

PREPARED FOR:



PREPARED BY:

# EcoPartners Sibanye WTLR Plant BA



## Environmental Site Sensitivity Verification Report

Site ID:	Sibanye WTLR Plant BA	Contractor:	EIMS
Location:	Marikana, Rustenburg	Inspector:	Qaphela Magaqa
Client representative:	Yolande Janse van Rensburg	Inspection Date:	03 July 2023

### 1. Background

Background of the project:	<p>The applicant is applying for the retrofitting of the existing Western Limb Treatment Plant (WLTR) which is on Sibanye Rustenburg Platinum Mine (SRPM) whose Life of Mine (LOM) is expected to be complete near the close of 2025. The project aims to extend the LOM by processing new feed sources. The project will also involve the construction of new infrastructure such as pipelines, a booster pump station, a remining plant, hydro mining plant, powerlines, and associated service roads. Linear infrastructure will cross the mining right boundaries of SRPM ((DMRE Ref: NW 30/5/1/2/2/ 82 MR) and Western Platinum Limited mining operations (DMRE Ref: NW/30/5/1/2/3/2/2/105 EM) The following infrastructure is proposed:</p> <ul style="list-style-type: none"> <li>• Above ground tailings pipelines (Steel HDPE Lined).</li> <li>• Above ground return water pipelines (HDPE).</li> <li>• Repulping/Remining plant.</li> <li>• Hydro mining plant.</li> <li>• New booster pumpstations.</li> <li>• A new loading bay and chrome stockpile area.</li> <li>• Roads</li> <li>• Powerlines</li> </ul> <p>(Refer to map below for the proposed infrastructure layout)</p>		
----------------------------	---	--	--

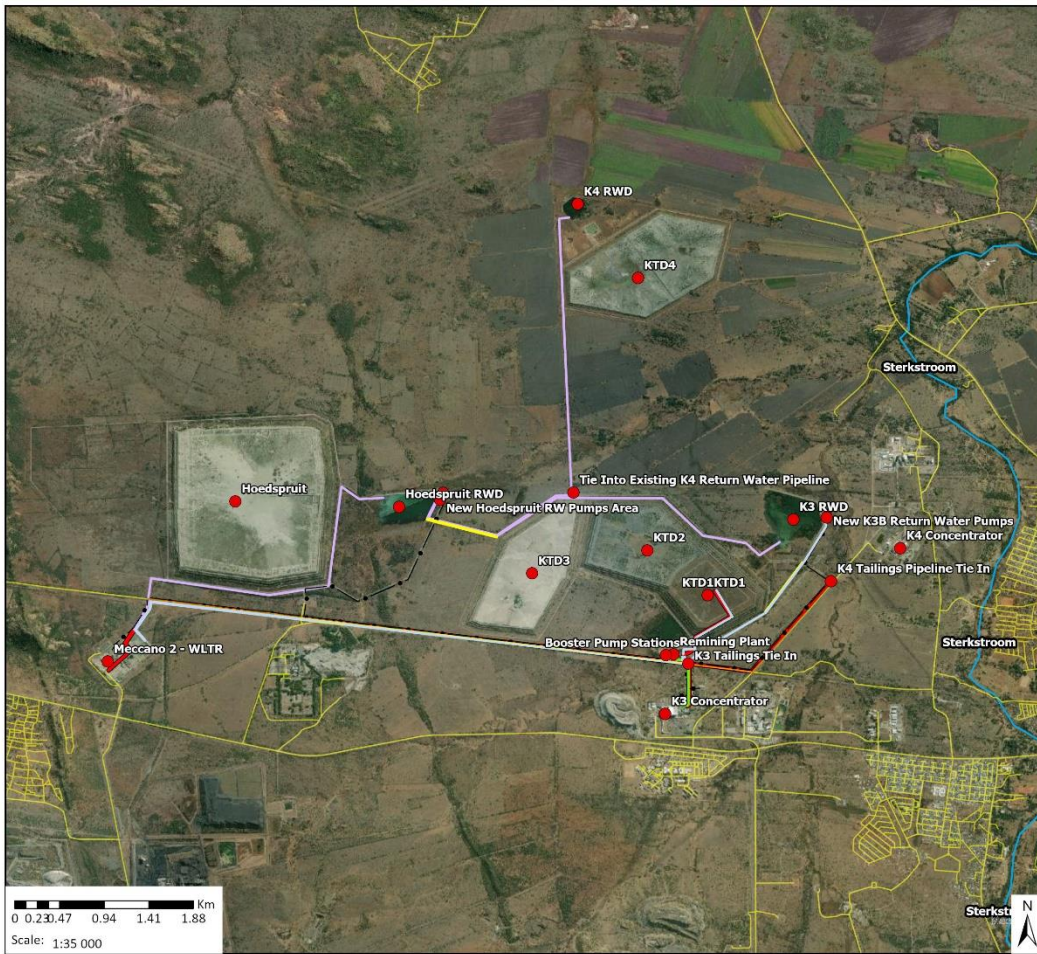
Project Aspects:	Yes	No	Details (provide specifications)	Location (DD MM SS)	
				Latitude	Longitude
❖ Meccanno 2 Plant	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The Meccanno 2 processing plant is to be constructed at the Western Limb Treatment Plant (WLTR) and forms part of the Rustenburg operational business area. The proposed associated infrastructure includes:</p> <ul style="list-style-type: none"> <li>• Re-pulping plant;</li> <li>• Primary desliming &amp; coarse chrome recovery</li> <li>• PGM flotation and PGM concentrate de-watering</li> <li>• Secondary desliming &amp; fine chrome recovery</li> <li>• Chrome concentrate de-watering</li> <li>• A new loading bay and chrome stockpile area.</li> </ul>	<b><u>Kindly refer to map</u></b>	<b><u>Kindly refer to map</u></b>



