Appendix F: IMPACTS ASSESSMENT FOR THE PROPOSED REDISA WASTE TYRE PRE-PROCESSING DEPOT, CATO RIDGE, KWAZULU-NATAL PROVINCE.

Table of Contents

INTRODUCTION

Potential impacts associated with the operation of the proposed Waste Tyre Pre-processing Depot are discussed below. The following methodology was used in assessing impacts related to the proposed development. All impacts are assessed according to the following criteria.

- The **nature**, a description of what causes the effect, what will be affected, and how it will be affected.
- The **extent**, wherein it is indicated whether the impact will be local (limited to the immediate area or site of development), regional, national or international. A score of between 1 and 5 is assigned as appropriate (with a score of 1 being low and a score of 5 being high).
- The **duration**, wherein it is indicated whether:
  - The lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
  - The lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
  - Medium-term (5–15 years) – assigned a score of 3;
  - Long term (> 15 years) - assigned a score of 4; or;
  - Permanent - assigned a score of 5.
- The **magnitude**, quantified on a scale from 0-10, where a score is assigned:
  - 0 is small and will have no effect on the environment;
  - 2 is minor and will not result in an impact on processes;
  - 4 is low and will cause a slight impact on processes;
  - 6 is moderate and will result in processes continuing but in a modified way;
  - 8 is high (processes are altered to the extent that they temporarily cease); and
  - 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- The **probability** of occurrence, which describes the likelihood of the impact actually occurring. Probability is estimated on a scale, and a score assigned:
  - Assigned a score of 1–5, where 1 is very improbable (probably will not happen);
  - Assigned a score of 2 is improbable (some possibility, but low likelihood);
  - Assigned a score of 3 is probable (distinct possibility);
  - Assigned a score of 4 is highly probable (most likely); and
  - Assigned a score of 5 is definite (impact will occur regardless of any prevention measures).

- The **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high.

» The **status**, which is described as positive, negative or neutral.
» The degree to which the impact can be reversed.
» The degree to which the impact may cause irreplaceable loss of resources.
» The degree to which the impact can be mitigated.

The **significance** is determined by combining the criteria in the following formula:

S= (E+D+M) P; where

S = Significance weighting
E = Extent
D = Duration
M = Magnitude
P = Probability

The **significance** weightings for each potential impact are as follows:

» < **30 points**: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
» **30-60 points**: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
> 60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

ASSESSMENT OF IMPACTS

As part of the IIWTMP, REDISA intends to develop a Waste Tyre Pre-processing Depot that has an operational area of ~15 000m^2 in Cato Ridge, KwaZulu-Natal Province. The proposed depot will be operated within Portion 164 of the Farm Riet Vallei 851 located approximately 200m off 7 Eddie Hagan Drive (refer to **Appendix A**). The site falls within the eThekwini Metropolitan Municipality and is approximately 2.1km east of the town of Cato Ridge.

The subject property upon which the waste tyre pre-processing depot is to be developed has been handed over as "minimum fit-for-purpose" (ready-to-use-for-storage) by the landowner. A Waste Storage Facility registration form was submitted to the Competent Authority on 10 August 2016 in compliance with Section 5 of the Norms and Standards for the Storage of Waste (2013), where the activity was acknowledged and registered (Ref: KZN/waste/storage/024) on 12 August 2016. Storage has already commenced in accordance with the letter of acknowledgement dated 23 September 2016.

The site had already been cleared of vegetation, compacted, flattened and hard-packed. Since the site is ready-to-use, minimal construction related activities are required. The proposed construction activities for the site include, four excavation holes to support the erection of a warehouse structure (in which machinery will be housed) as well as laying of concrete flooring to fasten and support the baler. The warehouse will house both, the baling and shredding, machinery.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN PHASE

Alternative (preferred alternative)

No impacts are anticipated that may result from the planning and design phase of the proposed development.

