Significance without mitigation is rated on the following scale:

SR<30	Low (L)	Impacts with little real effect and which should not have an influence on or require modification of the project design or alternative mitigation. No mitigation is required.
30<**SR** <60	Medium (M)	Where it could have an influence on the decision unless it is mitigated. An impact or benefit which is sufficiently important to require management. Of moderate significance - could influence the decisions about the project if left unmanaged.
SR>60	High (H)	Impact is significant, mitigation is critical to reduce impact or risk. Resulting impact could influence the decision depending on the possible mitigation. Animpact which could influence the decision about whether or not to proceed with the project.

5.3.6 Identifying the Potential Impacts with Mitigation Measures (WM)

In order to gain a comprehensive understanding of the overall significance of the impact, after implementation of the mitigation measures, it will be necessary to re-evaluate the impact. Significance with mitigation is rated on the following scale:

SR<30	Low (L)	The impact is mitigated to the point where it is of limited importance.
30<**SR** <60	Medium (M)	Notwithstanding the successful implementation of the mitigation measures, to reduce the negative impacts to acceptable levels, the negative impact will remain of significance. However, taken within the overall context of the project, the persistent impact does not constitute a fatal flaw.
SR>60	High (H)	The impact is of major importance. Mitigation of the impact is not possible on a cost-effective basis. The impact is regarded of high importance and taken within the overall context of the project, is regarded as a fatal flaw. An impact regarded as high significance, after mitigation could render the entire development option or entire project proposal unacceptable.

5.4 EXPRESSION OF THE NOISE IMPACTS

The noise impacts can be expressed in terms of total ambient noise levels as well as the increase in present background ambient sound levels caused by noise emissions from the proposed project.

Predicted ambient sound levels as well as change in ambient sound levels will be presented in appropriate contours of constant sound pressure levels.

6 METHODS: CALCULATION OF FUTURE NOISE EMISSIONS DUE TO PROPOSED PROJECT

6.1 NOISE EMISSIONS INTO THE SURROUNDING ENVIRONMENT[4]

The noise emissions into the environment from the various sources as defined by the project developer were calculated for the construction and operational phases in detail, using the sound propagation models described by SANS 10357

The following was considered:

- The octave band sound pressure emission levels of processes and equipment;
- The distance of the receiver from the noise sources;
- The impact of atmospheric absorption;
- The meteorological conditions in terms of Pasquill stability;
- The operational details of the proposed project;
- Topographical layout; and
- Acoustical characteristics of the ground;

The noise emission into the environment due to additional traffic will be calculated using the sound propagation model described in SANS 10210. Corrections such as the following will be considered:

- Distance of receptor from the road;
- Road construction material;
- Average speeds of travel;
- Types of vehicles used; and
- Ground acoustical conditions.

[4] SANS 10357:2004 The calculation of sound propagation by the Concave method', SANS 10210:2004. 'Calculating and predicting road traffic noise'

7 RESULTS AND IMPACT ASSESSMENT

7.1 CONSTRUCTION PHASE IMPACT: GOEDEHOOP NORTH BROWN SHAFT TWO

Construction activities are highly dependent on the final operational layout. A basic layout, as provided by the engineers for the proposed development, has been illustrated in **Figure 7-1**. As can be seen from this proposal, a number of different activities may take place close to a potentially sensitive receptor, each with a specific potential impact. The activities have been defined in detail in **Section 4.1**.

7.1.1 Construction Phase: Description of Modelled Activities

The following construction activities are assumed to take place simultaneously:

- **Preparation of foundation area and rubble removal (sub-surface removal until secure base is reached)** – (excavator). It is expected that there could be a feeder bin and conveyor belt gearbox at junctions (change of direction) of the conveyor belt. The localities or use of this machinery has not been confirmed. However these items will be placed as close as possible to a receptor at a junction of the conveyor belt route from the proposed development to the existing facility. Rubble removal will also be required at the mine shaft itself. Activities will be taking place for 10 hours during the 16 hour daytime period;
- **Pneumatic rock drilling (for blasting purpose)** - (drill). Site clearance for the mine shaft is expected to make use of rock drilling and blasting. It is expected that a number of holes will be drilled and filled with explosives. The explosives will be detonated and collapse rock rubble removed by means of excavator (as defined above). Activities will be taking place for 8 hours during the 16 hour daytime period;
- **Pouring and compaction of foundation concrete** - (general noise, electric generator/compressor, concrete vibration, mobile concrete plant, TLB). As foundations must be poured in one go, the activity is projected to take place over the full 8 hour day time period;
- **Traffic on the site** - (trucks transporting material, aggregate/concrete, work crews) All vehicles to travel on a existing dirt road at an average speed of 60 km/h, with a maximum of five (5) trucks and (5) vehicles per hour to be modelled travelling to the areas where work is taking place (purple line in **Figure 7-1**); and
- **Blasting –** Blasting is only discussed in **Section 4.1.3** and considered in the impact assessment section defined in **7.2.2**. Predictive modelling for the purpose of this assessment will not be compiled.

The various sound power levels of the equipment used (in the octave bands) can be found in **Appendix A**.

It has been modelled that all equipment would be operating under full load (generate the most noise) and that atmospheric conditions would be ideal for sound propagation.

Even though construction activities are projected to take place only during day time, it might be required at times that construction activities take place during the night (particularly for a large project). Below is a list (and reasons) of construction activities that might occur during night time:

- Concrete pouring: Large portions of concrete do require pouring and vibrating to be completed once started, and work is sometimes required until the early hours of the morning to ensure a well-established concrete foundation. However the work force working at night for this work will be considerably smaller than during the day; and
- Working late due to time constraints: Weather plays an important role in time management in construction. A spell of bad weather can cause a construction project to fall behind its completion date. Therefore it is hard to judge beforehand if a construction team would be required to work late at night.

Contours of noise levels due to the construction activities taking into consideration the existing soundscape are illustrated in **Figure 7-2**. The projected change in existing sound levels due to construction activities is illustrated in **Figure 7-3**.

Description of modelled construction activities included:

- Equivalent basic noise levels of the existing soundscape considering the existing facility and R35 road traffic noise as defined in **Section 3.3.1**;
- A direct line of sight from receptors to the construction activities. Receptors are considered at a 1,5m height to the surrounding environment. Construction activity heights ranges from 1.5 to 3 meters from surface (dependant on activity);
- Worst case scenario investigated whereby the placement of a conceptual conveyor belt gearbox and feeder bin as close as possible to a receptor along the route of the proposed conveyor belt junctions on route to the existing facility. The receptor/s identified along this conveyor belt route is identified as **NSD03 – NSD05**. This is considered as sufficient when investigating possible construction impacts along the entire conveyor belt route. Conveyor belt gearbox and feeder bin is located at a maximum of 180 meters and conveyor belt at maximum of 80 meters away from **NSD03 – NSD05** (refer to **Figure 7-1**) ;

- Road surface to construction site considered as a dirt road (random chippings and grooving);
- Distance from receiver to noise source considered;
- Intervening ground conditions of a hard ground nature (acoustically not very absorbent);
- Façade correction not considered; and
- Activities functioning during wind-still conditions, in good sound propagation conditions (20°C and 80% humidity).

The modelled activities can be seen as a worst case scenario, whereby all construction related activities take place simultaneously. The pneumatic drill used to drill holes for explosives has been identified as the loudest noise source during construction phase. As mentioned previously blasting has been briefly considered in the impact section in this report and modelled activities will not consider blasting.

Results defining potential noise impacts during the construction phase have been defined in **Section 7.2.2**.

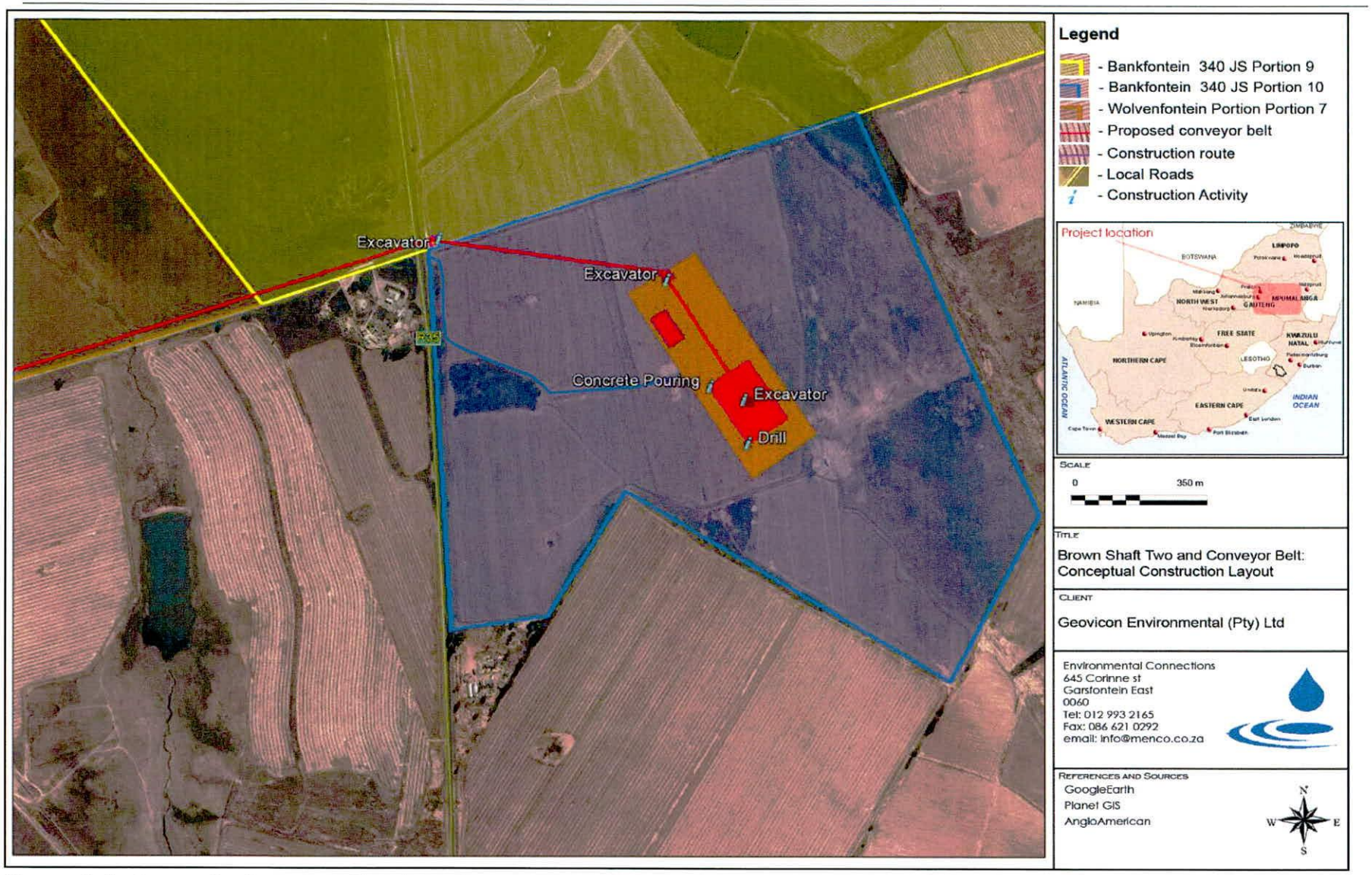

Figure 7-1: Conceptual construction layout

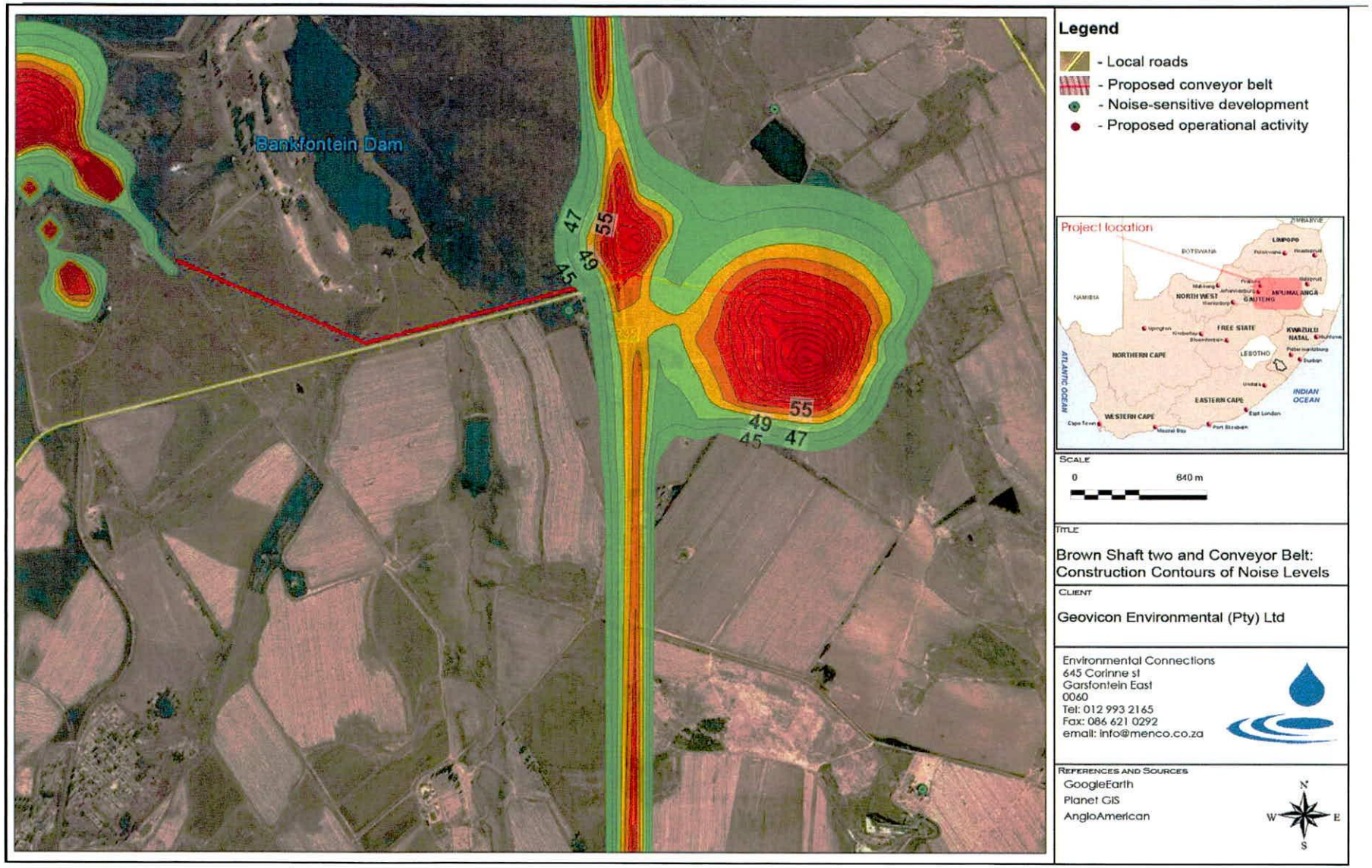

Figure 7-2: Projected daytime noise levels; construction contours of constant noise levels