			<ul style="list-style-type: none"> <li>Final tailings de-watering and disposal</li> </ul>																		
❖ Pump Stations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>A total of 3 new pump stations will be constructed.</p> <p>Two new pump stations will be constructed adjacent to the KTD1 TSF. The new tailings booster pumpstations will consist of an agitated surge tank, standby and duty centrifugal pump trains, GSW pumps and all associated E&amp;I equipment to support the new facility.</p> <p>A hydro mining pumping and screening plant</p>	<u>Kindly refer to map</u>	<u>Kindly refer to map</u>																
❖ Overland tailings pipelines from: <ul style="list-style-type: none"> <li>▶ from K4 Tie in to Booster Pump Station and then to M2;</li> <li>▶ K3B Tie in to Booster Pump Station and then to M2; and</li> <li>▶ KTD1 hydro mining booster pump station to M2 (EPCM to rationalize and look at option of combining with the K3B tailings line)</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The proposed overland tailings pipelines will be Steel HDPE Lined with the following specification:</p> <table border="1"> <thead> <tr> <th></th> <th>Flow rate (l/s)</th> <th>Pipeline Diameter</th> <th>Pipeline Length</th> </tr> </thead> <tbody> <tr> <td>K4 pipeline</td> <td>75</td> <td>200</td> <td>8 km</td> </tr> <tr> <td>K3B pipeline</td> <td>75</td> <td>200</td> <td>4 km</td> </tr> <tr> <td>KTD1 Pipeline</td> <td>235</td> <td>350</td> <td>4 km</td> </tr> </tbody> </table>		Flow rate (l/s)	Pipeline Diameter	Pipeline Length	K4 pipeline	75	200	8 km	K3B pipeline	75	200	4 km	KTD1 Pipeline	235	350	4 km	<u>Kindly refer to map</u>	<u>Kindly refer to map</u>
	Flow rate (l/s)	Pipeline Diameter	Pipeline Length																		
K4 pipeline	75	200	8 km																		
K3B pipeline	75	200	4 km																		
KTD1 Pipeline	235	350	4 km																		
❖ Return Water Pipelines from: <ul style="list-style-type: none"> <li>▶ Hoedspruit RWD to the K3 RWD</li> <li>▶ Hoedspruit RWD to the K4 RWD.</li> <li>▶ Hoedspruit RWD to the M2 Process Water Dams</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The proposed return water pipelines will be HDPE with the following specification:</p> <table border="1"> <thead> <tr> <th></th> <th>Flow rate (l/s)</th> <th>Pipeline Diameter (mm)</th> <th>Pipeline Length (km)</th> </tr> </thead> <tbody> <tr> <td>Hoedspruit RWD to K3 RWD</td> <td>50</td> <td>280</td> <td>4.1 km</td> </tr> <tr> <td>Hoedspruit RWD to K4 RWD</td> <td>50</td> <td>280</td> <td>4.8 km</td> </tr> <tr> <td>Hoedspruit RWD to the M2 Process Water Dams</td> <td>50</td> <td>280</td> <td>2 km</td> </tr> </tbody> </table>		Flow rate (l/s)	Pipeline Diameter (mm)	Pipeline Length (km)	Hoedspruit RWD to K3 RWD	50	280	4.1 km	Hoedspruit RWD to K4 RWD	50	280	4.8 km	Hoedspruit RWD to the M2 Process Water Dams	50	280	2 km	<u>Kindly refer to map</u>  <u>Kindly refer to map</u>  <u>Kindly refer to map</u>	<u>Kindly refer to map</u>  <u>Kindly refer to map</u>  <u>Kindly refer to map</u>
	Flow rate (l/s)	Pipeline Diameter (mm)	Pipeline Length (km)																		
Hoedspruit RWD to K3 RWD	50	280	4.1 km																		
Hoedspruit RWD to K4 RWD	50	280	4.8 km																		
Hoedspruit RWD to the M2 Process Water Dams	50	280	2 km																		
❖ Hydro Mining Pipelines from: <ul style="list-style-type: none"> <li>▶ WLTR Process Water Dams to the Hydro mining Plant (1 Running, 1 standby)</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The proposed hydro mining pipelines will be HDPE with the following specification:</p> <table border="1"> <thead> <tr> <th></th> <th>Flow rate (l/s)</th> <th>Pipeline Diameter (mm)</th> <th>Pipeline Length (km)</th> </tr> </thead> <tbody> <tr> <td>WLTR Process Water Dams</td> <td>116</td> <td>400</td> <td>5.7 km</td> </tr> </tbody> </table>		Flow rate (l/s)	Pipeline Diameter (mm)	Pipeline Length (km)	WLTR Process Water Dams	116	400	5.7 km	<u>Kindly refer to map</u>  <u>Kindly refer to map</u>	<u>Kindly refer to map</u>  <u>Kindly refer to map</u>								
	Flow rate (l/s)	Pipeline Diameter (mm)	Pipeline Length (km)																		
WLTR Process Water Dams	116	400	5.7 km																		