2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Negative impacts which could arise from the construction phase include any air pollution (dust and emissions) generated from vehicle movements on the site as well as to-and-from the depot. Noise will arise from vehicle trucks as well as operational machinery (baler and shredder). However, both of these impacts are

expected to be minimal and low in significance considering the nature and location of the site within the Cato Ridge industrial area. Traffic and traffic congestion may increase as a result of the proposed project, however the impact is expected to be low in terms of significance. This is a result of the high volume of different haulage vehicles making use of the R103 and Eddie Hagan Dr. The abovementioned impacts can be considered cumulative in nature when considering the surrounding land-uses.

2.1. Potential impacts on Air Quality

The site is flat and hard-packed (no vegetation cover), and movement of heavy duty vehicles and machinery on-site, as well as to-and-from site will generate dust. Limited gaseous or particulate emissions are anticipated from exhaust emissions from the forklifts and delivery vehicles that will access the site. The overall impact on the environment as a result of the construction activities is likely to be of low significance.

Nature: Dust emissions within the site, due to lack of vegetation cover and also movement of vehicles and operation equipment. Exhaust emissions, noise and traffic are anticipated from haulage trucks and operation machinery to and from site, as well as on-site.

	Without mitigation	**With mitigation**
Extent	Local (1)	Local (1)
Duration	Short-term (1)	Short-term (1)
Magnitude	Minor (2)	Small (1)
Probability	Highly probable (4)	Improbable (2)
Significance	**Low (16)**	**Low (6)**
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	

Mitigation:

» The developer must comply with Waste Tyre Regulations of 2009 to have the storage site flattened and hard packed.
» Adequate planning and scheduling of the construction activities to allow for disruptions caused by rain and wet conditions. The scheduling must make provision for environmental training/awareness raising for workers prior to the commencement of construction. Records of all training must be maintained
» Adjacent land owners must be timeously informed that the construction phase will commence and must be kept informed of the progress throughout.
» Implement a practical speed limit on site (e.g. 20km/hr).
» Vehicles transporting waste must ensure that they are maintained in good order.

Vehicles which are emitting volumes of smoke should be taken for maintenance immediately. » An appropriate dust suppressant must be applied on all exposed areas as required to minimise/control airborne dust. » Ensure that a complaints register is kept at the construction site from the first day of construction. » The construction activities should be kept to a small footprint. » Ensure that the Waste Management Licence and EMPr are kept at the construction site from the first day of construction
Cumulative impacts: Due to the nature of the development, additional cumulative impacts would be expected however these have been found to be low in significance, short term and localised.
Residual impacts: Low negative

2.2. Potential Traffic Impacts

Both Eddie Hagan Drive and the R103 are single carriageway roads. Since the project is to be located within an established industrial area, traffic congestion and other traffic related issues are likely impacts for the proposed project.

Nature: Increase in traffic congestion within the development area.		
	Without mitigation	**With mitigation**
Extent	Local (1)	Local (1)
Duration	Long-term (4)	Medium-term (3)
Magnitude	Minor (2)	Minor (1)
Probability	Highly probable (4)	improbable (2)
Significance	**Low (28)**	**Low (10)**
Status (positive or negative)	Negative	Negative
Reversibility	Low	Low
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	
Mitigation: » Routine servicing and maintenance of operation machinery must not to take place on-site (except for emergency situations). If repairs of operating machinery or haulage vehicles must take place, an appropriate drip tray must be used to contain any fuel or oils. » Regular inspection of operation machinery to ensure they are in good condition at all times. » Any leaks from vehicles or operation equipment (fork lift) which impact on soils must be cleaned up as soon as possible and disposed of at a suitably licensed waste disposal site.		

» Operation machinery must be stored on an appropriate impermeable surface.
Cumulative impacts: Low negative
Residual impacts: Low negative.

2.3. Potential Positive Socio-Economic Impacts

During construction of the waste depot, a small number of temporary jobs will be created. Negative impacts associated with the construction relate to noise, dust, and traffic. Should any exist, negative social impacts can be avoided by implementation of appropriate construction site management measures. In terms of the overall significance of the impacts of the proposed establishment of the Cato Ridge Waste Tyre Pre-Processing Depot, a medium to high positive impact is envisaged for the potential social and economic impacts in terms of potential increased revenue for the landowner, potential construction and operational phase job creation, and the removal and pre-processing of waste tyres from landfills across the Kwazulu-Natal province.

