is bare	L	L -
	Possible erosion if overflow water that is not able to be captured by the rainwater tanks is not effectively channelled and dispersed	O	M	L-	Lo	LT	Ensure excess rainwater is effectively channelled and then spread in order that it can drain across the cultivated fields without causing any erosion	L	L
	Contamination by cement or other construction material	C	M	M -	Lo	MT	Mix cement and any other building materials in sealed and bunded area	L	L -

Issue	Potential Impact without mitigation	Phase	Probability	Significance	Scale	Duration	Mitigation	Probability	Significance
Land use	The proposed development is in keeping with its peri-urban location and congruent with the municipal IDP and SDF. The proposed EMF for the area does not however support the expansion of agricultural activity in the COH WHS. This is partly because of the concern over maintaining the sense of place as well as concern over the environmental impact of intensive animal farming activities. Given the peripheral location of the proposed development in the COH WHS and in the landscape, it is felt that it will not impact negatively on the sense of place or OUVs. Given the activity, there will also be no pollution streams emanating from the proposed development	C/O	L	L-	Lo	LT	Screening of development by trees in order to further limit any potential visual impact. External lighting to be kept to a minimum in order to reduce potential light pollution to the greatest extent possible	L	L-
Ecosystem processes	None identified due to small scale of proposed development relative to scale of ecological processes at landscape level	-	-	-	-	-	-	-	-
Vegetation	Warehouse to be located on currently cultivated field	-	-	-	-	-		-	-
Alien & invasive vegetation	Alien and invasive species may inadvertently be introduced during construction or operation	C/O	L – M	M –	Lo -	LT	Regular checks must be conducted to ensure that no alien or invasive species have established themselves, removal and control measures to be introduced if necessary.	L	L -

Issue	Potential Impact without mitigation	Phase	Probability	Significance	Scale	Duration	Mitigation	Probability	Significance
Fauna	Poaching of small animals and birds by construction crew on neighbouring land or next to river	C	L - M	L -	Lo	ST	Introduce measures to ensure construction workers remain within site envelope at all times and ensure fines apply to workers and contractor with provisions for immediate removal of offenders from site. Scan riverside area for snares at regular intervals.	L	L -
Ground water	Untreated sewage may pollute groundwater resources	O	L - M	L - - M -	Lo	LT	Biorock system to be used. Sewage to be treated to DWA general discharge standards and discharged into a French drain at >1.5m below the surface, >100m from the drainage line. Ensure treatment system and pipes properly maintained.	L	L -
Air	Limited impact from vehicle emissions	C/O	H	L -	Lo	LT	Ensure construction vehicles are in good working condition and operational vehicles are regularly serviced and do not have excessive emissions	L	L -
Noise	There will be some noise disturbance during the construction phase, however, distance from neighbours militates against them being impacted in any way	C	H	L -	Lo	ST	Ensure equipment is in good working order and that construction workers are informed of the need to keep noise levels down. No work between 18h00 and 07h00	L	L -
	Seed sorting machinery emits a low level noise, however, the warehouse walls and ceiling/roof will contain and dampen most if not all noise	O	H	L -	Lo	ST	Ensure warehouse suitably designed to dampen and contain any noise from seed sorting machinery	L	L -
Archaeology	Specialist study has indicated no significant findings on site and recommends that development may proceed	C	L - M	M -	Lo	LT	Should any archaeological artefacts or evidence be discovered at any stage during construction or operation then the relevant authority must be alerted immediately and all necessary measures must be taken not to damage this including the stopping of construction.	L	L -