<p>▶ K3 RWD to the Hydro Mining Plant</p>			<table border="1"> <tr> <td data-bbox="571 219 719 286">to the Hydro mining Plant</td> <td data-bbox="719 219 823 286"></td> <td data-bbox="823 219 951 286"></td> <td data-bbox="951 219 1078 286"></td> </tr> <tr> <td data-bbox="571 286 719 409">K3 RWD to the Hydro Mining Plant</td> <td data-bbox="719 286 823 409">116</td> <td data-bbox="823 286 951 409">400</td> <td data-bbox="951 286 1078 409">2.3 km</td> </tr> </table>	to the Hydro mining Plant				K3 RWD to the Hydro Mining Plant	116	400	2.3 km	<p><u>Kindly refer to map</u></p>	<p><u>Kindly refer to map</u></p>
to the Hydro mining Plant													
K3 RWD to the Hydro Mining Plant	116	400	2.3 km										
<p>❖ Access Roads</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> <li>• In plant Road around the coarse and fine chrome recovery sections;</li> <li>• In plant but on new terrace road for delivery trucks to collect chrome at the stockpile pad;</li> <li>• Pipeline access road spanning from the Hoedspruit RWD to the KTD3 TSF road (approx. 700m); and</li> <li>• Pipeline access road spanning from the K3 RWD to the Hydro mining/repulp area (approx. 600m)</li> </ul>	<p><u>Kindly refer to map</u></p>	<p><u>Kindly refer to map</u></p>								
<p>❖ Overhead powerlines</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> <li>• Line from WLTR to the Repulping Areas (5.6 km)</li> <li>• T-Off line above to the Hoedspruit return water dam (2.3 km)</li> <li>• Line from the Repulping Plant to the K3 RWD pumps (2.3 km)</li> <li>• Line from the K3 Minisub station or the K3 Main sub station (options instead of the line from WLTR) (0.6 km)</li> </ul>	<p><u>Kindly refer to map</u></p>									
<p>❖ Other:</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>											
<p><b>2. Site Layout Plan</b></p>													