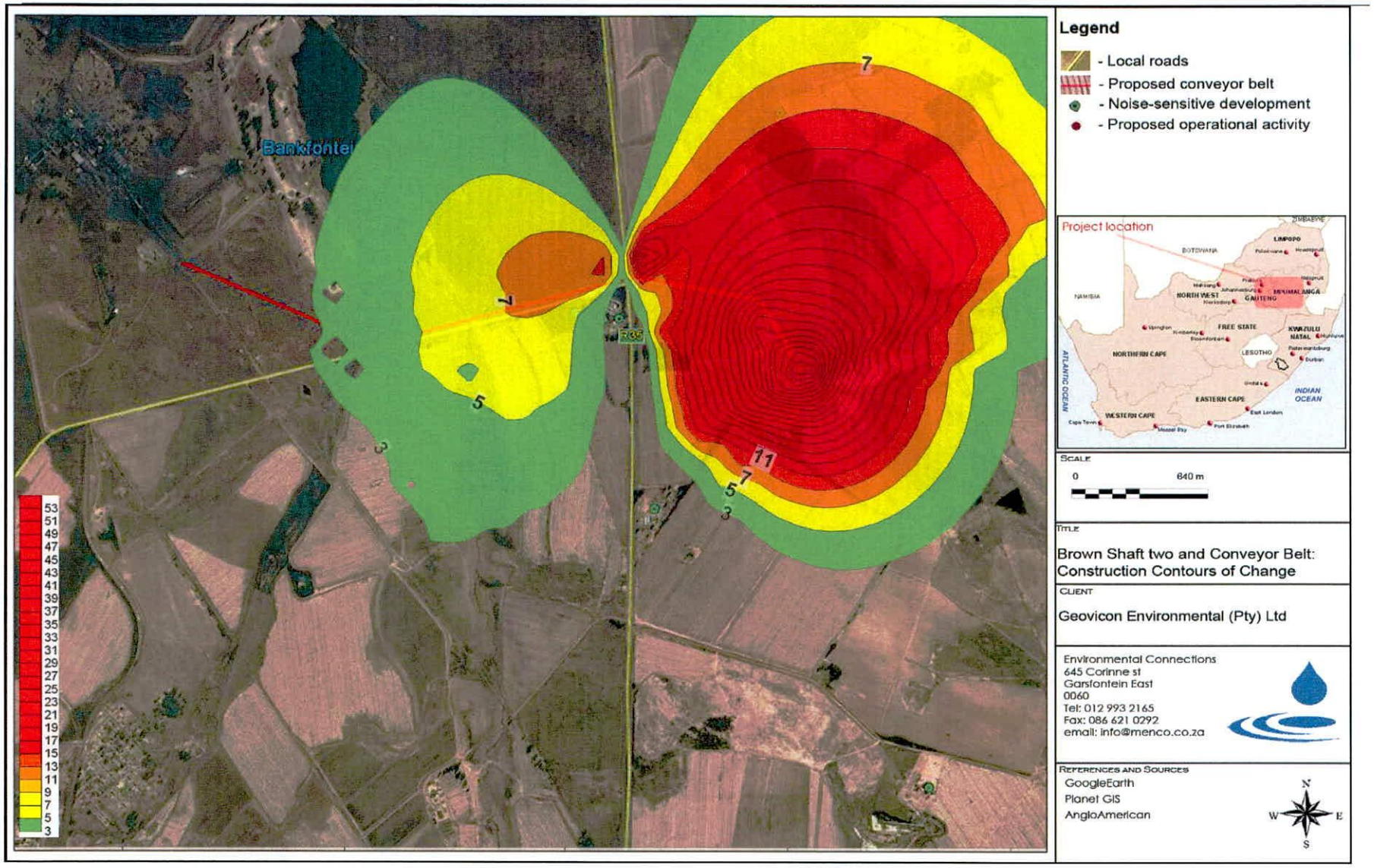

Figure 7-3: Projected change in daytime ambient sound levels due to construction; contours of change

7.1.2 Results: Construction Phase

Modelled noise levels at receptors are defined for the proposed layout in **Figure 7-4** and **Table 7-1** with the potential impact table presented in **Table 7-2**. **Figure 7-4** also illustrates the change at receptors from the existing ambient soundscape due to construction related activities. A noise regression line in this figure also illustrates how the proposed conceptual construction activities (at mine shaft only) change the existing ambient soundscape at distance from the construction site.

Only the calculated daytime ambient noise levels are presented, as construction activities that might impact on sensitive receptors should be limited to the 06:00 – 22:00 time period.

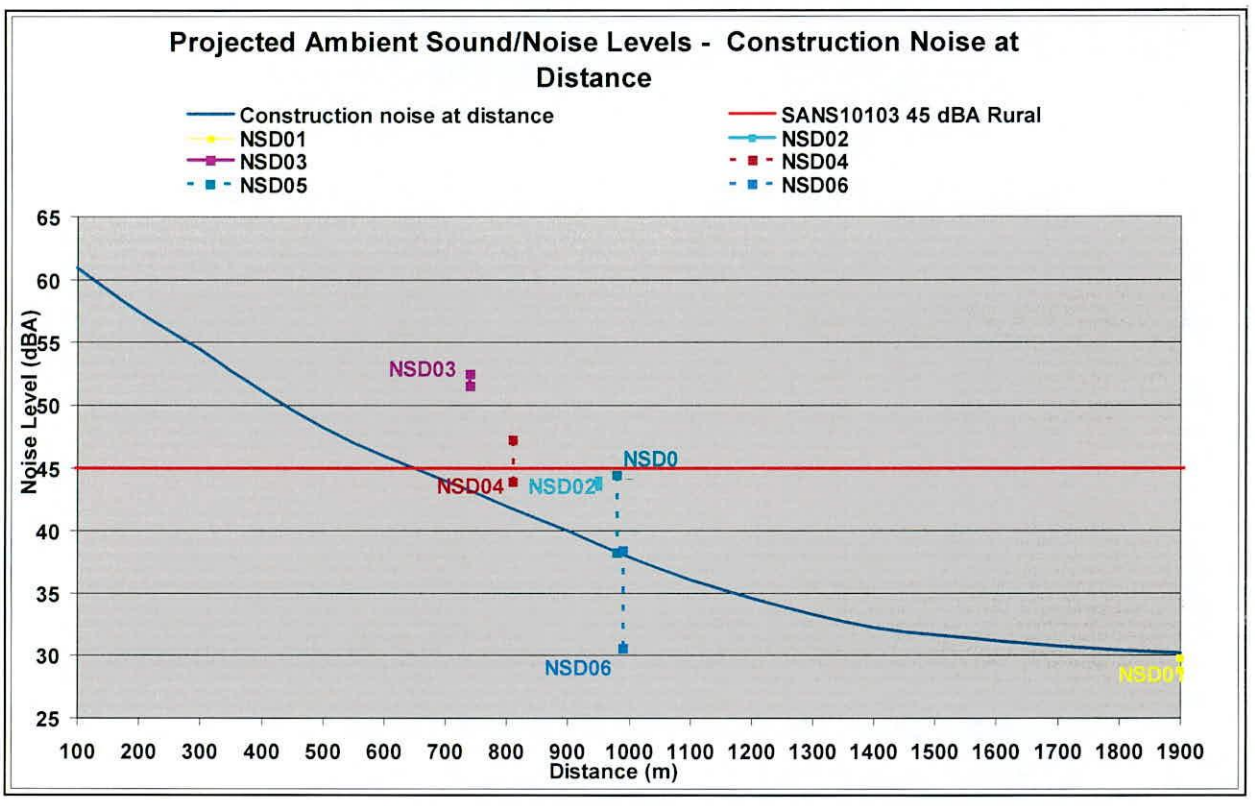

Figure 7-4: Construction phase: Projected sound and noise levels due to distance

Table 7-1: Construction: Defining noise impact on Receptors (dBA)

Receptor	Estimated Daytime Ambient Sound Level (L_{Aeq})	Daytime Ambient Noise Level[5] (L_{Aeq})	Above daytime Rating level (dBA)	Change From ambient sound level (dBA)	Defining Significance of Noise Impact (See Table 5-2 and Table 5-3)				
					Magnitude	Duration	Extent	Probability	Significance
NSD01	28.8	29.8	0	1.0	2	2	2	1	6
NSD02	43.6	44.1	0	0.5	2	2	2	1	6
NSD03	51.5	52.5	7.5	1.0	6	2	2	3	30
NSD04	43.9	47.2	0	3.3	6	2	2	2	20
NSD05	38.3	44.4	0	6.1	6	2	2	2	20
NSD06	30.6	38.5	0	7.9	8	2	2	2	24

As can be seen in **Figure 7-4 and Table 7-1** the most likely receptor to experience an increase in noise levels due to construction noise is **NSD06** with an expected increase of 7.9 dBA from the existing ambient soundscape. However the 38.5 dBA noise levels at this receptor is well below the SANS10103 Rating Level of 45 dBA. **NSD03** is also indicated in the figure as exposed to high ambient sound levels. This is primary due to the road traffic noise from the R35 road.

7.1.3 Impact Assessment: Construction Phase

The impact assessment for the various construction activities that may impact on the surrounding environment is presented in the **Table 7-2**.

Table 7-2: Impact Assessment: Daytime construction phase – Goedhoop North

Nature:	Worst case scenario with numerous simultaneous construction activities operating that could potentially impact on NSD's (06:00 – 22:00).
Acceptable Rating Level	Rural district with little road traffic: 45 dBA outside during day (Refer to **Table 5-1**). Use of $L_{Req,d}$ of 45 dBA for rural areas.
Extent ($\Delta L_{Aeq,d}$>7dBA)	**Local (2)** – Change in ambient sound levels would extend up to 1,000 meters from activity.
Duration	**Short term (2)** – Noisy activities in the vicinity of the receptors would last for the duration of construction period.
Magnitude	Ambient noise levels << Zone Sound Level or SANS Rating level (refer to **Table 7-1**): **High (8)** - An increase of 7.9 dBA at **NSD06** from the existing ambient soundscape will occur during the construction phase. However the total project ambient noise levels at this receptor of 38.5 dBA is still much lower than the rating level of 45 dBA. **Medium (6)** – for **NSD3** - **NSD05.** **NSD04** and **NSD05** will experience a 3.3 and 6.1 dBA increase respectively as modelled in this worst case scenario. **NSD03** will only experience an increase of 0.9 dBA from the existing sound levels due to the construction phase, however the current ambient sound levels are high at this receptor due to the road traffic noise from the existing R35

[5]Ambient sound level was calculated using the SANS methods discussed in this report.

	road (exceeding the 45 dBA for SANS rural area). **Low (2)** – for **NSD01** and **NSD02.**
Probability	**Likely (3)** - for **NSD03**. Normal daily activities as well as traffic on the R35 would mask construction related noises at **NSD03**. However as a place of worship, the modelled worst case scenario has been implemented in order to determine any likely impacts during the construction phase. As blasting is only briefly discussed in this document, it will be recommended that blasting during the construction phase be co-ordinated with the pray times at the Mosque. Therefore a **Likely (3)** was chosen for this receptor as it may be that there could be a conflict of interest if the developer during the construction phase does not co-ordinate blasting times when the Mosque. Road noise from the R35 is also considered as an "average", therefore at times when there is no vehicle movement on the road, the Mosque will be aware of construction related noise. **Possible (2)** - for **NSD04** - **NSD06.** Daily activities at these NSD's will mask construction noises. The modelled worst case scenario does not include barriers (surrounding buildings obstructing line of sight to the construction activities) as NSD05 does not have a direct line of sight to the construction activities. **Improbable (1)** – for **NSD01** and **NSD02.**
	Low (8 - 30) - for all **NSD's.**
Status	Negative.
Reversibility	High.
Irreplaceable loss of resources?	Not relevant.
Comments	-
Can impacts be mitigated?	Yes.
Mitigation:	*Refer **Section 8.1**.*
Cumulative impacts:	This impact is cumulative with existing ambient background noises as well as other noisy activities conducted in the same area.
Residual Impacts:	This impact will only disappear once construction activities cease.

Table 7-2 defines the significance of noise impacts during construction as a ***Low significance*** at all receptors. However further mitigation measures are discussed in **Section 8.1** in order to further reduce potential noise impacts during the construction phase.

The most important mitigation measure during the construction phase is to co-ordinated the pray times at the Mosque with the blasting times at the proposed development. If this mitigation measure is adhered to the probability rating would change from **Likely (3)** to **Possible (2)** and even an **Unlikely (1)**.

7.2 Operational Phase Impact: Goedehoop North Brown Shaft Two

7.2.1 Operational Phase: Description of Modelled Activities

It has been indicated by engineers dealing with the proposed development that it is to operate past the hours of 22:00. It has also been indicated that there may possibility of an inclusion of a crusher or screening plant at a future date for this mine shaft. However no crushing or screening will be included for this report. It will be recommended that if such a plant is introduced, that this report be revised with the relevant information for the activity.

Both day (06:00 – 22:00) and night-time (22:00 – 06:00) operational activities will be investigated in this section. Most critical investigational times would be the night-time hours when a quiet environment is desired (at night for sleeping, weekends etc.). However the daytime hours was considered as **NSD03** has been identified as a place of worship.

Please refer to **Figure 7-5** for the conceptual layout of the mining activities. The conveyor motor housing (start of conveyor belt) identified in this figure is also the locality of the proposed mine shaft (*red* block), and all equipment around this locality (*orange* block) is considered as fixed.

The layout and equipment in this orange block is conceptual, however discussions with the proposed development engineers confirmed that this is *most likely* the loudest noise sources for the development. The localities of the conveyor belt (*red* line), feeder bin and gearbox conveyor belt (change in direction of *red* line) in this figure however is conceptual, and the layout and confirmation of use of these items are not confirmed.

It is expected that a feeder bin and gearbox for the conveyor belt will be implemented at junctions (change of direction) of the conveyor belt stretching from the proposed facility, to the existing facility. For the purpose of a worst case scenario, feeder bin and gearbox for the conveyor belt will be placed as close as possible to a receptor (identified as **NSD03 – NSD05**) along the conveyor belt route to the existing facility. The conveyor belt itself will also be placed on a route enabling it to be as close as possible to N**SD03 – NSD05**, yet still remaining on the farm portions defined in **Figure 1-1**.

The following operational activities are assumed to take place simultaneously at the proposed facility:

- **Gearbox conveyor belt (pulley system)** – At conveyor belt junctions on route to the existing facility a conveyor belt gearbox is expected. Activities will be taking place for 16 hours during the 16 hour daytime period and 8 hours during the 8 hour night-time period;
- **Feeder bin** - At conveyor belt junctions (where conveyors change direction) on route to the existing facility, it is expected that feeder bins would be required to link the previous stretch of the conveyor belt to the following stretch Activities will be taking place for 16 hours during the 16 hour daytime period and 8 hours during the 8 hour night-time period;
- **General work at the workshop area** - This would be activities such as equipment maintenance, off-loading and material handling. Activities will be taking place for 16 hours during the 16 hour daytime period and 8 hours during the 8 hour night-time period;
- **Front end loader (small – medium size)** - Any stockpiles (small or large) considered on the mine shaft will need to be managed by means of a front end loader (FEL). Activities will be taking place for 16 hours during the 16 hour daytime period and 8 hours during the 8 hour night-time period; and
- **Grader (small – medium size)** - Management of surface areas may make us of a grader. Activities will be taking place for 16 hours during the 16 hour daytime period and 8 hours during the 8 hour night-time period.

The third octave sound power levels of the operational equipment are presented in **Table 7-3**. The exact equipment or equipment model has not yet been finalised, however the conceptual equipment layout is consider sufficient to define potential noise impacts. Octave sound levels found in **Table 7-3** is data obtained from a library of previous reports as well as internet/ other resources.