Issue	Potential Impact without mitigation	Phase	Probability	Significance	Scale	Duration	Mitigation	Probability	Significance
Visual/ Aesthetic	Position in valley with extremely limited view-shed, limited views from existing roads, proximity to existing buildings and trees to the west indicate limited additional visual impact likely. No impact on sense of place and OUVs of COH WHS anticipated. See below for further details and photographs.	C/O	L	L -	Lo	LT	Additional trees may be planted to further screen the warehouse from view and suitable colours to be used for walls and roofing in order to blend the warehouse into the receiving environment to greatest possible extent	L	L -
Roads and traffic	Movement of excessive number of heavy construction vehicles may cause damage to dirt roads	C	L - M	L -	Lo	MT	Vehicle use and movement to be rationalised in order to reduce trips. All relevant bylaws regarding the use of roads to be observed. Effect repairs to the road as/if required.	L	L -
	Construction vehicles may kick up excessive dust whilst travelling on dirt roads	C	L - M	L -	Lo	ST	Heavy construction vehicles must stick to 40km per hour speed limits on dirt roads	L	L -
	Traffic flow on provincial access road R512 may be impacted by turning construction vehicles, which may even pose a safety risk to heavy and fast moving traffic during peak periods	C	M	M -	Lo	ST	Construction vehicle movement onto and off the R512 to be restricted to the hours between 09h00 and 16h00.		
	The traffic flow during operational period will be increased by two pantechnicons a week, which should not impact traffic flow on the R512 significantly	O	H	L -	Lo	LT	All large vehicle movement onto and off the R512 to be restricted to the hours between 09h00 and 16h00.	L	L -
Waste	Environmental contamination may result from waste that is not properly disposed of	C/O	L	M -	R	ST - LT	A suitably designed and implemented waste management system will ensure that potentially adverse impacts are minimised or prevented. All waste to be recycled or disposed of at registered landfill sites	L	L -

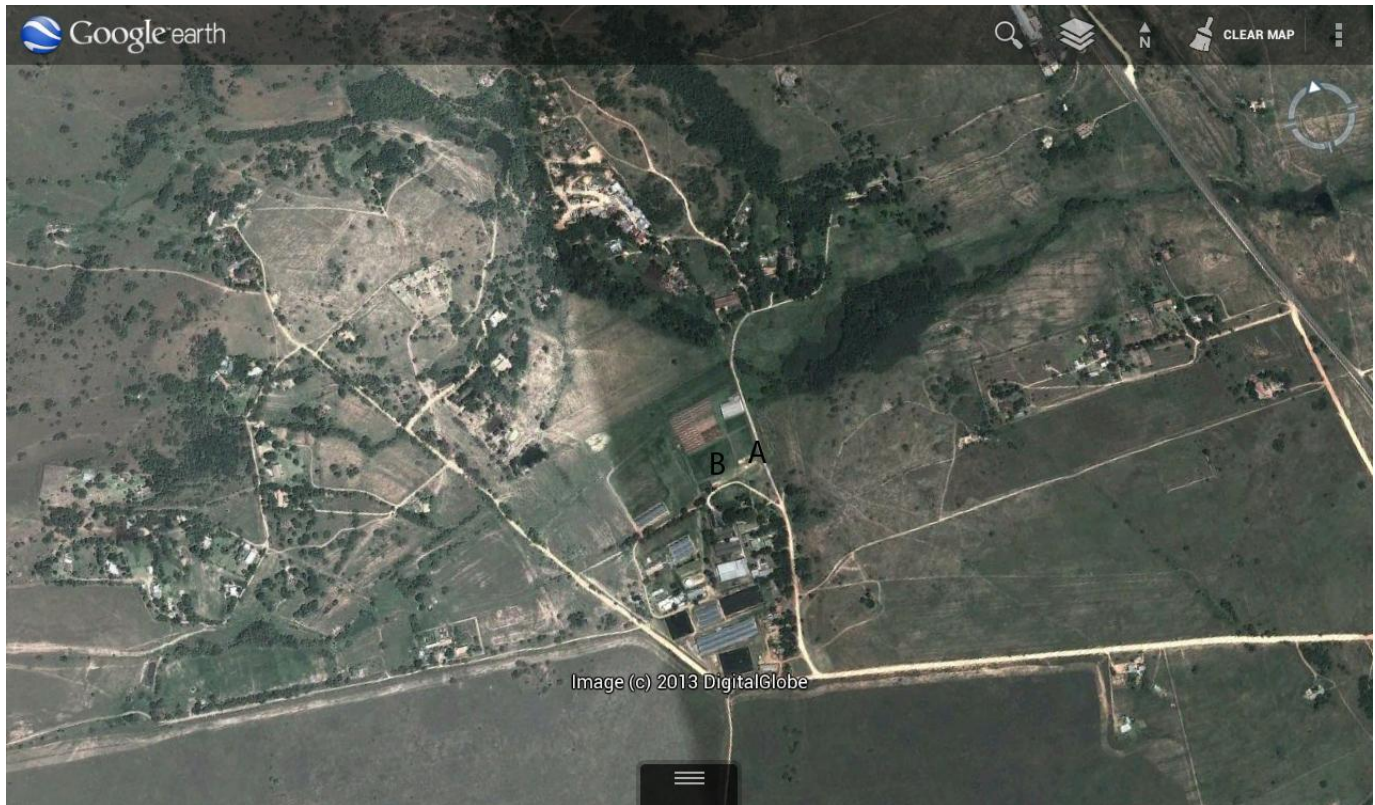
Issue	Potential Impact without mitigation	Phase	Probability	Significance	Scale	Duration	Mitigation	Probability	Significance
Building Materials	Environmental contamination may result from the inappropriate stockpiling and mixing of cement and/or other building materials	C/O	M - H	M -	Lo	MT	All building activities must be strictly managed according to the EMPr	L	L -
	Building sand and stone that is illegally sourced will contribute to environmental degradation	C	L - M	M -	Lo - R	ST - LT	Building sand and stone from legally permitted sources to be used	L	L -
	Unsecured and/or uncovered building materials may cause a security risk or nuisance during their transportation	C	L - M	L -	Lo	ST	Ensure all loads are secure and that building materials such as sand are suitably covered	L	L -
	Conventional cement has a high carbon footprint, contributing to global warming and climate change	C	H	L - M -	N	LT	If possible, the use of 'green' cement with a lower carbon footprint is suggested	L	L -
Fire	The development is not considered to constitute an undue fire hazard though open fires, especially during the construction period may be a concern	C	L	L	Lo - R	LT	No open fires during construction, food to be prepared on gas. All normal safety precautions will be taken during the construction and operational phases. Fire fighting equipment must be available and easily accessible at all appropriate places as per the SABS regulations. Catering on site to be organised by contractor.	L	L
Construction & decommissioning	A number of negative impacts may arise as a result of unmanaged construction or decommissioning activities	C/D	H	L - M -	Lo - R	ST - MT	EMPr to be effectively implemented and monitored during all phases	L	L -
Socio-economic	Positive impact due to generation of employment opportunities during construction and operation as well as contribution to the economy and exports from SA	C/O	H	M +	Lo - R	LT	N/A	H	M +