**Locality Map**  
1577 EcoPartners Sibanye WTLR Plant BA

**Legend**

- Places
- Roads
- Rivers
- Proposed Infrastructure**
- Hydromining Feed
- New 50mm Potable Water
- New Access Road
- New Powerline
- New Return Water
- Tailings or Slurry

Data Sources:  
CSG: ESRI  
Coord System: GCS WGS 1984  
Datum: WGS 1984  
Units: Degree  
Ref: 1577\_Locality Map

Date: 2023/05/23  
EIMS Ref:  
Compiled: QM  
Reviewed: SK  
Approved: LW



## 2. DEA Screening Tool Assessment

Aspect	Very High	High	Medium	Low
Agriculture Theme		X		
Animal species Theme			X	
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage		X		
Civil Aviation Theme		X		
Defence Theme				X
Paleontology Theme			X	
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			



### 3. Site Assessment

#### 3.1 Gradient (indicate the general gradient characteristics of site)

Aspect										
WLTR plant, Remining and Repulping plant and Associated Infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Is the site located on or in the immediate vicinity of any of the following:</b>										
					WLTR Retrofitting and					
					Yes	No	Comment			
Erosion Channels or areas of severe erosion/ destabilized soils					<input type="checkbox"/>	<input checked="" type="checkbox"/>	No erosion channels or destabilised soils were noted through the desktop analysis and site visit.			
Wetlands (within 32m)					<input checked="" type="checkbox"/>	<input type="checkbox"/>	The proposed site area includes artificial wetlands, Channeled Valley Bottom Wetlands, Natural Drainage Lines. Linear infrastructure crosses through the wetlands. A Water Use License Application is in progress with DWS.			
Unstable slopes or geological features (rocky outcrops)					<input type="checkbox"/>	<input checked="" type="checkbox"/>	No rocky outcrops or slopes have been noted on site and via desktop analysis.			
Bare areas					<input type="checkbox"/>	<input checked="" type="checkbox"/>	No bare areas were noted on site. However heavily grazed vegetation which could potentially result in the development of bare areas was noted.			
Other Sensitive or risk areas?					<input checked="" type="checkbox"/>	<input type="checkbox"/>	No further sensitive areas were noted. However, most of the infrastructure is located in close proximity to Tailings Storage Facility and other mining infrastructure.			
Are any existing servitudes and structures directly or indirectly affected by the proposed sites and routes (e.g. Eskom, public road servitudes and restrictions- 60m from National Road, farmer's water/irrigation supplies, etc.)?					<input checked="" type="checkbox"/>	<input type="checkbox"/>	There are existing powerlines, pipelines, access roads located near the proposed construction areas. Agricultural fields were noted north of the site.			



**3.2 Vegetation**

*Which of the listed descriptions best describes the general groundcover on and around the site?*

Natural veld - good condition <input type="checkbox"/>	Natural veld with scattered aliens <input checked="" type="checkbox"/>	Natural veld with heavy alien infestation <input checked="" type="checkbox"/>	Veld dominated by alien species <input type="checkbox"/>	Gardens <input type="checkbox"/>
Sport field <input type="checkbox"/>	Cultivated land <input type="checkbox"/>	Paved surface <input type="checkbox"/>	Building structure <input checked="" type="checkbox"/> or other	Bare soil <input type="checkbox"/>

Comments on vegetation composition: Grassland vegetation with scattered alien vegetation was noted on site. Bush encroachment onto the grassland vegetation was also noted on site.

Comments on weed species/type: The area was flagged as a critical biodiversity area as well as an ecological support area. The area has been disturbed due to mining activities and a biodiversity study will need to be conducted to ensure minimal vegetation is cleared during the construction of the proposed infrastructure where possible.

**Land cover/ use description: Describe the land uses on the site**

The current land use in and around the site includes mining infrastructure, built-up areas and road infrastructure. Livestock grazing was noted on site.