Table 7-3: Third Octave Sound Power Emission Levels used for modelling during operational phase

Operational activity	31.5 (dB)	63 (dB)	125 (dB)	250 (dB)	500 (dB)	1000 (dB)	2000 (dB)	4000 (dB)	L_{WA} (dBA)
Feeder bin	55.0	60.6	69.9	79.4	86.7	90.9	92.6	89.6	97.0
Grader	49.3	62.4	77.3	92.7	91.0	92.1	92.0	85.7	98.2
FEL	70.7	67.7	84.3	83.7	87.7	88.3	87.0	83.6	94.0
Conveyor motor	62.9	71.7	83.9	90.2	97.7	99.7	97.5	88.6	103.5
Gearbox	57.5	66.7	74.9	82.1	88.2	91.2	86.6	80.0	94.58

Description of modelled operational activities included:

- Equivalent basic noise levels of the existing soundscape considering existing facility and R35 road traffic noise as defined in **Section 3.3.1**;
- A direct line of sight from receptors to the operational activities. Receptors are considered at a 1,5m height to the surrounding environment. Operational activity heights are set at 1.5 meter from surface;
- Worst case scenario investigated whereby the placement of a conceptual conveyor belt gearbox and feeder bin as close as possible to a receptor along the route of the proposed conveyor belt junctions on route to the existing facility. The receptor/s identified along this conveyor belt route is identified as **NSD03 – NSD05** receptors. This is considered as sufficient when defining possible operational impacts along the entire conveyor belt route. Conveyor belt gearbox and feeder bin is located at a maximum of 180 meters and conveyor belt at maximum of 80 meters distance from **NSD03 – NSD05** (refer to **Figure 7-5**);
- No road traffic to site is considered as the conveyor belt is the source of coal transportation from mine shaft;
- Distance from receiver to noise source considered;
- Intervening ground conditions of a hard ground nature (acoustically not very absorbent);
- Façade correction not considered; and
- Activities functioning during wind-still conditions, in good sound propagation conditions (20°C and 80% humidity).

Projected Noise Levels in the area due to the operation of the development are illustrated in the following figures:

Figure 7-5 the conceptual layout worst case scenario where conceptual conveyor belt gearbox and feeder bin are placed at a close distance from receptors.

Figure 7-6 and **Figure 7-8** the day and night-time cumulative noise levels in the area due to the operation of the proposed facility.

Figure 7-9 and **Figure 7-11** illustrates the day and night-time change in the ambient soundscape due to operation of the proposed facility.

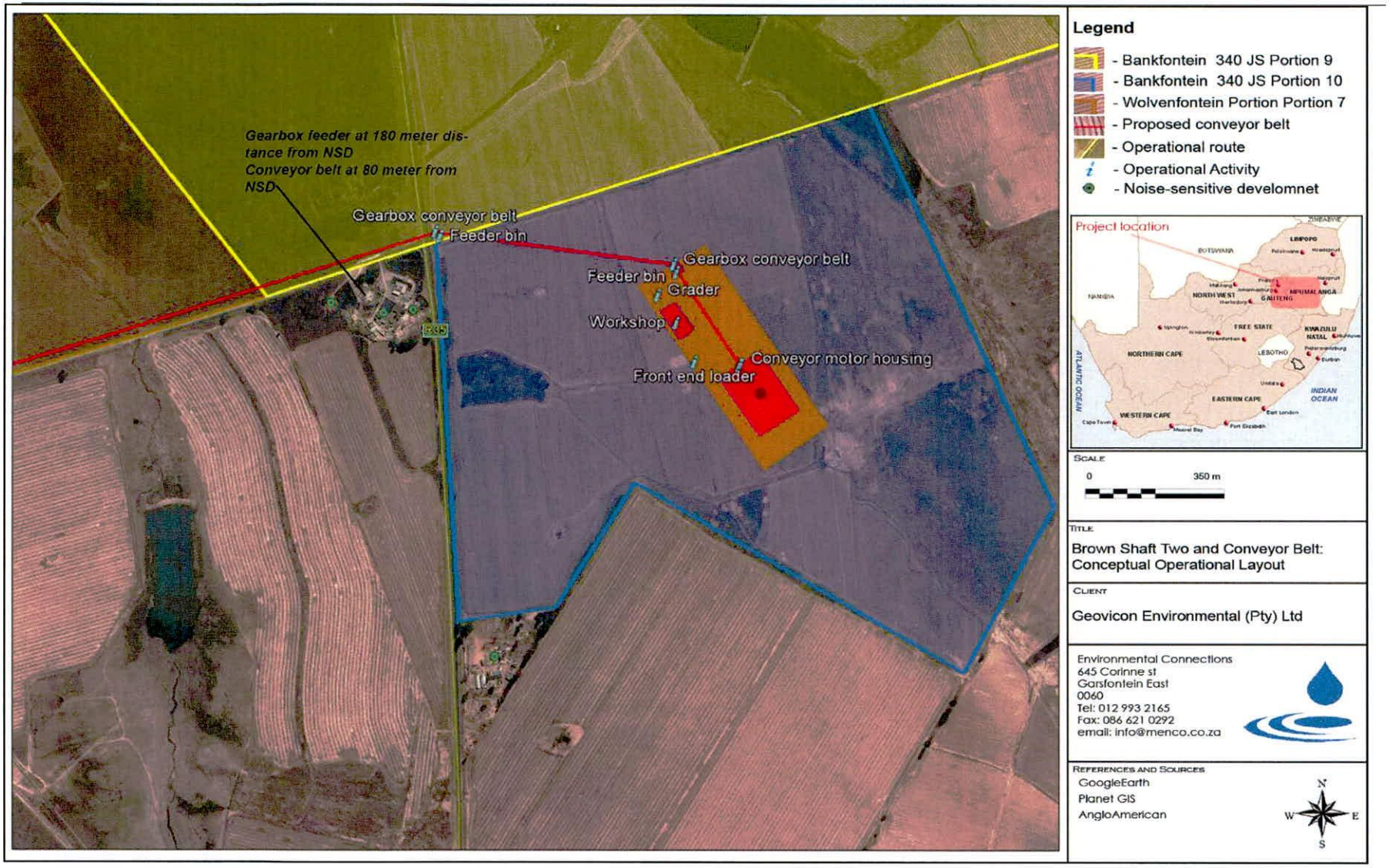

Figure 7-5: Conceptual layout of mining activities

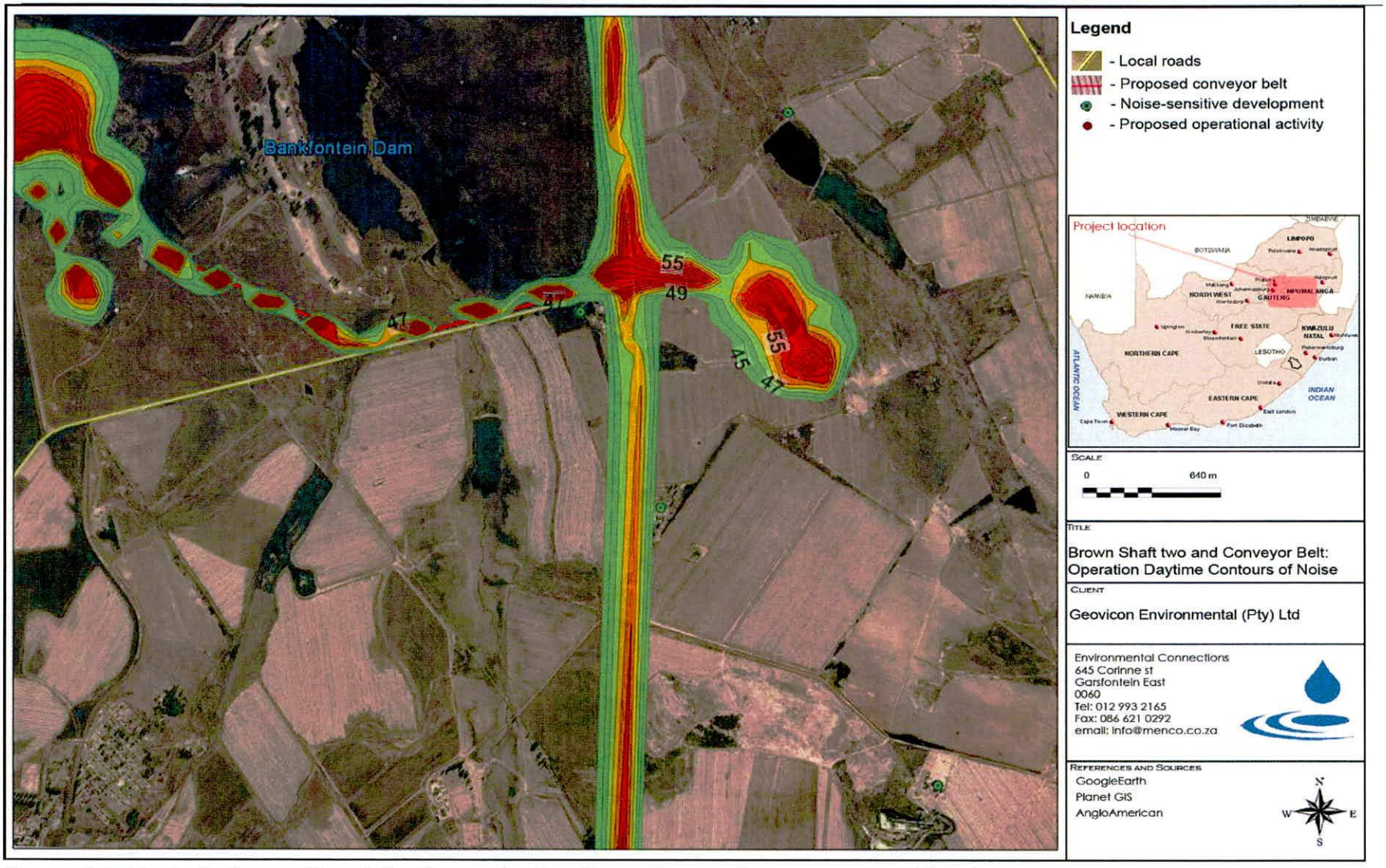

Figure 7-6: Projected operational daytime noise levels; contours of constant sound levels

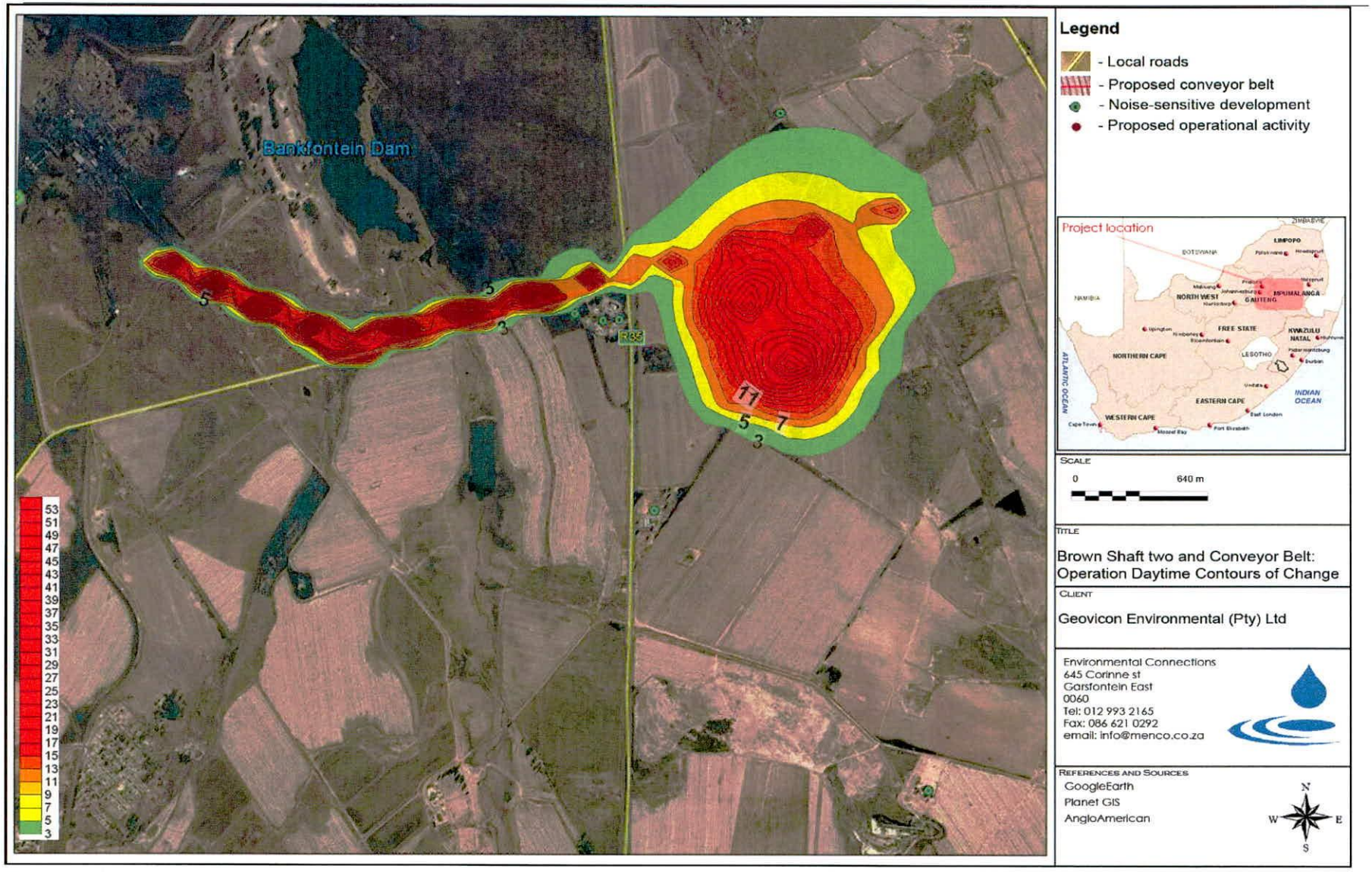

Figure 7-7: Projected change in operational daytime ambient sound levels; contours of change