Nature: Direct employment and skills development		
	Without enhancement	**With enhancement**
Extent	Local-Regional (2)	Local-Regional (2)
Duration	Short-term (1)	Medium-term (3)
Magnitude	Low (1)	Low (4)
Probability	Probable (3)	Definite (5)
Significance	**Low (12)**	**Medium (45)**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be enhanced?	Yes	
Enhancement: » It is recommended that local employment policy is adopted to maximise the opportunities made available to the local labour force. » Where reasonable and practical REDISA should appoint local contractors and implement a (local first) policy especially for semi-skilled and low skilled job categories. » Training and skills development programmes should be initiated prior to the commencement of the operation phase.		
Cumulative impacts: Opportunity to upgrade and improve skills in the area. Improved pool of skills and experience in the local area (low).		

Residual impacts:
Impact will be low positive after effective enhancement.

3. IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

The environmental impacts associated with the operation phase of the proposed Pre-processing Waste Tyre Depot are anticipated with regard to the following:

» Soil and groundwater pollution
» Soil degradation and erosion
» Traffic Impacts
» Air pollution (Dust, Emissions and Noise)
» Fire hazards
» Socio economic impacts

3.1. Potential impacts on Air Quality

The site is flat and hard-packed (no vegetation cover), and movement of heavy duty vehicles and machinery on site will generate dust. Limited gaseous or particulate emissions are anticipated from exhaust emissions from the forklifts and delivery vehicles that will access the site. The overall impact on the environment as a result of the operation is likely to be of low significance as the baling and shredding process will not release emissions into the atmosphere and impacts associated with dust and vehicle emissions will be localised.

Nature: Dust emissions within the site, due to lack of vegetation cover and also movement of vehicles and operation equipment. Exhaust emissions are anticipated from delivery vehicles and the forklift onsite.		
	Without mitigation	**With mitigation**
Extent	Local (1)	Local (1)
Duration	Long-term (4)	Medium-term (3)
Magnitude	Minor (2)	Small (1)
Probability	Highly probable (4)	Improbable (2)
Significance	**Low (28)**	**Low (10)**
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	
Mitigation: » Implement a practical speed limit on site e.g. a 20km speed limit can be imposed		

on site. » An appropriate dust suppressant must be applied on all exposed areas as required to minimise/control airborne dust. » The developer must comply with Waste Tyre Regulations of 2009 at all times to have the storage site flattened and hard-packed. » Vehicles transporting waste must ensure that they are in good order. Vehicles which are emitting volumes of smoke should be taken for maintenance immediately.
Cumulative impacts: Due to the nature of the development, additional cumulative impacts would be negligible.
Residual impacts: Low negative

3.2. Soil degradation and erosion

The site is flat and hard-packed (no vegetation cover), and the soil on site may be impacted in terms of:

- » Soil degradation including erosion (by wind and water).
- » Uncontrolled run-off relating to operation activity (excessive wetting during dust control) and lack of a storm water system on site, will also lead to accelerated erosion.
- » Degradation of the natural soil profile due to pollution.
- » Loss of topsoil in disturbed areas, causing a decline in soil fertility.

However, the soil erosion potential for the site is considered low due to the proposed site having been severely degraded by previous site activities whose impact on the natural soil profile is considered high. This proposed development will have a relatively minor impact to the soil as compared to the previous site activity.

Nature: Increase in soil degradation and erosion within the development footprint		
	Without mitigation	**With mitigation**
Extent	Local (1)	Local (1)
Duration	Long-term (4)	Medium-term (3)
Magnitude	Minor (2)	Minor (1)
Probability	Highly probable (4)	improbable (2)
Significance	**Low (28)**	**Low (10)**
Status (positive or negative)	Negative	Negative
Reversibility	Low	Low
Irreplaceable loss of resources?	Low	Low

Can impacts be mitigated?	Yes	
Mitigation: » Any storm water within the site must be handled in a suitable manner, i.e. reduce flow velocities. » The warehouse must be paved and the storage site hard parked as a long-term mitigation measure to comply with the Waste Tyre Regulations, 2009. » Implement an effective system of run-off control, where it is required, that collects safely and disseminates run-off water from hardened surfaces and prevents erosion.		
Cumulative impacts: Cumulative impacts with respect to soil degradation and erosion would be negligible.		
Residual impacts: Impact will be negligible after appropriate mitigation.		