**Site Photos**

<p>Existing K3 Plant</p>		
<p>Describe area and adjacent land use:</p>	<p><b>A view of the western side of the Sibanye K3 shaft. Cattle grazing was noted on site. The area is heavily disturbed due to mining infrastructure, further degradation of vegetation as a result of livestock grazing.</b></p>	<p><b>A view of existing pipelines running between K3 shaft and K3 concentrator plant placed on concrete plinths. The pipelines cross the road via concrete culverts. Shrubs were noted on site.</b></p>
<p>Proposed Powerline and Slurry Pipelines East of KTD1 tailings</p>		
<p>Describe area and adjacent land use:</p>	<p><b>View along proposed Tailings/slurry pipeline is proposed to the K4 tailings pipeline tie in and proposed powerlines. The area has existing powerline infrastructure and road infrastructure presenting linear disturbances.</b></p>	<p><b>North view presenting existing pipeline infrastructure, road and powerlines towards the K3 Return Water Dam. Vegetation is disturbed due to existing mining infrastructure. Bush encroachment was noted on site.</b></p>





<p>K4 Return Water Pipeline Route (Drainage crossings)</p>	 <p>20 Jul 2023 10:00:10 am 25,6690S 27,4393E 5° N Altitude:1160.7m</p>	 <p>20 Jul 2023 9:59:55 am 25,6690S 27,4393E 15° N Altitude:1161.3m</p>
<p>Describe area and adjacent land use:</p>	<p><b>North view along the existing K4 return water tie in and K4 return water dam. The new proposed pipeline is to be placed along existing pipelines through the existing culvert across the drainage line towards the K4 return water dam.</b></p>	<p><b>Westerly view showing existing wetland system along the proposed K4 return water pipeline route.</b></p>
<p>South East side of KTD1</p>	 <p>20 Jul 2023 10:07:27 am 25,6838S 27,4376E 200° S Altitude:1196.7m</p>	 <p>20 Jul 2023 10:07:45 am 25,6838S 27,4375E 49° NE Altitude:1197.0m</p>
<p>Describe area and adjacent land use:</p>	<p><b>View south west of the KTD1 tailings along which the proposed hydromining feed is proposed. Grassland with some alien infestation was noted, disturbances from road and existing pipeline infrastructure was noted</b></p>	<p><b>View south east of the KTD1 tailings along which the proposed hydromining feed is proposed. Grassland with some alien infestation was noted, disturbances from road and existing pipeline infrastructure was noted. Water channeling was also noted.</b></p>





<p><b>hydromining feed, powerlines, tailings/slurry pipeline</b></p>		
<p>Describe area and adjacent land use:</p>	<p><b>East view towards KTD3 along area proposed for hydromining feed, powerlines, tailings/slurry pipeline. A railway line was noted along the proposed infrastructure route. Wetland indicative vegetation was noted across the drainage line.</b></p>	<p><b>West view towards Meccano 2 WLTR plant along area proposed for hydromining feed, powerlines, tailings/slurry pipeline. Evidence of livestock crossing, vehicle crossing and possible human pathway was noted across the drainage line.</b></p>
<p><b>Proposed Chrome Stockpile Area</b></p>		
<p>Describe area and adjacent land use:</p>	<p><b>A view of the proposed chrome stockpiles area in the Meccano 2 WLTR plant. The proposed stockpile area is located inside the existing WLTR plant plant. Grassland vegetation with some alien infestation was noted south of the proposed stockpile area.</b></p>	<p><b>An eastward view of the proposed chrome stockpiles area in the Meccano 2 WLTR plant. The proposed stockpile area is located inside the existing WLTR plant plant. Grassland vegetation with some alien infestation was noted south of the proposed stockpile area.</b></p>



<p>Remining plants and booster pumpstations area.</p>		
<p>Describe area and adjacent land use:</p>	<p><b>Wetland area noted near proposed remining plant and pumpstations area. Vegetation disturbed due to various mining related activities.</b></p>	<p><b>Access road to the Fraser Alexander site office. This area is earmarked for the remining plants and booster pump stations. Vegetation composition within this area includes grassland and shrubs.</b></p>