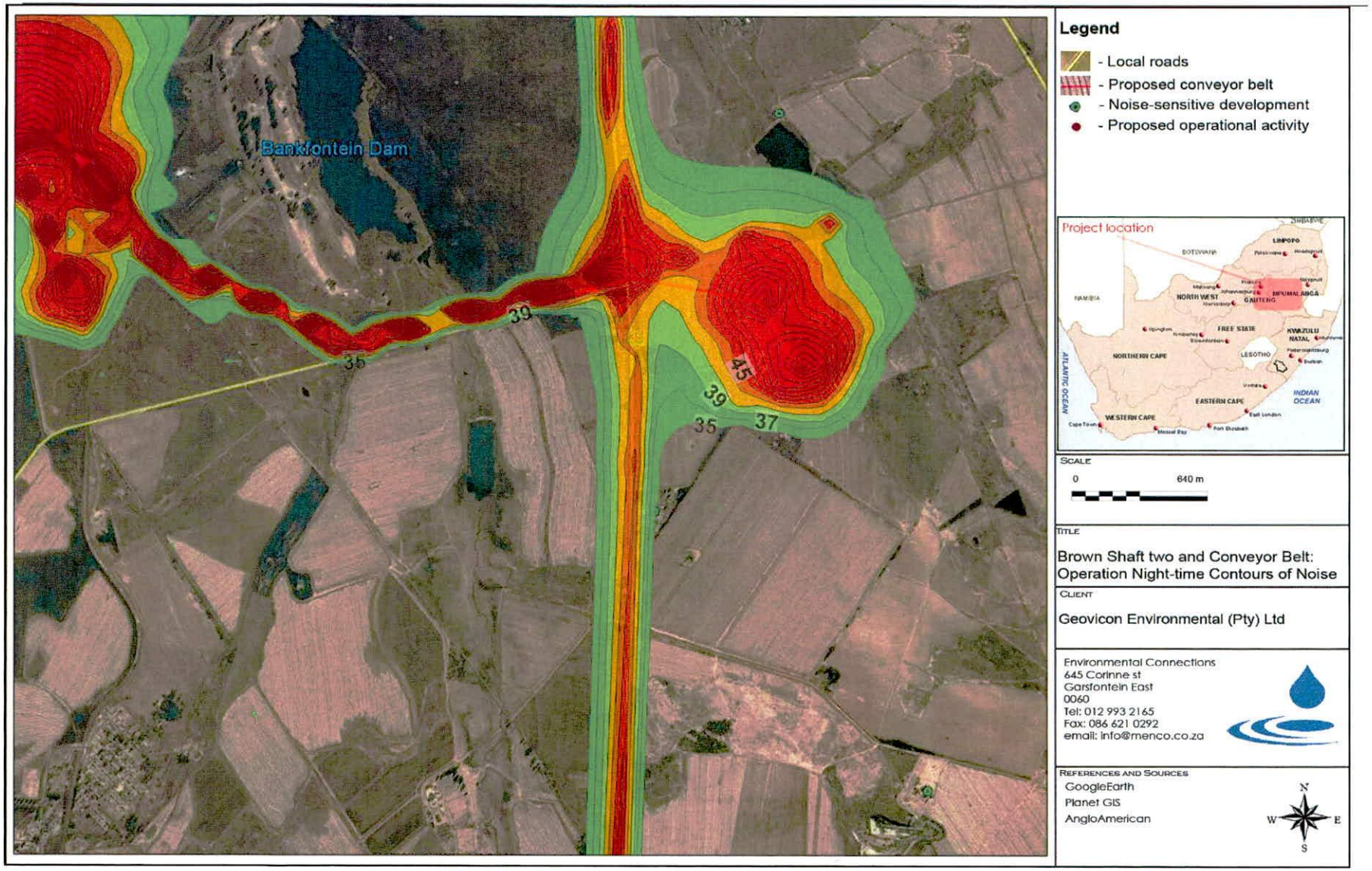

Figure 7-8: Projected operational night-time noise levels; contours of constant sound levels

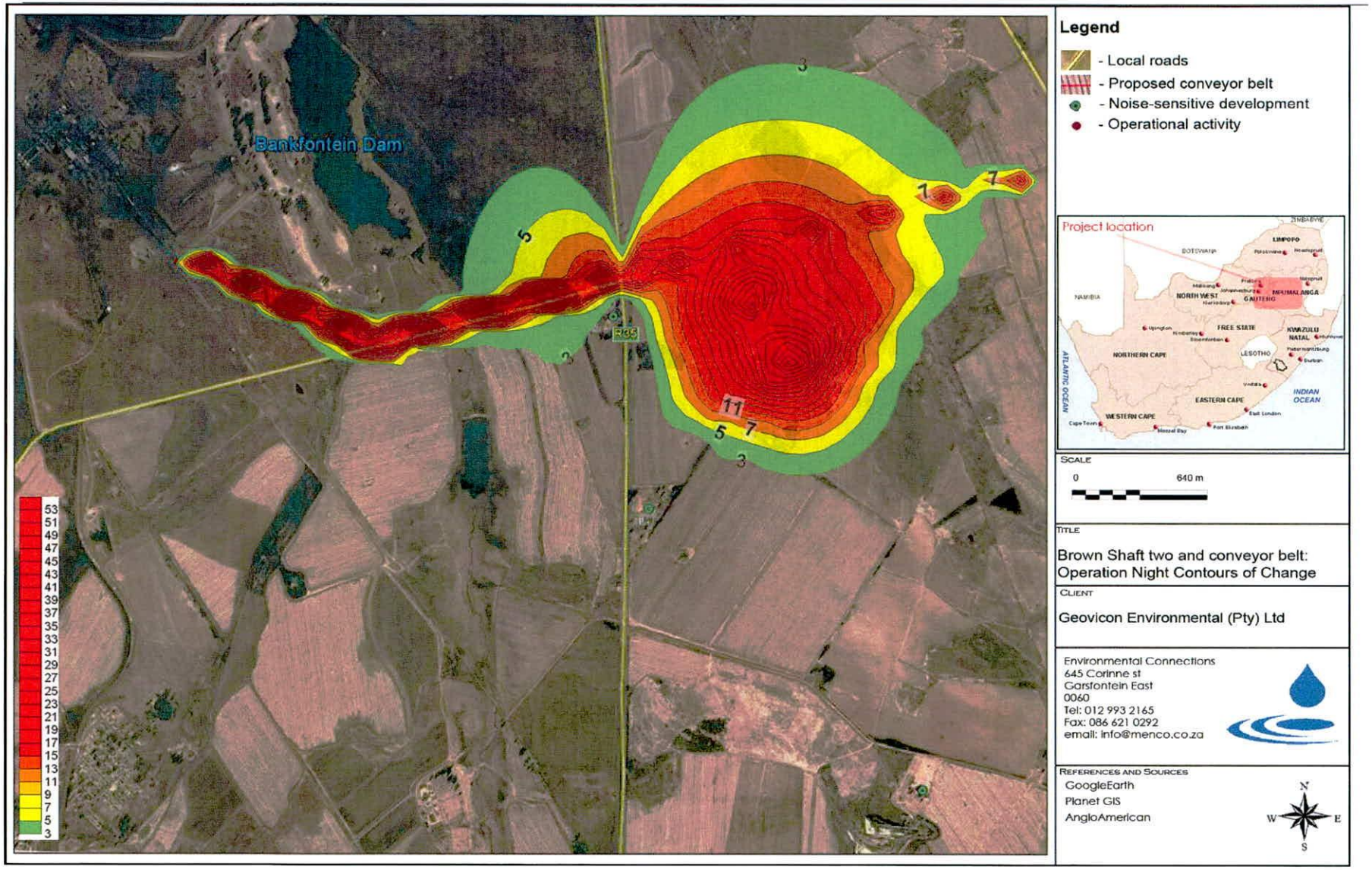

Figure 7-9: Projected change in operational night-time ambient sound levels; contours of change

7.2.2 Results: Operational Phase – Goedehoop North Brown Shaft Two

As the ambient sound levels cannot be accurately defined without long term measurements the impact assessment is quite precautious. The mosque was also omitted from the night-time assessment as it was not considered to be in use during the night-time hours.

Modelled daytime operational noise levels at receptors are defined in **Figure 7-10** with the potential impact table presented in **Table 7-4**. Modelled night-time operational noise levels at receptors are defined in **Figure 7-11** with the potential impact table presented in **Table 7-4. Table 7-4** and **Table 7-5** also illustrate the change at receptors from the existing ambient soundscape due to day and night-time operational related activities.

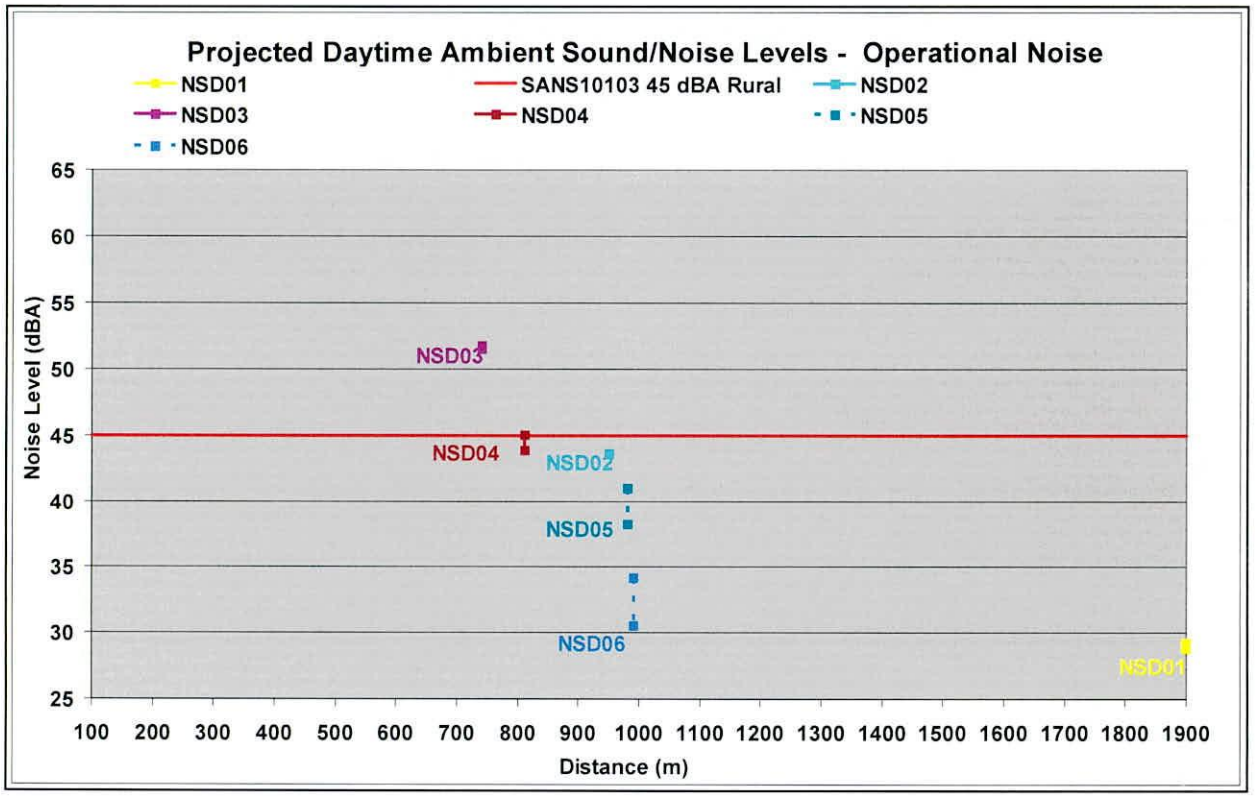

Figure 7-10: Daytime projected noise levels at NSDs due to the operation of the proposed development

Table 7-4: Impact assessment: Daytime assessment

Receptor	Estimated Daytime Ambient Sound Level (L_{Aeq})	Day Ambient Noise Level[6] (L_{Aeq})	Above daytime rating level (dBA)	Change From ambient sound level (dBA)	Defining Significance of Noise Impact (See Table 5-2 and Table 5-3)				
					Magnitude	Duration	Extent	Probability	Significance
NSD01	28.8	29.3	0	0.5	2	4	2	1	8
NSD02	43.6	43.7	0	0.1	2	4	2	1	8
NSD03	51.5	51.8	6.8	0.3	2	4	2	1	8
NSD04	43.9	45.0	0	1.1	2	4	2	1	8
NSD05	38.3	41.0	0	2.7	2	4	2	1	8
NSD06	30.6	34.2	0	3.6	4	4	2	2	20

From the results obtained in **Figure 7-10** and **Table 7-4** it can be seen that it is of a similar situation as investigated during the construction phase. **NSD03** is exposed to high existing sound levels due to the R35 road traffic noise. **NSD06** will experience the highest increase in noise levels due to the operation of the proposed development, however this receptor experiences a low 3.6 dBA increase from the existing soundscape.

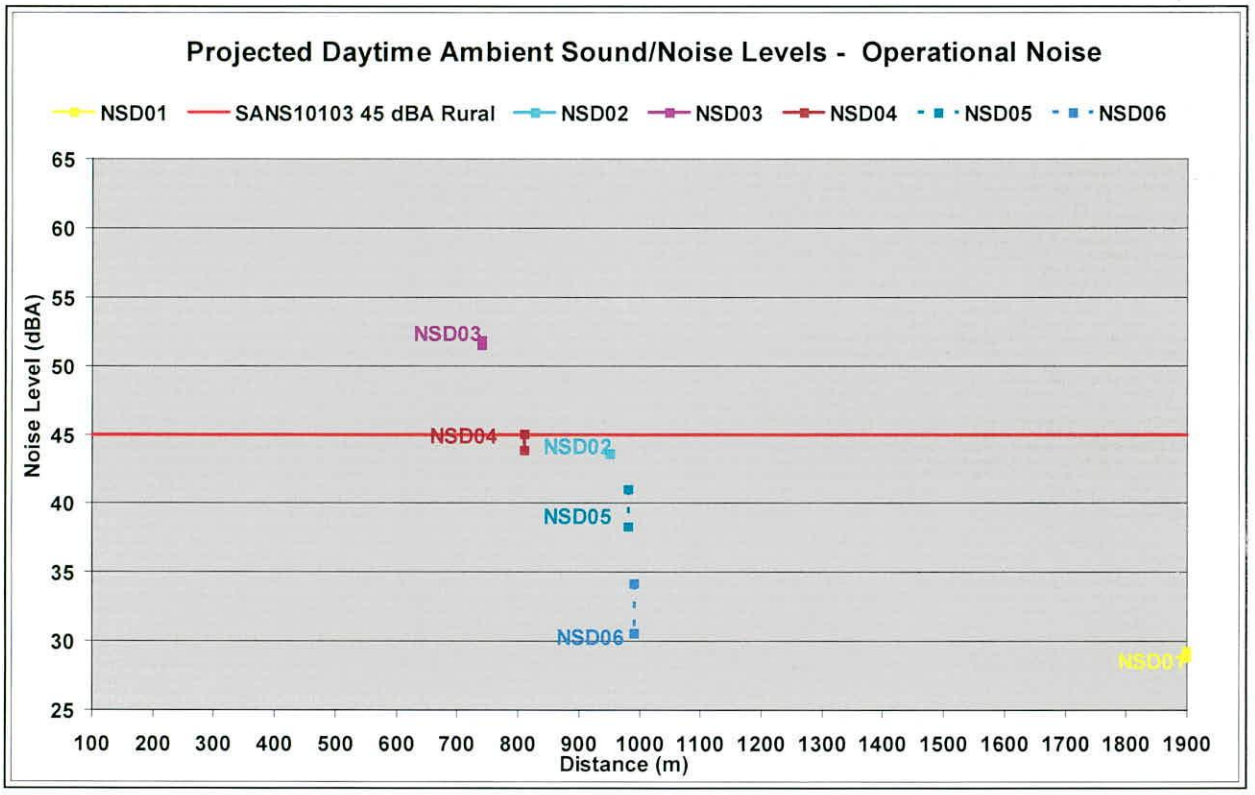

Figure 7-11: Night-time projected noise levels at NSDs due to the operation of the proposed development

[6]Ambient sound level was calculated using the SANS methods discussed in this report.