3.3. Potential soil and groundwater contamination

The site is flat and hard-packed, and soil and groundwater pollution may occur may occur due to:

- » Hydrocarbon leaks from site operation equipment e.g. (fork lift/Bobcat) and from heavy duty vehicles that will assess site;
- » Inappropriate handling and storage of hydrocarbons on site;
- » The waste storage facility may be an additional potential source of subsurface contamination.

However, the soil and groundwater pollution potential associated with the proposed activities is considered low.

Nature: Increase in soil and groundwater contamination within the development footprint		
	Without mitigation	**With mitigation**
Extent	Local (2)	Local (1)
Duration	Long-term (4)	Medium-term (3)
Magnitude	Minor (2)	Minor (1)
Probability	Highly probable (4)	improbable (2)
Significance	**Low (28)**	**Low (10)**
Status (positive or negative)	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Yes	
Mitigation: » Transportation vehicles and operation machinery (e.g. forklift/Bobcat) are to be		

maintained in good working order, to avoid the probability of leakages of fuels and lubricants. » Unprocessed waste tyres should be stored in a way that no water will collect in the cavities. » All hazardous material must be stored in the necessary containers and in demarcated areas to prevent a spill or contamination of the site. » For a long-term mitigation measure, the site must be hard parked to comply with the Waste Tyre Regulations, 2009. » Ensure that the existing storm water drainage channels on-site are maintained and functional at all times.
Cumulative impacts: Due to the nature and scale of the development site, the impact will be negligible.
Residual impacts: Impact will be negligible after appropriate mitigation.

3.4. Potential pollution from waste management and waste tyre management

The storage and handling of a variety of tyres including passenger vehicle tyres, OTR tyres with <35inch/89cm diameter and motorcycle tyres may result in pollution due to inappropriate handling. In addition, the facility will generate both general and minimal hazardous waste during its operation phase which may result in unsightliness and pollution if not properly managed. Impacts are expected to be of low significance.

Nature: Environmental pollution due to inappropriate handling of the waste tyre handling facility and generated waste (domestic waste and minimal hazardous waste) on site.

	Without mitigation	**With mitigation**
Extent	Local (1)	Local (1)
Duration	Long-term (4)	Medium-term (3)
Magnitude	Low (1)	Low (1)
Probability	Highly probable (4)	Probable (3)
Significance	**Low (24)**	**Low (15)**
Status (positive or negative)	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Yes	

Mitigation:

» Appropriate waste disposal bins with covers must be made available for use throughout the operation phase.

» Where possible generated waste on site should be recycled or reused. » General and hazardous waste must be stored in separate waste receptacles. » The facility must be kept neat and tidy during waste handling to prevent unsightliness and accidents » Burning or burying of waste material will not be permitted on site. » All hazardous waste must be disposed of at a registered hazardous waste disposal facility. » Ensure that no waste generated on the premises be placed, dumped or deposited on adjacent or surrounding properties including road verges, roads or public places and open spaces during the operation period. » No single stockpile of waste tyre may exceed 3 metres in height, a length of 20 metres and a width of 10 metres. » Ensure that the existing storm water drainage channels on-site are maintained and functional at all times » Sweep out any pooled water (should this occur) in the pre-processing facility where by clean and dirty water should be separated. » Documentation (waste manifest) must be maintained detailing the quantity, type of tyre waste brought to site for pre-processing and that taken offsite to recycling facilities. Waste tyre management records must be available for review at any time.
Cumulative impacts: None
Residual impacts: Impact will be low negative after appropriate mitigation.

3.5. Potential social-economic impacts.

The key social issues associated with the operation phase of the Pre-processing Waste Tyre Depot include positive social impacts as follows:

» Direct employment and skills development
» Economic multiplier effects and indirect employment.
» Identification and appointment of a historically disadvantaged BBBEE Entrepreneur into a management and ownership position within REDISA.