**7. Verification findings and motivation:**

Assessment for specialist studies and motivation:					
Screening Tool Specialist Study Required:	Level of Sensitivity:	Suggested Sensitivity:	Required Assessment	level of	Motivation
Agriculture Theme	High	Low	None.	<input checked="" type="checkbox"/>	Historic agricultural fields were noted on site. The proposed project is not anticipated to have any impacts on agricultural potential of the area.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input type="checkbox"/>	
			Other	<input type="checkbox"/>	
Animal Species Theme	Medium	Unknown	None.	<input checked="" type="checkbox"/>	No animal species assessment required however this will be covered in the ecological compliance statement to be undertaken. The site is heavily disturbed by mining related infrastructure and no anticipated impacts to animal species.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input type="checkbox"/>	
			Other	<input type="checkbox"/>	
Aquatic Biodiversity	Very High	Unknown	None.	<input type="checkbox"/>	A full DFFE protocol compliant specialist Aquatic and Wetland Impact Assessment will be undertaken.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input checked="" type="checkbox"/>	
			Other	<input type="checkbox"/>	
Archaeological and Cultural Theme	High	Unknown	None.	<input type="checkbox"/>	A phase I DFFE compliant specialist assessment will be undertaken.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input checked="" type="checkbox"/>	
			Other	<input type="checkbox"/>	
Civil Aviation Theme	High	Low	None.	<input checked="" type="checkbox"/>	The nature of the development (pipelines, powerlines and pumpstations) and components of the development during the construction and operational phases will not pose any risk to commercial air traffic. Therefore no specialist aviation studies will be undertaken. However, SACAA will be included in the I&AP database.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input type="checkbox"/>	
			Other	<input type="checkbox"/>	
Defence Theme	Low	Low	None.	<input checked="" type="checkbox"/>	The nature of the development (pipelines, powerlines and pumpstations) and



			Compliance Statement	<input type="checkbox"/>	components of the development during the construction and operational phases will not pose any risk to defence infrastructure or properties. Therefore no specialist defence studies will be undertaken.
			Full Assessment	<input type="checkbox"/>	
			Other		
Paleontology Theme	Medium	Low	None.	<input checked="" type="checkbox"/>	The proposed activities are located in an igneous complex area and no palaeontologic resources are anticipated to occur in this area and/or rock types.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input type="checkbox"/>	
			Other		
Plant Species Theme	Low	Low	None.	<input type="checkbox"/>	A Full DFFE compliant specialist assessment will be undertaken.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input checked="" type="checkbox"/>	
			Other		
Terrestrial Biodiversity Theme	Very High	Unknown	None.	<input type="checkbox"/>	A Full DFFE compliant specialist assessment will be undertaken.
			Compliance Statement	<input type="checkbox"/>	
			Full Assessment	<input checked="" type="checkbox"/>	
			Other		

Guidance notes:

- An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified by the screening tool as being of “very high” or “high” sensitivity for terrestrial animal species must submit a Terrestrial Animal Species Specialist Assessment Report.
- An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of “medium sensitivity” for terrestrial animal species must submit either a Terrestrial Animal Species Specialist Assessment Report or a Terrestrial Animal Species Compliance Statement, depending on the outcome of a site inspection undertaken in accordance with paragraph 4.
- An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of “low” sensitivity for terrestrial animal species must submit a Terrestrial Animal Species Compliance Statement.
- Where the information gathered from the site sensitivity verification differs from the screening tool designation of “very high” or “high”, for terrestrial animal species sensitivity and it is found to be of a “low” sensitivity, then a Terrestrial Animal Species Compliance Statement must be submitted.
- Where the information gathered from the site sensitivity verification differs from the screening tool designation of “low” terrestrial animal species sensitivity and it is found to be of a “very high” or “high” terrestrial animal species sensitivity, a Terrestrial Animal Species Specialist Assessment must be conducted.
- If any part of the development falls within an area of confirmed “very high” or “high” sensitivity, the assessment and reporting requirements prescribed for the “very high” or “high” sensitivity, apply to the entire development footprint. Development footprint in the context of this protocol means, the area on which the proposed development will take place and includes the area that will be disturbed or impacted.