Table 7-5:Impact assessment: Night-time assessment

Receptor	Estimated Night-time Ambient Sound Level (L_{Aeq})	Night-time Ambient Noise Level[7] (L_{Aeq})	Above Night-time Rating Level (dBA)	Change From Ambient Sound Level (dBA)	Defining Significance of Noise Impact (See Table 5-2 and Table 5-3)				
					Magnitude	Duration	Extent	Probability	Significance
NSD01	25.4	25.9	0	0.5	2	4	2	1	8
NSD02	34.9	35.1	0.1	0.2	2	4	2	1	8
NSD03	**Mosque considered as non operational between the hours of 22:00 – 06:00**								
NSD04	35.2	38.4	3.4	3.1	4	4	2	2	20
NSD05	30.4	36.2	1.2	5.8	6	4	2	3	36
NSD06	25.9	30.5	0	4.6	4	4	2	2	20

From the results obtained in **Figure 7-11** and **Table 7-5** it can be seen that **NSD05** will experience the highest change (at 5.8 dBA) in the ambient soundscape due to night-time operations (as opposed to daytime where **NSD06** experiences the highest change). This is most notably due to the decrease of road traffic noise during night-time hours on the R35 road. However the increase for this receptor above the SANS rural rating level of 35 dBA is only slight at a calculated equivalent of 36.2 dBA.

7.2.3 Impact Assessment: Goedhoop North Brown Shaft Two Day and Night-Time Operations

This Environmental Noise Impact Assessment focuses on the impacts on the surrounding sound environment during times when a quiet environment is highly desirable. Noise limits are therefore appropriate for the most noise-sensitive activity, such as sleeping, or areas used for relaxation or other activities (places of worship, school, etc). However daytime investigations were conducted due to a place of worship operating during day hours in the study area.

The impact assessment for the various operational activities that may impact on the surrounding environment is presented in the **Table 7-6** for daytime activities, while **Table 7-7** defines night-time operations.

[7]Ambient sound level was calculated using the SANS methods discussed in this report.

Table 7-6: Impact Assessment: Daytime operational phase – Goedhoop North

Nature:	*Numerous development activities operating simultaneously during the daytime hours of (06:00 – 22:00). The closest receptors along the conveyor belt route from the proposed development have been identified as* ***NSD03 – NSD05.*** *The two noise sources that can be implemented close to these receptors are identified as the feeder bin and conveyor belt gearbox as illustrated in* ***Figure 7-5****.* ***These two noise sources have been placed at a maximum distance of 180 meters from NSD03 – NSD05****. The conveyor belt itself has been placed at a distance of* ***80 meters from NSD03 –NSD05****.*
Acceptable Rating Level	Rural district with little road traffic. Refer to **Figure 5-1** for the proposed Daytime Rating Level of 45 dBA. Use of $L_{Req,d}$ of 45 dBA for rural areas.
Extent ($\Delta L_{Aeq,n}$>7dBA)	**Local (2)** – Impact will extend more than 1,000 meters from activity.
Duration	**Long term (4)** – Facility will operate for a number of years.
Magnitude	Ambient noise levels << Zone Sound Level or SANS Rating level (refer to **Table 7-1**): **Low-medium (4)** - **NSD06. NSD06** is located further away from the road than other receptors (quieter ambient soundscape), therefore experiencing the highest increase of noise from the operations of the proposed development. An increase of 3.6 dBA at **NSD06** from the existing ambient sounsdcape will occur during the daytime operational phase. **Low (2)** – for all other **NSD's** .
Probability	**Possible (2) – NSD06.** **Improbable (1) -** for all other **NSD's**
Significance	**8 - 20 (Low) -** for all current **NSD's** between the hours of 22:00 – 06:00.
Status	Negative.
Reversibility	High.
Irreplaceable loss of resources?	*Not relevant.*
Comments	*As a worst case scenario, the conceptual feeder bin, conveyor belt and conveyor belt gearbox has been placed as close as possible to the closest receptor on route to the existing mine. These receptors have been identified as* ***NSD03 – NSD05.***
Can impacts be mitigated?	No noise impact, mitigation is not required, however simple and easy to implement mitigations have been supplied to further ensure a noise reduction at identified sensitive receptors.
Mitigation:	*No mitigation required, however simple and easy mitigation options to further reduce noise levels during the day are briefly discussed in* ***Section 8****.*
Cumulative impacts:	This impact is cumulative with existing ambient background noises.
Residual Impacts:	This impact will only disappear once the operation of the facility stops, or the sensitive receptor no longer exists.

Table 7-7:Impact Assessment: Night-time operational phase – Goedhoop North

Nature:	*Numerous development activities operating simultaneously during a period when a quiet environment is desirable (22:00 – 06:00). The closest receptors along the conveyor belt route from the proposed development have been identified as* ***NSD03 – NSD05.*** *The two noise sources that can be implemented close to these receptors are identified as the feeder bin and conveyor belt gearbox as illustrated in* ***Figure 7-5****.* ***These two noise sources have been placed at a maximum distance of 180 meters from NSD03 – NSD05****. The conveyor belt itself has been placed at a distance of* ***80 meters from NSD03 –NSD05****.*
Acceptable Rating Level	Rural district with little road traffic. Refer to **Figure 5-1** for the proposed Night Rating Level of 35 dBA. Use of $L_{Req,n}$ of 35 dBA for rural areas.
Extent ($\Delta L_{Aeq,n}$>7dBA)	**Local (2)** – Impact will extend more than 1,000 meters from activity.
Duration	**Long term (4)** – Facility will operate for a number of years.
Magnitude	Ambient noise levels << Zone Sound Level or SANS Rating level (refer to **Table 7-1**):

	Medium (6) - **NSD05.** As road traffic noise from the R35 road becomes less predominant during the night-time hours, **NSD05** will be more exposed to noise levels from the proposed development During the worst case scenario whereby the feeder bin and gearbox are placed as close as possible to this NSD, an increase of 5.8 dBA can be expected. **Low-medium (4)** - **NSD04** and **NSD06**. An increase of 3.1 and 4.6 dBA at **NSD04** and **NSD06** respectively can be expected. **Low (2)** – for all other **NSD's.**
Probability	**Likely (3) – NSD05.** By modelling a worst case scenario whereby the gearbox for the conveyor belt and a feeder bin is placed as close as possible to this NSD, the probability that a noise impact could occur is possible. However during the mitigation measures a reasonable setback of the gearbox and feeder bin will be investigated. **Possible (2) – NSD04** and **NSD06**. By modelling a worst case scenario whereby the gearbox for the conveyor belt and a feeder bin are placed as close as possible to these NSD's, the probability that a noise impact could occur is possible. However during the mitigation measures a reasonable setback of the gearbox and feeder bin will be investigated. **Improbable (1) - for** all current NSD.
Significance	**36 (Medium) -** for **NSD05** between the hours of 22:00 – 06:00. **8 - 20 (Low) -** for all other **NSD's** between the hours of 22:00 – 06:00.
Status	Negative.
Reversibility	High.
Irreplaceable loss of resources?	*Not relevant.*
Comments	*As a worst case scenario, the conceptual feeder bin, conveyor belt and conveyor belt gearbox has been placed as close as possible to the closest receptor on route to the existing mine. These receptors have been identified as **NSD03 – NSD05.***
Can impacts be mitigated?	Yes, by having implementing a reasonable setback if any feeder bin and gearbox for the conveyor belt is proposed nearby an NSD. Please refer to **Section 8** for the mitigation outcome.
Mitigation:	*By implementing a reasonable setback if any feeder bin and gearbox is to be introduced near a NSD. A berm/barrier is also recommended obstructing the line of sight to **NSD03 – NSD06** from the mine shaft only. Please refer to **Section 8**.*
Cumulative impacts:	This impact is cumulative with existing ambient background noises.
Residual Impacts:	This impact will only disappear once the operation of the facility stops, or the sensitive receptor no longer exists.

Based on the preceding figures it is obvious that the risk of a noise impact developing is of a ***Medium significance*** during the night-time hours. However noise levels can be easily mitigated by means of placing any equipment used to drive the conveyor belt at an acceptable distance from **NSD03 – NSD05**, as these conceptual equipment localities can be moved. Activities at the proposed development that cannot be moved (i.e. the mine shaft as this locality is set) will be investigated by mitigation means of a berm (or barrier).

These two modelled mitigation options are further investigated in **Section 7.3**, with other non-modelled technical and management options defined in **Section 8.2**.

7.3 MITIGATED OPERATIONAL PHASE: GOEDEHOOP NORTH BROWN SHAFT TWO

7.3.1 Description of Mitigated Operational Activities Modelled

This mitigation section investigates the night-time operational phase only, as this has been indentified as a time where potential impacts could occur. Mitigation measure that can be presented by means of a prediction model is a berm (or a barrier) and relocation of certain equipment.

As the mining activities at the shaft itself are at a set location, the only equipment that can be relocated are the feeder bin, conveyor belt gearbox and conveyor belt itself. This mitigation section investigates the minimum required distance relocation of this mentioned equipment in relation to **NSD03 –NSD05**. A berm or barrier will be implemented around the mine shaft itself.

The following operational activities are assumed to take place simultaneously at the proposed facility:

- **Gearbox conveyor belt** – (pulley system). At conveyor belt junctions on route to the existing facility a conveyor belt gearbox is expected. Activities will be taking place for 16 hours during the 16 hour daytime period and 8 hours during the 8 hour night-time period;
- **Feeder bin** - (impact noise). At conveyor belt junctions on route to the existing facility a feeder bins to the next stretch it of conveyor belt from the conveyor preceding it is expected. Activities will be taking place for 16 hours during the 16 hour daytime period and 8 hours during the 8 hour night-time period;
- **General work at the workshop area** - (general noise). This would be activities such as equipment maintenance, off-loading and material handling. Activities will be taking place for 16 hours during the 16 hour daytime period and 8 hours during the 8 hour night-time period;
- **Front end loader** - (FEL). Any stockpiles (small or large) considered on the mine shaft will need to be managed by means of a front end loader (FEL). Activities will be taking place for 16 hours during the 16 hour daytime period and 8 hours during the 8 hour night-time period; and
- **Grader** - (Grader). Management of surface areas may make us of a grader. Activities will be taking place for 16 hours during the 16 hour daytime period and 8 hours during the 8 hour night-time period.

Description of modelled operational activities included:

- Equivalent basic noise levels of the existing soundscape considering existing facility and R35 road traffic noise as defined in **Section 3.3.1**:
- ***(Mitigated)*** *- Direct line of sight from receptors* ***NSD03-NSD06*** *obscured by a berm (and as close as possible to the mine shaft, for modelling purpose set at 20 meters) The berm/barrier needs to be one meter higher than the highest noise source on the mine shaft. Berm/barrier materials sourced from top or other soil obtained during construction excavations. A direct line of sight to the conveyor belt and components to any receptor still exists (pink line in* **Figure 7-12**);
- ***(Mitigated)*** *- A more appropriate situation is investigated whereby the location of the conceptual conveyor belt and components in relation to a receptor is investigated. The receptor/s identified along this conveyor belt route is identified as* ***NSD03 – NSD05*** *receptors. Conveyor belt gearbox and feeder bin will be located at a minimum of 360 meters and conveyor belt at minimum of 150 meters from* ***NSD03 – NSD05*** *(refer to* ***Figure 7-5****)*;
- No road traffic to site is considered as conveyor belt is source of transportation from mine shaft;
- Distance from receiver to noise source considered;
- Intervening ground conditions of a hard ground nature (acoustically not very absorbent);
- Façade correction not considered; and
- Activities functioning during wind-still conditions, in good sound propagation conditions (20°C and 80% humidity).

7.3.2 Results: Mitigated Phase – Goedehoop North Brown Shaft Two

Figure 7-12 illustrates the conceptual mitigated conceptual layout whereby a berm obstructs the line of sight from the fixed locality of the mine shaft to **NSD03 – NSD06**. The conceptual feeder bin, conveyor gearbox and conveyor belt has been relocated to a more acceptable distance from **NSD03 – NSD05** as mentioned above.

Projected Noise Levels in the area due to the mitigated operation of the development are illustrated in the following figures:

Figure 7-12 the conceptual layout mitigated night-time scenario where feeder bin, gearbox conveyor belt and feeder bin are placed an acceptable distance from receptors.

Figure 7-13 illustrates the change in the ambient soundscape due to mitigated night-time operation of the proposed facility.