It is expected that the project will create approximately 10 direct operation employment opportunities. Job opportunities will be available to skilled personnel (e.g. management and supervisory), semi-skilled personnel (e.g. equipment operators), and low-skilled staff (e.g. tyre handlers and cleaners). Moreover, as included in REDISA's incubation model and IIWTMP an identified BBBEE Entrepreneur will operate the depot until such time he/she has provided that he/she can take full ownership of the depot. This will assist in ensuring that REDISA meets its aim of job creation and empowering previously disadvantaged individuals who do not have access to

capital that is required for the licensing and establishment of depots. Positive social impacts (direct employment and skills development) are expected to be of medium significance due mechanised operations and the economic multiplier effect is considered to be of high significance.

Nature: Direct employment and skills development		
	Without enhancement	**With enhancement**
Extent	Local-Regional (2)	Local-Regional (2)
Duration	Short-term (1)	Medium-term (3)
Magnitude	Low (1)	Low (4)
Probability	Probable (3)	Definite (5)
Significance	**Low (12)**	**Medium (45)**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be enhanced?	Yes	
Enhancement: » It is recommended that local employment policy is adopted to maximise the opportunities made available to the local labour force. » Where reasonable and practical REDISA should appoint local contractors and implement a (local first) policy especially for semi-skilled and low skilled job categories. » Training and skills development programmes should be initiated prior to the commencement of the operation phase.		
Cumulative impacts: Opportunity to upgrade and improve skills in the area. Improved pool of skills and experience in the local area (low).		
Residual impacts: Impact will be low positive after effective enhancement.		

Nature: Economic multiplier effects from the use of local contractors and establishment of related businesses. The waste tyre facility will facilitate the establishment of other related small business such as waste tyre collectors, transporters and recycling facilities. This will also result in the creation of indirect job opportunities in the region.		
	Without enhancement	**With enhancement**
Extent	Local-Regional (2)	Regional-National (3)
Duration	Short-term (1)	Medium-term (3)
Magnitude	Moderate (6)	High (8)
Probability	Definite (5)	Definite (5)

Significance	**Medium (40)**	**High (70)**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be enhanced?	Yes	
Enhancement: » It is recommended that local contractors are used to maximise the opportunities made available to the local labour force. » Develop a database of local BEE service providers and ensure that they are informed of economic opportunities in the waste tyre industry.		
Cumulative impacts: Improved local service sector, growth in local business.		
Residual impacts: The impact will be medium positive after enhancement.		

3.6. Potential fire incident

Whole tyres are flammable and when they are stored together in large volumes, they can create a fire hazard. This can significantly cause damage to property, air pollution (from noxious smoke), create run-off of toxic oil, dangerous heavy metals and soot causing soil pollution. In addition, smoke from burning tyres contains toxic chemicals and particulate matter that can impact on human health.

Nature: Accidental fire incidents may occur due to the temporary storage of waste tyres on site and presence of operation personnel.		
	Without mitigation	**With mitigation**
Extent	Local (2)	Local (2)
Duration	Long-term (4)	Medium-term (3)
Magnitude	High (8)	Low (4)
Probability	Probable (3)	improbable (2)
Significance	**Medium (42)**	**Low (18)**
Status (positive or negative)	Negative	Negative
Reversibility	Low	Low
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Yes	
Mitigation: » Ensure that no refuse wastes are burnt on the premises or on surrounding premises.		