Issue	Potential Impact without mitigation	Phase	Probability	Significance	Scale	Duration	Mitigation	Probability	Significance
Safety and Security	Some construction activities may pose a threat to the health of construction workers	C	L - M	M -	Lo	ST - LT	Health and safety guidelines in EMPr to be followed at all times, SABS building standards to be followed.	L	L -
	Unauthorised access by construction crew or other people	C	L - M	M -	Lo	ST	All workers should wear proper identification tags at all times and should. Construction crew to be accommodated at Molateni Ranger Quarters for safety and environmental reasons. No movement of construction crew allowed between sunset and sunrise.	L	L -
HIV/AIDS	Uneducated workers may be vulnerable to transmission of HIV/AIDS	C/O	L - M	M - H -	Lo	LT	Contractor and Sakata to provide ongoing HIV/AIDS awareness information	M -	M -

VISUAL IMPACT

Due to its location in the COH WHS, it is important that the visual impact of the proposed development does not affect the 'sense of place' of the COH WHS. Despite the large footprint of the proposed warehouse, being 4,028 m² with roads and parking covering 2,297 m², the warehouse is not anticipated to have a significant visual impact due to its location in the landscape, i.e. on the lower portion of the valley slope, and due to the topographical character of the landscape. The Sakata Seeds property is located in a relatively peripheral part of the COH WHS that is not pristine in nature, close to the R512 in a small valley with an extremely limited viewshed, as can be seen on the topographical map in Appendix A and to an extent from the Google Earth images below. The warehouse would be located such that it would not break any skyline, and it is proposed that it be cut into the lower slope of the property in order to further lower its profile in the landscape. Most views of the warehouse would be down onto it and few if any of the neighbours have a clear view of the site from their properties. Views of the preferred site are also extremely limited from most roads surrounding the property, and the roads in the area are in any event classified as being private by the provincial roads agency and are unable to be used for accessing other parts of the COH WHS, meaning there would be no WHS visitor flow on the roads surrounding the property. The fact that this is not a greenfields development also lowers the significance of any potential visual impact as the warehouse would be an additional building to the already existing cluster of existing offices, warehouses and greenhouses. Furthermore, the roof will be coloured green to match surrounding fields and indigenous trees will be planted around it to further screen it from view.

A – preferred site B – alternative site





View of the Sakata Seeds property from the air (looking north)



View from access road to property off R512, runs along ridge top with limited view into valley to the north



Gate house to property with proposed warehouse site behind it and ridge to the north



Direct view of the site from eastern boundary road



Distant view of the site from neighbour's back wall on ridge to the north of the site



Distant view of the site from eastern boundary road