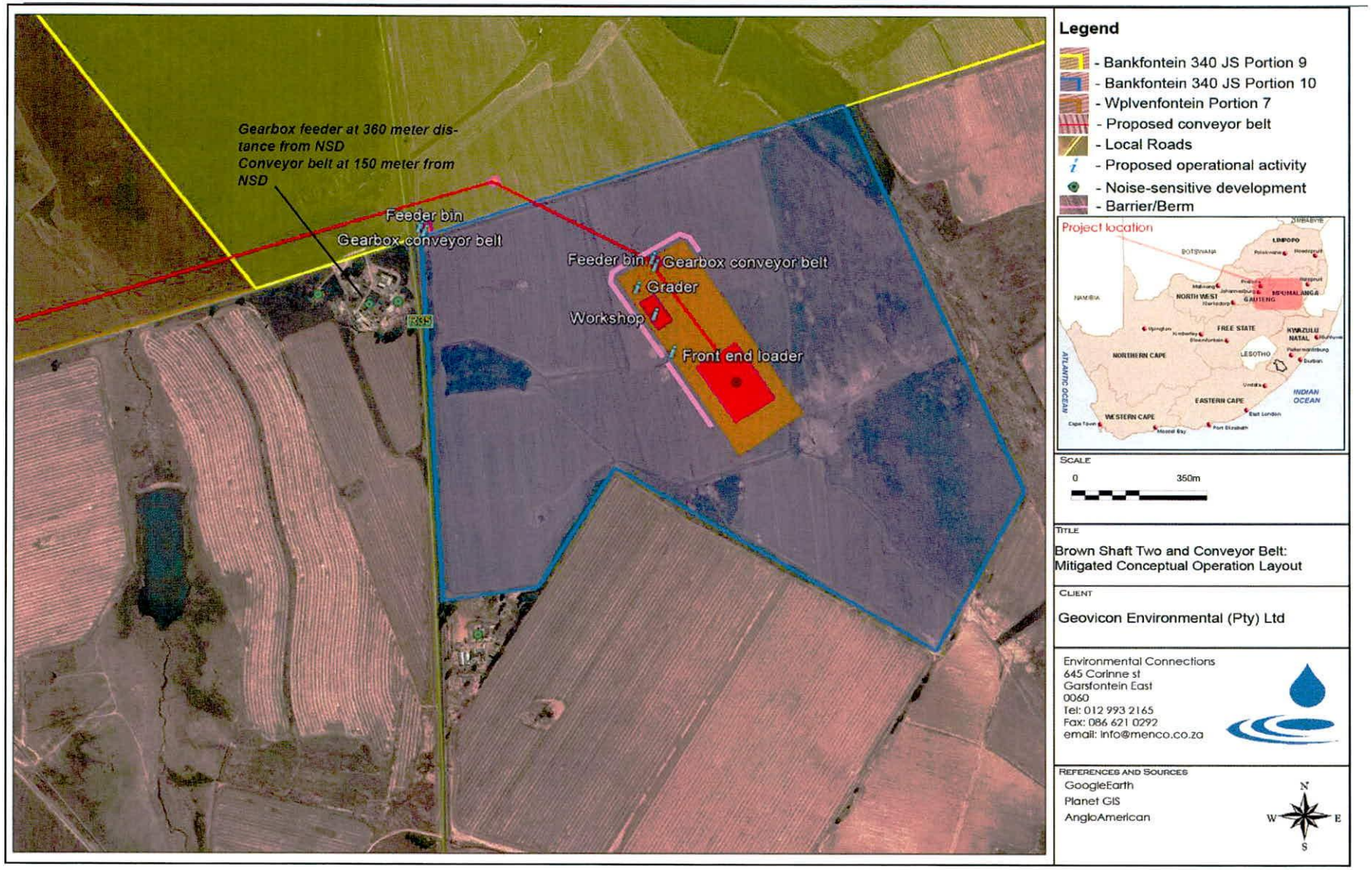

Figure 7-12: Mitigated conceptual layout of mining activities

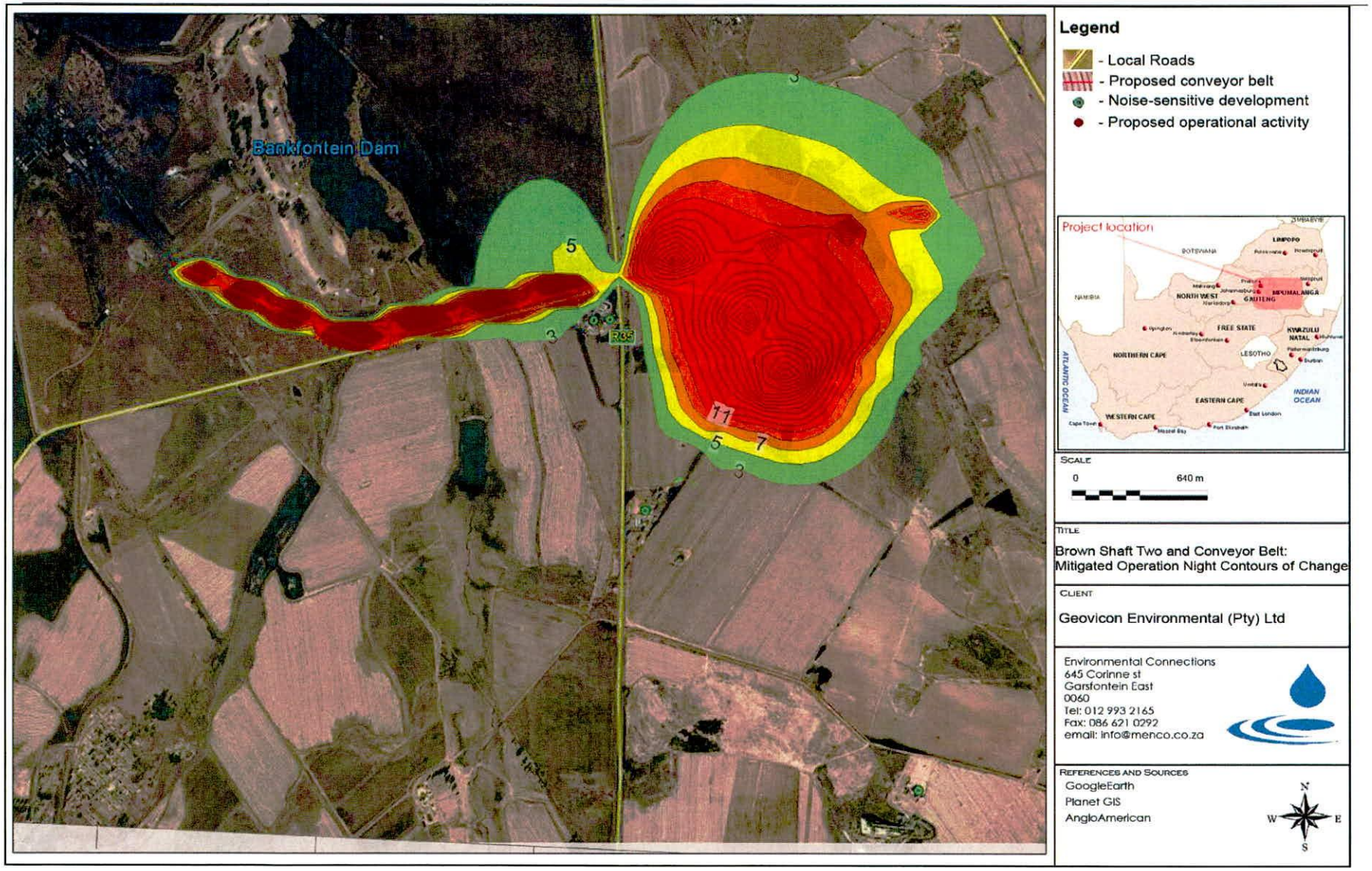

Figure 7-13: Projected change in mitigated operational night-time ambient sound levels; contours of change

7.3.3 Results: Mitigated Operational Phase – Goedehoop North Brown Shaft Two

Modelled mitigated night-time change in the ambient soundscape at receptors is defined in **Figure 7-12** with the potential impact table presented in **Figure 7-8. Figure 7-12** also illustrates the change at receptors from the existing ambient soundscape due to mitigated related operational activities.

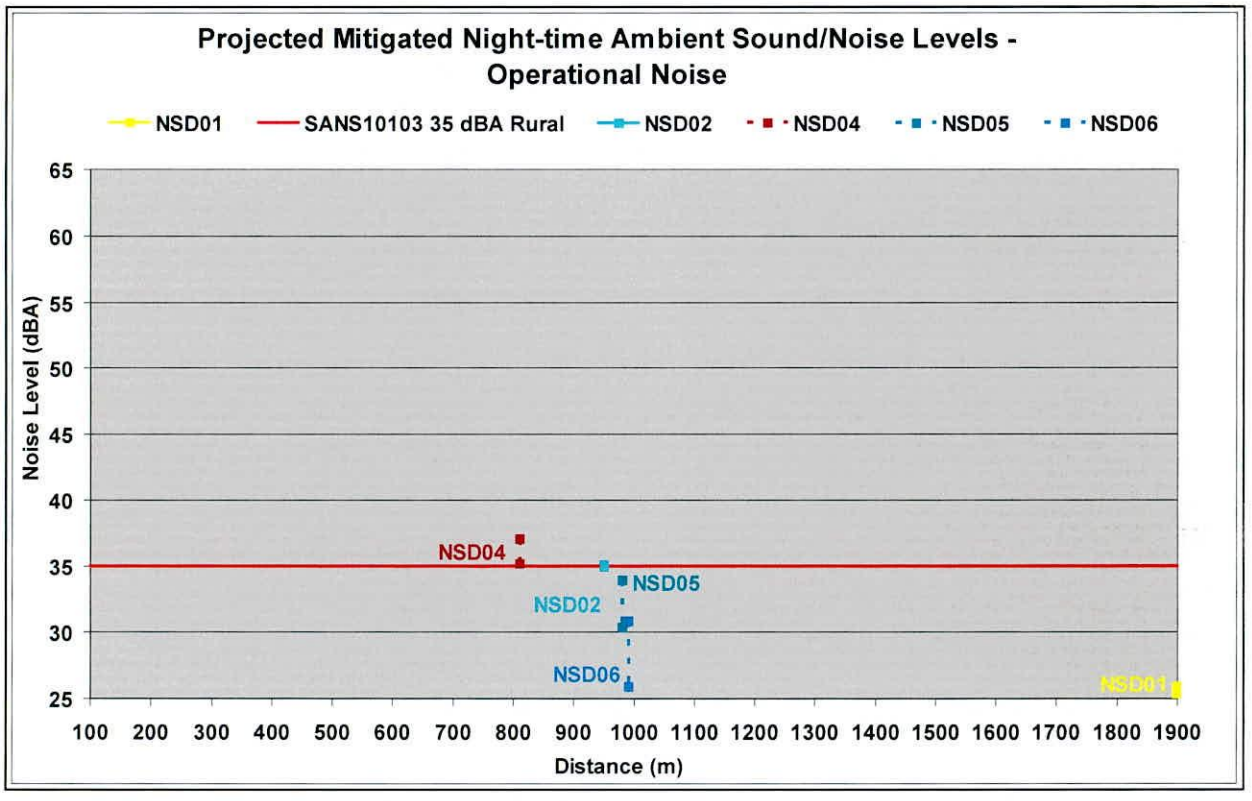

Figure 7-14: Night-time projected noise levels at NSDs due to the operation of the proposed development

Table 7-8: Mitigated impact assessment: Night-time assessment

Receptor	Estimated Night-time Ambient Sound Level (L_{Aeq})	Night-time Ambient Noise Level[8] (L_{Aeq})	Above Night-time Rating Level (dBA)	Change From Ambient Sound Level (dBA)	Defining Significance of Noise Impact (See Table 5-2 and Table 5-3)				
					Magnitude	Duration	Extent	Probability	Significance
NSD01	25.4	25.9	0	0.5	2	4	2	1	8
NSD02	34.9	35.1	0	0.2	2	4	2	1	8
NSD03	**Mosque considered as non operational between the hours of 22:00 – 06:00**								
NSD04	35.2	37.0	2.0	1.8	2	4	2	1	8
NSD05	30.4	33.9	0	3.5	4	4	2	2	20
NSD06	25.9	30.4	0	4.5	4	4	2	2	20

7.3.4 Mitigated Impact Assessment: Operational Goedehoop North Brown Shaft Two

The impact assessment for the mitigated operation of Geodehoop North Brown Shaft Two that may impact on the surrounding environment is presented in the **Table 7-9**.

Table 7-9: Mitigated Impact Assessment: Night-time operational phase – Goedhoop North

Nature:	*Numerous proposed development activities operating simultaneously during a period when a quiet environment is desirable (22:00 – 06:00). The closest noise sensitive development from the proposed development has been identified as **NSD03 – NSD05.** The feeder bin and conveyor belt gearbox (components on the conveyor belt junction) as illustrated in **Figure 7-12** have been relocated to an acceptable distance from these receptors. **The distance of these noise sources are at a minimum of 360 meters from NSD03 – NSD05**. The conveyor belt distance has also been placed at an acceptable distance of a minimum of **150 meters from NSD03 –NSD05**.A berm and barrier has been implemented breaking the line of sight to **NSD03 –NSD06**.*
Acceptable Rating Level	Rural district with little road traffic. Refer to **Figure 5-1** for the proposed Night Rating Level of 35 dBA. Use of $L_{Req,n}$ of 35 dBA for rural areas.
Extent ($\Delta L_{Aeq,n}$>7dBA)	**Local (2)** – Impact will extend more than 1,000 meters from activity.
Duration	**Long term (4)** – Facility will operate for a number of years.
Magnitude	Ambient noise levels << Zone Sound Level or SANS Rating level (refer to **Table 7-1**): **Low-medium (4)** - **NSD05** and **NSD06**. An increase of 3.5 and 4.5 dBA at **NSD05** and **NSD06** respectively can be expected. With the acceptable placement of mining equipment associated with the conveyor belt, and a berm/barrier breaking the line of sight, a decrease in ambient noise levels due to the operations of the proposed development can be expected at these receptors. **Low (2)** – for all other **NSD's.**
Probability	**Possible (2) – NSD05** and **NSD06**. By modelling mitigation options the possibility of a noise impact is lowered at **NSD05**.

[8]Ambient sound level was calculated using the SANS methods discussed in this report.

	Improbable (1) - for all current NSD.
Significance	**8 - 20 (Low) -** for all current **NSD's** between the hours of 22:00 – 06:00.
Status	Negative.
Reversibility	High.
Irreplaceable loss of resources?	*Not relevant.*
Comments	*As a mitigated scenario, the conceptual feeder bin, conveyor belt and conveyor belt gearbox has been placed at an acceptable distance away from the closest receptor on route to the existing mining activities. These receptors have been identified as* ***NSD03 – NSD05.*** *The implementation of a berm/barrier allows for further reductions of nose levels.*
Cumulative impacts:	This impact is cumulative with existing ambient background noises.
Residual Impacts:	This impact will only disappear once the operation of the facility stops, or the sensitive receptor no longer exists.

Based on the preceding mitigated data it is obvious that the risk of a noise impact developing is at a ***Low significance*** for all receptors if mitigation options are implemented. The operation of the Goedehoop Brown Shaft Two/conveyor belt will be audible at **NSD03 –NSD06** however it will not have a noise impact.

8 MITIGATION OPTIONS

8.1 CONSTRUCTION PHASE: GOEDEHOOP NORTH BROWN SHAFT TWO

The significance of noise during the construction phase is identified as a ***Low significance*** for **all receptors**, however mitigation measures are included in this report to allow the developer to further reduce the noise levels. Mitigation options included both management measures as well as technical changes.

Management options to reduce the noise impact during the construction phase include:

- Co-ordinated the pray times at the Mosque (**NSD03**) with the blasting times at the proposed development. It has been indicated by the owner of the Mosque that pray times occur five or more times a day, and pray times are dependant on season;
- Construction activities where practical (and as defined in **Section 7.1.1**) to be conducted between 06:00 – 22:00;
- Route construction traffic as far as practically possible from potentially sensitive receptors;
- Ensure a good working relationship between the developer and all potentially sensitive receptors. Communication channels should be established to ensure prior notice to the sensitive receptor if work is to take place close to them. Information that should be provided to the potential sensitive receptor(s) include:
    - Proposed working times;
    - how long the activity is anticipated to take place;
    - what is being done, or why the activity is taking place;
    - contact details of a responsible person where any complaints can be lodged should there be an issue of concern.
- When working near (within 500 meters – potential construction of access roads and trenches) to a potential sensitive receptor(s), limit the number of simultaneous activities to the minimum as far as possible;
- When working near to potentially sensitive receptors, coordinate the working time with periods when the receptors are not at home where possible. An example would be to work within the 08:00 to 14:00 time-slot to minimize the significance of the impact because:
    - Potential receptors are most likely at school or at work, minimizing the probability of an impact happening;
    - Normal daily activities will generate other noises that would most likely mask construction noises, minimizing the probability of an impact happening.

Technical solutions to reduce the noise impact during the construction phase include:

- Using the smallest/quietest equipment for the particular purpose. For modelling purposes the noise emission characteristics of large earth-moving equipment (typically of mining operations) were used, that would most likely over-estimate the noise levels. The use of smaller equipment therefore would have a significantly lower noise impact; and
- Ensuring that equipment is well-maintained and fitted with the correct and appropriate noise abatement measures.

8.2 Operational Phase: Goedehoop North Brown Shaft Two

The significance of the noise impact during the night-time operations is considered to be of a ***Medium significance*** for receptor **NSD05** and further mitigation measures are required.

Management options to reduce the noise impact during the operational phase include:

- Route operational traffic as far as practically possible from potentially sensitive receptors;

Technical solutions to reduce the noise impact during the operational phase include:

- Direct line of sight from receptors **NSD03-NSD06** to be obscured by a berm (and as close as possible to the mine shaft). The berm/barrier needs to be one meter higher than the highest noise source on the mine shaft. Berm/barrier materials sourced from top or other soils obtained during construction excavations (not a brick or concrete wall). Berm/ barrier is not necessary for conveyor belt or conveyor belt components;
- If a feeder bin and conveyor belt gearbox (or drive train) will be used on the conveyor belt, it is recommended that these components be placed at a minimum of 360 meters from **NSD03-NSD05** (the closest receptors along the route of the conveyor belt);
- The conveyor belt itself (without gearbox/drive train or feeder bin), should be placed at a minimum distance of 150 meters from **NSD03-NSD05** (the closest receptors along the route of the conveyor belt);
- Ensuring that equipment is well-maintained and fitted with the correct and appropriate noise abatement measures. During site visit to the surrounding area, it was seen that noise abetment reverse hooters had been implemented on vehicles traversing the existing facility in the area. Although reverse hooters have not been

investigated in this document, it would be recommended that a similar system of reverse hooters be introduced for all vehicles traversing the proposed site;

In addition:

1. Good public relations are essential. At all stages surrounding receptors should be educated with respect to the sound generated by the proposed development. The information presented to stakeholders should be factual and should not set unrealistic expectations. It is counterproductive to suggest that the proposed facility will be inaudible, or to use vague terms like "quiet".
2. Community involvement needs to continue throughout the project. Annoyance is a complicated psychological phenomenon; as with many industrial operations, expressed annoyance with sound can reflect an overall annoyance with the project, rather than a rational reaction to the sound itself.
3. The developer must implement a line of communication (i.e. a help line where complaints could be lodged). All potential sensitive receptors should be made aware of these contact numbers. The proposed development should maintain a commitment to the local community and respond to concerns in an expedient fashion. Sporadic and legitimate noise complaints could develop. For example, sudden and sharp increases in sound levels could result from mechanical malfunctions. Problems of this nature can be corrected quickly, and it is in the developer's interest to do so.