» A security attendant trained in fire prevention must be on site at all times. » Ensure that there is basic fire-fighting equipment available on site as per requirement of the local Emergency Services. » The Depot manager must be on site at all times when the facility is open. » An emergency preparedness plan (including fire management) must be developed and implemented. » Ensure that all fire extinguishers are serviced and/or replaced on or before their expiry dates. » Any fires, which occur, shall be reported to REDISA's Depot Manager, the REISA Regional Manager and Environmental Compliance immediately and then to the relevant authorities. » Provide fire-fighting training to selected operation staff. » Ensure that fires are not started as a consequence of operation personnel activities on site. » The developer must ensure that all site personnel are aware of the fire risks and how to deal with any fires that occur. This shall include, but not be limited to regular fire prevention talks (at least quarterly or as and when needed). » Notices are to be placed around the facility specifying NO SMOKING within the bounds of the depot. » A fire break should be established along all four sides of the site boundary. These must be at least 8 metres wide to prevent the fire from spreading. » All interior firebreaks between stockpiles of waste tyres must be at least 5 metres wide. » The edges of the stockpiles must be 8 metres from the perimeter fence, and any buildings, and the area between the piles and fence and buildings must be clear of any debris and vegetation. » In the event of a major incident, i.e. fire causing damage to property and environment, major spill or leak of contaminants, the relevant authorities should be notified as per the notification of emergencies/ incidents, as per the requirements of NEMA. » Telephone numbers of emergency services, including the local firefighting service, shall be displayed conspicuously in the Depot manager's office near a telephone. » The developer must ensure that all site personnel are aware of the fire risks and how to deal with any fires that occur. This shall include, but not be limited to: o Regular fire prevention talks o Posting of regular reminders to staff
Cumulative impacts: None
Residual impacts: Low negative

3.7. Potential Traffic Impacts

Nature: Increase in traffic congestion within the development area.		
	Without mitigation	**With mitigation**

Extent	Local (1)	Local (1)
Duration	Long-term (4)	Medium-term (3)
Magnitude	Minor (2)	Minor (1)
Probability	Highly probable (4)	improbable (2)
Significance	**Low (28)**	**Low (10)**
Status (positive or negative)	Negative	Negative
Reversibility	Low	Low
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	
Mitigation: » Routine servicing and maintenance of operation machinery must not to take place on-site (except for emergency situations. If repairs of operating machinery or haulage vehicles must take place, an appropriate drip tray must be used to contain any fuel or oils. » Regular inspection of operation machinery to ensure they are in good condition at all times. » Any leaks from vehicles or operation equipment (fork lift) which impact on soils must be cleaned up as soon as possible and disposed of at a suitably licensed waste disposal site. » Operation machinery must be stored on an appropriate impermeable surface.		
Cumulative impacts: Low negative		
Residual impacts: Low negative.		

3.8. Potential impacts on biodiversity

The site is located within an existing industrial area, zoned for industrial II use. The proposed depot site has been handed over to REDISA as "minimum fit-for-purpose" by the landowner. The site had already been flattened and hard-packed (levelled, compacted and gravelled), as a result, no site preparation is needed. Subsequent to this, **no impacts on biodiversity will be expected for the operation phase of this project.**

The entire project site and surrounding areas are located within an vulnerable ecosystem (i.e. Ngongoni Veld). Further investigations have confirmed that due to the largely transformed nature of the surrounding industrial area, the nature and extent of the prepared site, and the duration and significance of the depot. **No negative impacts on the sensitive ecosystem are expected for the proposed project.**

3.9. Potential impacts on the cultural-historical aspects: (Heritage)

No impacts are expected on any cultural-historical aspects during the operation of the proposed development, as no sites of heritage significance occur or are found in the development footprint. The impacts of the proposed development on heritage resources such as archaeological sites, built structures over 60 years old, sites of cultural significance associated with burial grounds and graves, graves of victims of conflict, and significant cultural landscapes or views are considered not to be applicable for the site. **Therefore, the impact is not assessed further.**

3.10. Impacts on the geographical and physical aspects:

None as the warehouse for the baling and shredding operations will be established onsite. The site is currently being used for storage of waste tyres and has already been transformed / disturbed by previous anthropogenic activities. **The presence of other industries in the area characterise the physical landscape and the area cannot be regarded as a natural landscape** (refer to the layout with sensitivity map attached within Appendix A). The proposed development will therefore, not introduce any known significant impact in the area nor will it change sense of place of the area. **Therefore, the impact is not assessed further.**

4. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE

Impacts associated with the decommissioning of the proposed infrastructure will be minimal and restricted to that of air quality impacts and traffic impacts (as per Construction). Assessment of these impacts will be limited to those associated with the removal of bailing and shredding machinery, deconstructing the warehouse facility and removal of the mobile offices. No waste tyres will be left on the site, all tyres will be pre-processed and moved off site.