9 ENVIRONMENTAL MANAGEMENT PLAN

9.1 CONSTRUCTION PHASE: GOEDEHOOP NORTH BROWN SHAFT TWO

Projected noise levels during construction of the proposed development were modelled using the methods as proposed by SANS 10357:2004. The resulting future noise projections indicated that the construction activities, as modelled for the worst case scenario, would comply with the Noise Control Regulations (GN R154) as well as the acceptable day rating levels as per the SANS 10103:2008 guidelines if mitigation measures were adhered to.

Using the available information the significance of the construction noise impact was defined to be of a ***Low significance***. Mitigation measures are however still recommended to minimising the probability of any complaints being registered.

The following measures are recommended to define the performance of the developer in mitigating the projected impacts and reducing the significance of the noise impact.

OBJECTIVE	**Control noise pollution stemming from construction activities**
Project Component(s)	Construction of infrastructure, including but not limited to: conveyor belt and relevant components, mine shaft.
Potential Impact	• Increased noise levels at potentially sensitive receptors; • Potentially changing the acceptable land use capability.
Activity/Risk source	Any construction activities taking place within 500 meters from any potentially noise-sensitive developments (NSDs).
Mitigation Target/Objective	• Ensure equivalent A-weighted daytime noise levels below 45 dBA at potentially sensitive receptors; • Ensure that maximum noise levels at potentially sensitive receptors be less than 65 dBA; • Prevent the generation of disturbing or nuisance noises; • Ensure acceptable noise levels at surrounding stakeholders and potentially sensitive receptors; • Ensuring compliance with the Noise Control Regulations.

Mitigation: Action/Control	**Responsibility**	**Timeframe**
Ensure that blasting times are co-ordinated with pray times of the Mosque identified as NSD03.	- Environmental Control Officer	All phases of project
Establish a line of communication and notify all stakeholders and NSDs of the means of registering any issues, complaints or comments.	- Environmental Control Officer	All phases of project
Notify potentially sensitive receptors about work to take place at least 2 days before the activity in the vicinity (within 500 meters) of the NSD is to start. Following information to be presented in writing: - Description of Activity to take place; - Estimated duration of activity; - Working hours; - Contact details of responsible party.	- Contractor -Environmental Control Officer	At least 2 days, but not more than 5 days before activity is to commence
Ensure that all equipment is maintained and fitted with the required noise abatement equipment.	- Environmental Control Officer	Weekly inspection

Measure the peak noise levels of equipment used when operational and keep database of noise levels.	- Acoustical Consultant / Approved Noise Inspection Authority	Start of project twice annually
When any noise complaints are received, noise monitoring should be conducted at the complainant, followed by feedback regarding noise levels measured.	- Acoustical Consultant / Approved Noise Inspection Authority	Within 7 days after complaint was registered
The construction crew must abide by the local by-laws regarding noise.	- Contractor - Environmental Control Officer	Duration of construction phase
Where possible construction work should be undertaken during normal working hours (06H00 – 22H00), from Monday to Saturday; If agreements can be reached (in writing) with the all the surrounding (within a 1,000 distance) potentially sensitive receptors, these working hours can be extended.	- Contractor	As required

Performance indicator	• **Equivalent A-weighted noise levels below 45 dBA at potentially sensitive receptors (8 hours).** • **Ensure that maximum noise levels at potentially sensitive receptors are less than 65 dBA.** • **No noise complaints are registered**
Monitoring	Monitoring to take place every time that a valid noise complaint is registered.

9.2 OPERATIONAL PHASE: GOEDEHOOP NORTH BROWN SHAFT TWO

Projected noise levels during operation of the proposed development were modelled using the methodology as proposed by SANS 10357:2004.

The resulting future noise projections indicated that the operation of the facility would comply with the Control Regulations (GN R154) at noise-sensitive developments as well as the acceptable day rating levels as per the SANS 10103:2008 guidelines ***if mitigation measures were adhered to.***

Using the available information the significance of the operational noise impact was defined to be of a ***Medium significance during the night-time***. However with practical mitigation options implemented it was concluded that a noise impact for all receptors during the night-time was of a ***Low significance***.

The following measures are recommended to define the performance of the developer in mitigating the projected impacts and reducing the significance of the noise impact.

OBJECTIVE	**Control noise pollution stemming from operation of the proposed development**
Project Component(s)	Operational Phase
Potential Impact	• Increased noise levels at potentially sensitive receptors; • Changing ambient sound levels could change the acceptable land use capability; • Disturbing character of sound.
Activity/Risk source	Simultaneous operation of a number of equipment
Mitigation Target/Objective	• Ensure that the change in ambient sound levels as experienced by Potentially Sensitive Receptors is less than 5 dBA; • Prevent the generation of nuisance noises; • Ensure acceptable noise levels at surrounding stakeholders and potentially sensitive receptors.

Mitigation: Action/Control	**Responsibility**	**Timeframe**
Implementation of berms/barrier obstructing the line of sight from **NSD03 – NSD06** one meter higher than the highest noise source on the mine shaft. Conveyor belt to have a minimum buffer of 150m from a receptor, and any conveyor belt components of a loud noise significance to have a minimum buffer of 360m from a receptor. Conveyor belt components do not require barrier if the buffer distances are adhered to.	- Project Engineer	Before operational phase start
Quarterly noise monitoring by an Acoustic Consultant or Approved Noise Inspection Authority for the first year of operation as well as when noise complaints are registered.	- Acoustical Consultant	During operational phase.

Performance indicator	**Ensure that the change in ambient sound levels as experienced by Potentially Sensitive Receptors is less than 5 dBA**
Monitoring	Quarterly noise monitoring by an Acoustic Consultant or Approved Noise Inspection Authority for the first year of operation as well as when noise complaints are registered. Monitoring should take place over a 24 hour period in 10 minute bins, with the results co-ordinated with the wind speed and the current ambient soundscape.

10 CONCLUSIONS

With the input data as used, this assessment indicated that the proposed project will have a noise impact of a ***Low significance*** at all receptors in the area during the construction phase. However mitigation options are still recommended, with the most important mitigation measure been the co-ordinated the pray times at the Mosque with the blasting times at the proposed development.

During the important operational phase the assessment indicated that the proposed project will have a noise impact of a ***Medium significance*** on **NSD05 during the night-time hours** if an appropriate buffer distance for components relating to the conveyor belt is not implemented. The assessment made use of a worst case scenario whereby the localities of certain equipment (components associated with the conveyor belt) was placed as close as possible to a receptor along the route from the proposed development to the existing development. The fixed locality of the mine shaft was also considered during this assessment, and machinery associated with the operation of the proposed mine shaft implemented. However with an appropriate location of conveyor belt components as well as a berm/barrier obstructing the line of sight from operations to **NSD03 –NSD06**, the assessment indicated that the proposed development would have a ***Low significance*** on all receptors.

It should be noted that this does not suggest that the sound from the proposed development should not be audible under all circumstances - this is an unrealistic expectation that is not required or expected from any other agricultural, commercial, industrial or transportation related noise source – but rather that the sound due to the proposed development should be at a reasonable level in relation to the ambient sound levels.

If any further noise sources are proposed at the development such as washing, screening or crushing, it is recommended that this Environmental Noise Impact Assessment be reviewed, with the appropriate information supplied by the developer, including:

- Locality of the noise source;
- Operational time of the noise source; and
- If possible specifications regarding the noise source.

11 RECOMMENDATIONS

With all mitigation options adhered to, an acceptable ***Low significance*** during construction and operational phase will be achieved. Therefore it is recommended that mitigation options are implemented or adhered to.

Quarterly noise monitoring should also be conducted by an acoustic consultant for the first year of operation. This monitoring is to take place over a period of 24 hours in 10 minute bins, with the resulting data co-ordinated with wind speeds as measured on site. These samples should be collected at **NSD03** - **NSD06** receptors, taking into consideration the current ambient soundscape.

Annual feedback regarding noise monitoring should be presented to all stakeholders and other Interested and Affected parties in the area. Noise monitoring must be continued as long as noise complaints are registered.

The findings of this report should also be made available to all potentially noise-sensitive developments in the area, or the contents explained to them to ensure that they understand all the potential risks that the development may have on them and their families.

12 THE AUTHOR

The author of this report, M. de Jager (B. Ing (Chem), UP) graduated in 1998 from the University of Pretoria. He has been interested in acoustics as from school days, doing projects mainly related to loudspeaker enclosure design. Interest in the matter brought him into the field of Environmental Noise Measurement, Prediction and Control. As from 2007 he has been involved with the following projects:

- Full Noise Impact Studies for a number of Wind Energy Facilities, including: Cookhouse, Amakhala Emoyeni, Dassiesfontein/Klipheuwel, Rheboksfontein, AB, Dorper, Suurplaat, Gouda, Riverbank, Deep River, West Coast, HappyValley, Canyon Springs, Tsitsikamma WEF, West Coast One, Karoo, Velddrift and Saldanha.
- Full Noise Impact Studies for a number of mining projects, including: Skychrome (Pty) Ltd (A Ferro-chrome mine),Mooinooi Chrome Mine (WCM), Buffelsfontein East and West (WCM),Elandsdrift (Sylvania),Jagdlust Chrome Mine (ECM),Apollo Brick (Pty) Ltd (Clay mine and brick manufacturer), Arthur Taylor Expansion project (X-Strata Coal SA), Klipfontein Colliery (Coal mine), Landau Expansion project (Coal mine), Modelling for Tweefontein Colliery Expansion.

The author is an independent consultant to the project, the developer as well as Savannah Environmental (Pty) Ltd. He,

- does not and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations
- have and will not have no vested interest in the proposed activity proceeding
- have no and will not engage in conflicting interests in the undertaking of the activity
- undertake to disclose all material information collected, calculated and/or findings, whether favourable to the developer or not
- will ensure that all information containing all relevant facts be included in this report.

13 REFERENCES

In this report reference was made to the following documentation:

1. SANS 10103:2008. 'The measurement and rating of environmental noise with respect to annoyance and to speech communication'.
2. SANS 10210:2004. 'Calculating and predicting road traffic noise'.
3. SANS 10328:2008. 'Methods for environmental noise impact assessments'.
4. SANS 10357:2004 The calculation of sound propagation by the Concave method'.
5. USEPA, 1971: *Effects of Noise on Wildlife and other animals*
6. World Health Organization, 2009:*Night Noise Guidelines for Europe*
7. World Health Organization, 1999:*Protection of the Human Environment; Guidelines for Community Noise*
8. World Health Organization, 1999; Noise quest, 2010; Journal of Acoustical Society of America, 2009

APPENDIX A

TYPICAL SOUND POWER LEVELS, VARIOUS TYPES OF EQUIPMENT

Frequency	63	125	250	500	1000	2000	4000
A-Weight Factor	-26.22	-16.19	-8.67	-3.25	0	1.2	0.96
Equipment / Process	**Sound power level, dB re1 pW, in octave band, Hz**						
Crusher	121.1	122.3	120.1	120	117.3	112.5	106.3
Mobile Crusher/Screen (Rock)	114.2	109.5	106.2	106	104.1	102.2	101
Crushing/Screening (Coal, small)	100.5	96.9	97.3	99.2	98.4	98.8	94.3
CAT D10 Bulldozer	118.3	115.2	111	109.1	107.5	103	97
CAT D11 Bulldozer	121.22	112.2	111.4	110.9	110.4	101.45	93.67
Front End Loader	105	117	113	114	111	107	101
Road Truck average	90	101	102	105	105	104	99
Drilling Machine	107.2	109.4	109.2	106.1	104.7	101.2	99.8
CAT Water Dozer	112.9	114.5	111.45	109.7	108.35	107.2	104
Excavator	110	112	118	105	106	99	95
Terex 30 ton haul dumper	102.4	105.3	108.9	108.8	108.2	105.1	99.2
Hitachi EX1200 Excavator	113.2	116	119.7	112.5	109.8	108.4	105.4
Cement truck (with cement)	104	107	106	108	107	105	102
Operational Hitachi Grader	107.7	107.9	106.8	106.2	104.2	101.1	97.2
Grader	100	111	108	108	106	104	98
Haul truck	107.9	113.2	116.9	114.4	110.6	106.8	100.2
Road Transport Reversing/Idling	108.2	104.6	101.2	99.7	105.4	100.7	98.7
Vesta V66, max	125.1	113.6	106.3	106.2	100.4	96.4	95.3
Vesta V66, avg	120.1	109.4	100.9	100.5	95.3	91.3	88.8
Vesta V66, min	114.4	104	94.84	94.8	87.5	83.3	80.7
Nordex N90 2.5MW at 4m/s	110.42	104.49	101.37	96.35	91.6	89.3	85.54
Nordex N90 2.5MW at 7m/s	117.92	111.99	108.87	103.85	99.1	96.8	93.04
Vestas V90 2.0 MW at 5m/s	105.9	100.7	97.2	94.8	94.1	91.7	89.7
Vestas V90 2.0 MW at 7m/s	111.4	106.9	102.2	99.5	98.7	96.3	94.2
RePower MM92 at 7.5m/s	109.25	107.41	105.63	101.9	96.73	89.81	83.09
General noise	100	100	103	105	105	100	100
CAT Rock Breaker	119.1	118.2	115.2	115.7	114.9	115.7	110.4
Crane	89	98	101	103	102	102	98
Portable Diesel Generator	96.7	99.5	101.2	97.4	91.3	89.6	81.1

End of report.

Appendix 8

Heritage Study for the Proposed Access

Brown Shaft II Project Area

Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

A REPORT ON A HERITAGE IMPACT ASSESSMENT (HIA) FOR THE PROPOSED BROWN SHAFT AND CONVEYOR AT THE GOEDEHOOP COLLIERY, CLOSE TO MIDDELBURG, MPUMALANGA PROVINCE

For:

Geovicon
geovicon@iafrica.com

REPORT: **AE01237V**

By:

Dr. A.C. van Vollenhoven (L.AKAD.SA.)
Accredited member of ASAPA
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July 2012

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DISCLAIMER:

Although all possible care is taken to identify all sites of cultural importance during the survey of study areas, the nature of archaeological and historical sites are as such that it always is possible that hidden or subterranean sites could be overlooked during the study. Archaetnos and its personnel will not be held liable for such oversights or for costs incurred as a result thereof.

The South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report and clients are advised not to proceed with any action before receiving these. It is the responsibility of the client to submit this report to the relevant heritage authority.