Decommissioning will take place upon expiration of the lease agreement between REDISA and the landowner. Since the land was provided to REDISA in a prepared state, REDISA are not obligated to rehabilitate and revegetate any land. Where possible, parts of the pre-processing depot material will be re-used, where it cannot be re-used or recycled it will be disposed of at an appropriately licenced facility. During decommissioning the relevant legislation

at the time would need to be complied with.

The impacts associated with decommissioning are expected to be equal to those of construction. For this reason, they will not be reassessed. The same mitigations and principles apply to decommissioning as per construction.

5 ASSESSMENT OF NO-GO ALTERNATIVE

This option will result in no impacts occurring as it maintains the current status quo (existing, vacant land used only for storage of waste tyres with no pre-processing activities, previously used as an airport for light aircraft and then as a car park). However, the No-Go Alternative would represent a lost opportunity for the eThekwini Metropolitan Municipality and the broader region as follows:

» A lost opportunity in the loss of the benefits to the local community and economy associated with the creation of employment opportunities and the establishment of new related businesses. The approximate 10 jobs will not be created. A historically disadvantaged member will not be given the opportunity to operate a depot, he will not be upskilled or receive a stable income. This impact is expected to be of a High Negative Significance.

» A lost opportunity of KwaZulu-Natal Province to have a waste tyre management facility in the province that will ensure on going waste management from recovery and diverting tyres from landfill through recycling and the promotion of treatment and processing technologies in KwaZulu-Natal Province.

» The National Waste Management Strategy presents Government's strategy for, integrated waste management for South Africa. The Municipality Integrated Waste Management Plan (IWMP) will not be achieved and in turn targets and objectives of the provincial and municipal planning documents will be hindered.

» National goals: According to the National Development plan 2030. South Africa aims to achieve among others environmental sustainability and resilience and also the need to progress towards achieving an absolute reduction in the total volume of waste disposed to landfill. The implementation of the no go alternative will result in a lost opportunity for the Municipality to contribute towards this national objective.

There "do nothing" alternative will result in a lost opportunity for socio-economic development and waste tyre management opportunity for the eThekwini Metropolitan Municipality and the broader region. **The "Do nothing alternative is, therefore, not preferred.**

6. ASSESSMENT OF CUMULATIVE IMPACTS

A cumulative impact, in relation to an activity, refers to the impact of an activity that in itself may not be significant, but may become significant when added to the existing and potential impacts eventuating from similar or diverse undertaking in the area[1.] The cumulative impacts are discussed below:

The potential ***cumulative impacts*** as a result of the proposed project are expected to be associated predominantly with:

» **Social** - The proposed pre-processing facility has the potential to result in significant positive cumulative socio-economic impacts for the eThekwini Metropolitan Municipality due to the creation of jobs and establishment of new businesses associated with the proposed development.

» The **cumulative impacts** with respect to air, soil degradation and erosion, soil and groundwater contamination, environmental pollution due to waste generation and potential impacts on storm water will be **minor to low negative** considering the nature and scale of the development. The cumulative impacts will be relatively minor as compared to the previous site activity.

» **Cumulative impacts** with respect to fire incidents are not anticipated.

7. IMPACTS ASSESSMENT SUMMARY

This section provides a summary of the assessment conclusions for the proposed development site. In doing so, it draws on the information gathered as part of the Basic Assessment process and the knowledge gained by the environmental consultants during the course of the process and presents an informed opinion of the environmental impacts associated with the proposed project.

1. Design, Planning and Construction Phase impacts

No impacts are assessed for the design, planning. Construction phase impacts

[1] Definition as provided by DEA in the EIA Regulations.

include

Traffic Impact: The transportation of equipment and material to site as well as from site (during decommissioning) will result in an increase in heavy vehicles utilizing existing access roads. However, the site is located within an area currently zoned for industrial II use where access is already available. Thus the impact of the project on traffic is anticipated to be low.

Air impacts: The potential significance was rated as having a predominately low significance largely due to the nature of the development proposed that will not release emissions into the atmosphere other than exhaust emissions (from haulage vehicles and operation equipment) and dust associated with movement of vehicles on site and wind erosion. These impacts will be localised and restricted to the site, and can be minimised through the implementation of the recommended mitigation measures.

Positive social-economic impact: The social impact in terms of positive impacts is likely to be of a medium to high significance. A BBBEE Entreperature will be appointed and local contractors and intended staff will be employed. However, the proposed development also represents greater positive potential for Cato Ridge and eThekwini Metro due to the development that will facilitate the establishment of related businesses i.e. (waste tyre collectors, waste tyre transporters and recycling facilities) and an establishment of a waste tyre management facility, which, given the challenges created by waste tyre in the environment, represents a positive social benefit for society as a whole.

2. Operation Phase impacts

Air impacts: The potential significance was rated as having a predominately low significance largely due to the nature of the development proposed that will not release emissions into the atmosphere other than exhaust emissions (from haulage vehicles and operation equipment) and dust associated with movement of vehicles on site and wind erosion. These impacts will be localised and restricted to the site, and can be minimised through the implementation of the recommended mitigation measures.

Soil degradation and erosion potential: The potential significance was rated as having a predominately low significance. The soil erosion potential for the site is considered low due to the proposed site having been severely degraded by previous activities whose impact on the natural soil profile is considered high. This proposed development will have a relatively minor impact to the soil as compared to the previous site activity.

Possible soil and groundwater contamination. The potential significance was rated as having a predominately **low** significance with or without mitigation. This proposed development will have a relatively minor impact on soil and groundwater contamination as compared to the previous site activity.

Waste management: During its operation phase, the facility will generate waste, i.e. general and hazardous waste. Mishandling of waste on site may result in environmental pollution. The impact is expected to be low, with or without mitigation.

Positive social-economic impact: The social impact in terms of positive impacts is likely to be of a medium significance due to the proposed mechanised operations at the facility and thus a limited number of permanent employment is envisaged. However, the proposed development also represents greater positive potential for the eThekwini Metropolitain Municipality due to the development that will facilitate the establishment of related businesses i.e. (waste tyre collectors, waste tyre transporters and recycling facilities) and an establishment of a waste tyre management facility, which, given the challenges created by waste tyre in the environment, represents a positive social benefit for society as a whole.

Traffic Impact: The transportation of equipment and material to site will result in an increase in heavy vehicles utilizing existing access roads. However, the site is located within an area currently zoned for industrial II use where access is already available. Thus the impact of the project on traffic is anticipated to be low.

Accidental fires: Whole tyres are flammable and when they are stored together in large volumes, they can create a fire hazard. This can significantly cause damage to property, air pollution and soil and groundwater contamination. The impact is expected to be medium, which in most instances can be reduced to low impact through appropriate mitigation.

Impacts on storm water: The anticipated impact on storm water due to the possibility of pooling of water in the waste tyre facility will be of medium significance, which can be mitigated to low impact through appropriate mitigation. The proposed development will have a relatively minor impact on storm water as compared to the previous site activity.

Biodiversity: The results, based on the available information and the site investigations, show that the proposed project would have no impact on any sensitive and/or important terrestrial and aquatic habitats as none exist on site.

(refer to Layout sensitivity map attached within **Appendix A**)

Heritage: No sites of heritage significance occur or are found in the development footprint. The impacts of the proposed development on heritage resources such as archaeological sites, built structures over 60 years old, sites of cultural significance associated with burial grounds and graves, graves of victims of conflict, and significant cultural landscapes or views capes are considered not to be applicable for the site.

3. Decommissioning and closure Phase impacts.

Impacts associated with the decommissioning of the proposed infrastructure will be minimal and restricted to that of air quality impacts (such as in operation above) and traffic impacts associated with the removal of all machinery off site (as per construction). With mitigation efforts, this impact is expected to be very low. No waste tyres will be left on the site, all tyres will be pre-processed and moved off site.

Implications for Project Implementation

Based on the findings of the Basic Assessment process, no impacts of high significance or environmental fatal flaws will result from the granting of a waste License (under the NEM:WA, 2008) for the proposed REDISA Waste Tyre Pre-processing Depot in Cato Ridge. The identified impacts can be mitigated through the implementation of practical and appropriate mitigation measures as detailed in this report and contained in the Environmental Management Programme in **Appendix G.**