SUMMARY

Archaetnos cc was appointed by Geovicon to conduct a heritage impact assessment for the proposed Brown shaft and a conveyor at the Goedehoop Colliery. This is close to Middelburg in the Mpumalanga Province.

The fieldwork undertaken revealed no sites of cultural heritage significance. Therefore no mitigation measures are needed and the development may continue.

The developer however needs to take note that all archaeological and historical sites may not have been identified due to different environmental factors. It also is possible that subterranean archaeological sites may be found later on. Should such sites be identified, it needs to be dealt with by an archaeologist.

CONTENTS

1. INTRODUCTION

Archaetnos cc was appointed by Geovicon to conduct a heritage impact assessment for the proposed Brown shaft and a conveyor at the Goedehoop Colliery. This is close to Middelburg in the Mpumalanga Province.

The client indicated the area where the proposed development is to take place, and the survey was confined to this area.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Identify objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property (see Appendix A).

2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).

3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.

4. Recommend suitable mitigation measures to minimize possible negative impacts on the cultural resources by the proposed development.

5. Review applicable legislative requirements.

3. CONDITIONS & ASSUMPTIONS

The following conditions and assumptions have a direct bearing on the survey and the resulting report:

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity (Appendix A). These include all sites, structure and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.

2. The significance of the sites, structures and artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.

3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full

and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix C).

4. The latitude and longitude of any archaeological or historical site or feature, is to be treated as sensitive information by the developer and should not be disclosed to members of the public.

5. All recommendations are made with full cognizance of the relevant legislation.

6. It has to be mentioned that it is almost impossible to locate all the cultural resources in a given area, as it will be very time consuming. Developers should however note that the report should make it clear how to handle any other finds that might occur.

7. Due to the subterranean presence of archaeological sites it is possible that such sites may only be identifies later on. In such a case an archaeologist should be contacted immediately to assess these.

4. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

4.1 The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

a. Archaeological artifacts, structures and sites older than 100 years
b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
c. Objects of decorative and visual arts
d. Military objects, structures and sites older than 75 years
e. Historical objects, structures and sites older than 60 years
f. Proclaimed heritage sites
g. Grave yards and graves older than 60 years
h. Meteorites and fossils
i. Objects, structures and sites or scientific or technological value.

The national estate (see Appendix D) includes the following:

a. Places, buildings, structures and equipment of cultural significance
b. Places to which oral traditions are attached or which are associated with living heritage
c. Historical settlements and townscapes
d. Landscapes and features of cultural significance
e. Geological sites of scientific or cultural importance

f. Archaeological and palaeontological importance
g. Graves and burial grounds
h. Sites of significance relating to the history of slavery
i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment only looks at archaeological resources. The different phases during the HIA process are described in Appendix E. An HIA must be done under the following circumstances:

a. The construction of a linear development (road, wall, power line canal etc.) exceeding 300m in length
b. The construction of a bridge or similar structure exceeding 50m in length
c. Any development or other activity that will change the character of a site and exceed 5 000m^2 or involve three or more existing erven or subdivisions thereof
d. Re-zoning of a site exceeding 10 000 m^2
e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial):

a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
d. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals

or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

a. ancestral graves
b. royal graves and graves of traditional leaders
c. graves of victims of conflict
d. graves designated by the Minister
e. historical graves and cemeteries
f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

a. destroy, damage, alter, exhume or remove from its original position of otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
b. destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place. Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

4.2 The National Environmental Management Act

This act (Act 107 of 1998) states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

5. METHODOLOGY

5.1 Survey of literature

A survey of literature was undertaken in order to obtain background information regarding the area. Sources consulted in this regard are indicated in the bibliography.

5.2 Field survey

The survey was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development. If required, the location/position of any site was determined by means of a Global Positioning System (GPS), while photographs were also taken where needed. The survey was undertaken by a physical survey via off-road vehicle and on foot.

5.3 Oral histories

People from local communities are interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

5.4 Documentation

All sites, objects features and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities were determined by means of the Global Positioning System (GPS).The information was added to the description in order to facilitate the identification of each locality.

5.5 Evaluation of Heritage sites

The evaluation of heritage sites is done by giving a field rating of each (see Appendix C) using the following criteria:

- The unique nature of a site
- The integrity of the archaeological deposit

- The wider historic, archaeological and geographic context of the site
- The location of the site in relation to other similar sites or features
- The depth of the archaeological deposit (when it can be determined or is known)
- The preservation condition of the site
- Uniqueness of the site and
- Potential to answer present research questions.

6. DESCRIPTION OF THE AREA

The area that was surveyed is situated more or less 24 km to the south of the town of Middelburg and 29 km to the south-east of the town of Emahlaleni (Witbank). This is in the Mpumalanga Province (Figure 1-3). It is located on the farm Wolvenfontein 471 JS.

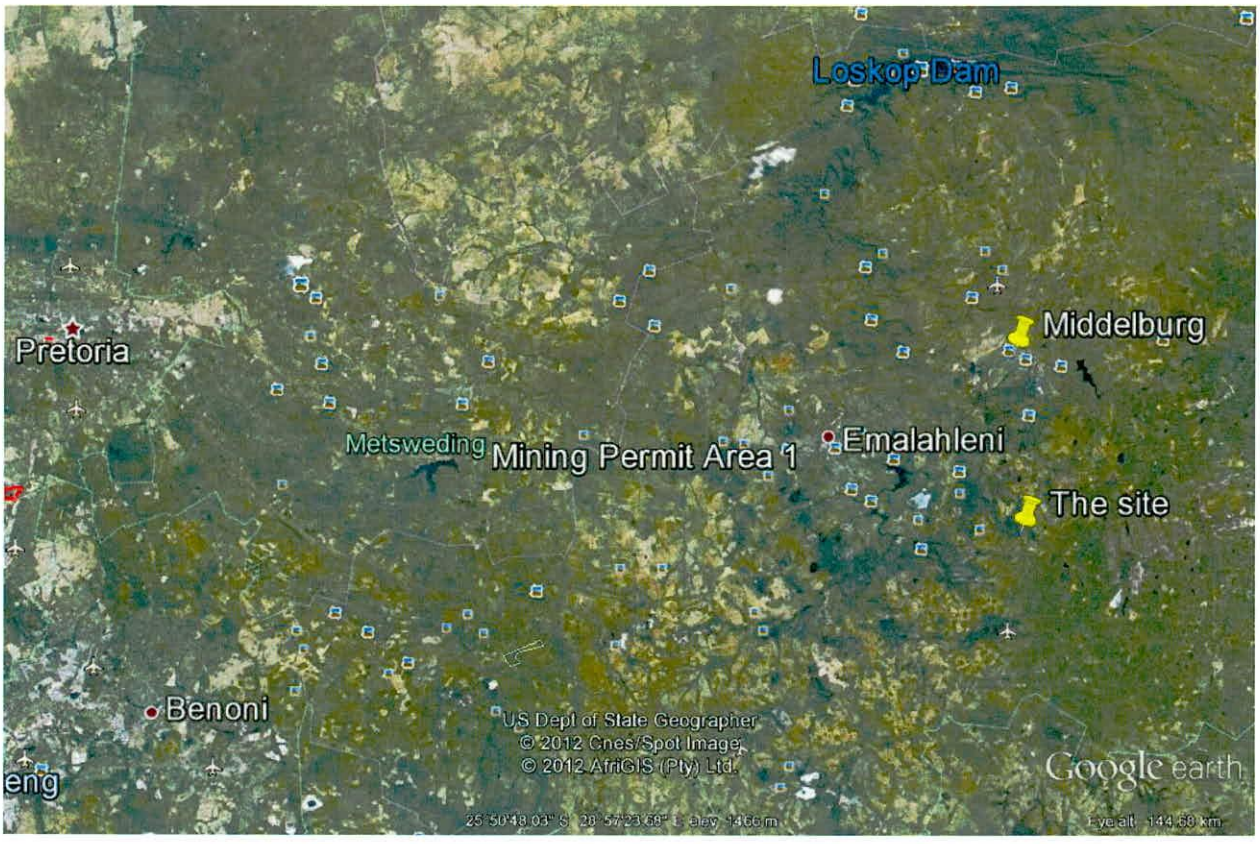

Figure 1 Location of the site in relation to Middelburg and Emalahleni in the Mpumalanga Province.

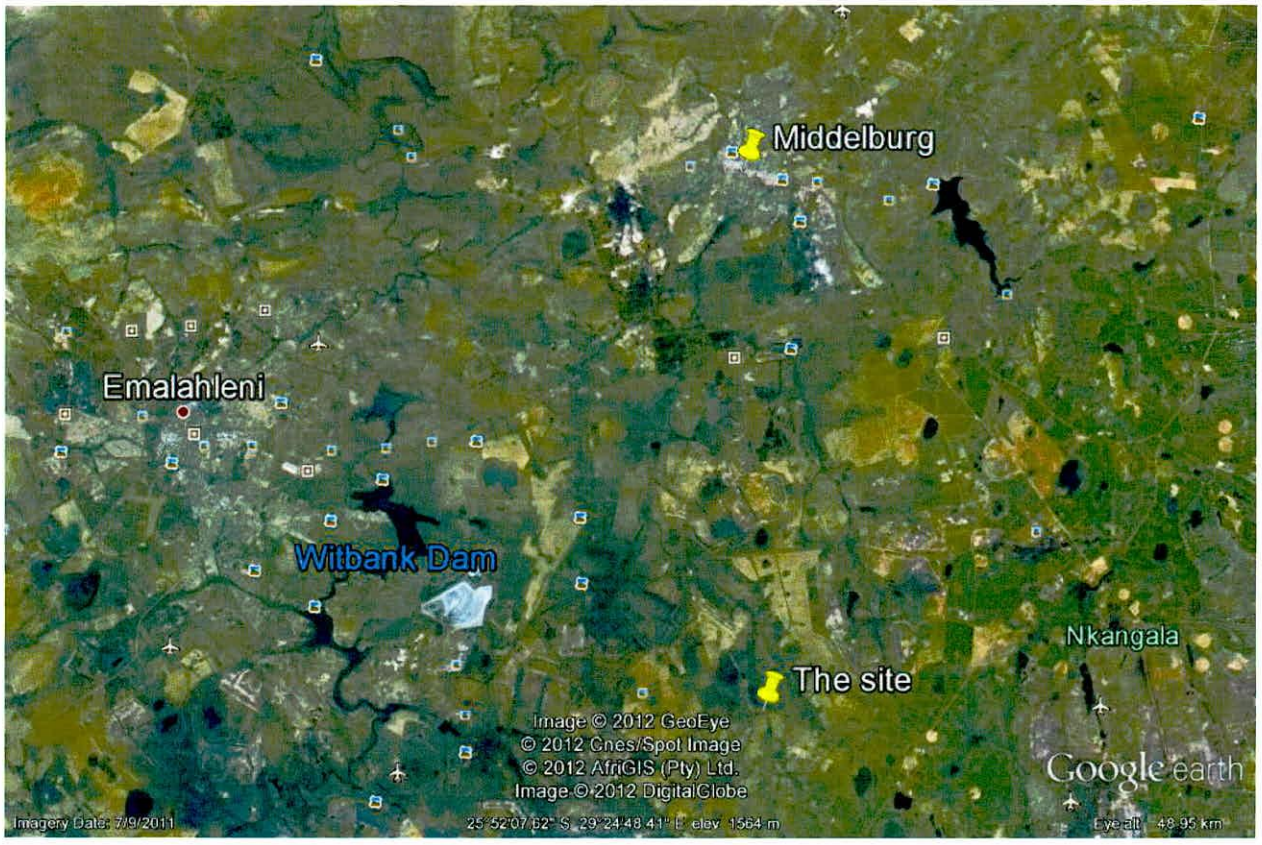

Figure 2 Location of the site.

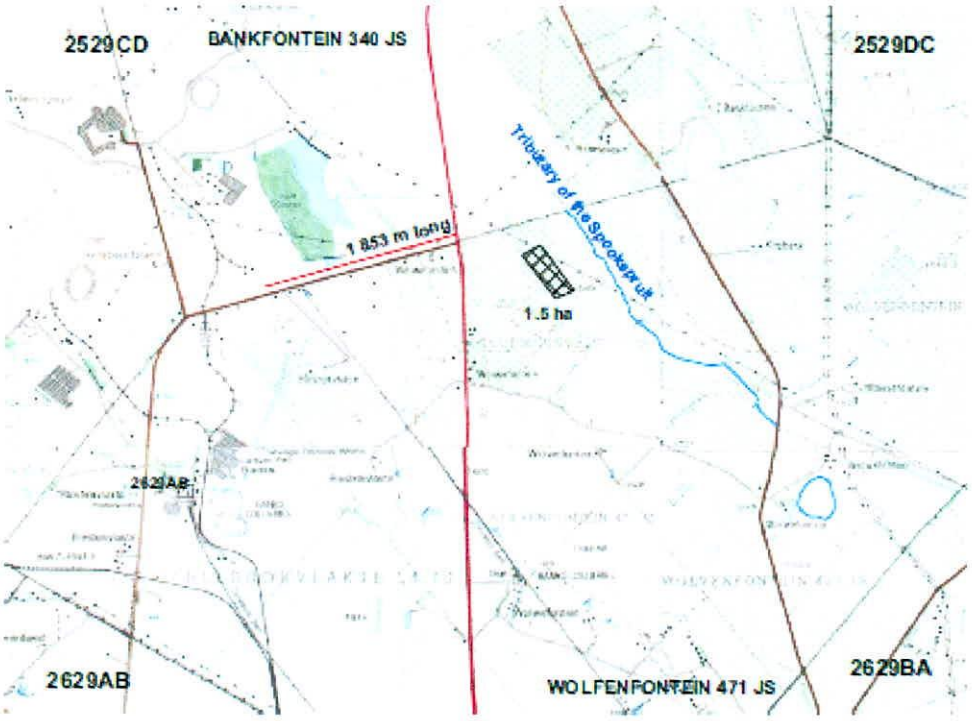

Figure 3 Map indicating the proposed Brown shaft (1.5 ha area in black) and conveyor route (red).

The environment of the area is mostly disturbed by agricultural activities and old mining actions. The vegetation cover is reasonably low making archaeological visibility acceptable. The route for the conveyor is planned on exactly the same route where an old conveyor was erected and signs of that is still visible (Figure 4-5).

The topography of the area varies as the landscape consists of rolling hills. A wetland system is found close to the Blesboklaagte Spruit and Bankfontein Dam in the north-west of the surveyed area. A tributary of the Spook Spruit also drains the area to the north-east.

Figure 4 General view of the surveyed area where Brown shaft will be located.

Figure 5 A view along the route of the conveyor. Note the remains of the former conveyor.

7. HISTORICAL CONTEXT

During the survey no sites of cultural heritage significance was located in the area to be developed. However, there always is a possibility that more sites may become known later and that those need to be dealt with in accordance with the legislation discussed above. In order to enable the reader to better understand archaeological and cultural features, it is necessary to give a background regarding the different phases of human history.

7.1 Stone Age

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

Early Stone Age (ESA) 2 million – 150 000 years ago
Middle Stone Age (MSA) 150 000 – 30 000 years ago
Late Stone Age (LSA) 40 000 years ago – 1850 - A.D.

This geographical area is not known as an area containing prehistoric sites. No Stone Age sites are for instance indicated on a map contained in a historical atlas of this area (Bergh 1999: 4). The closest known Stone Age occurrence is a Late Stone Age site at Groenvlei, close to Carolina and that of rock art close to the Olifants River to the south of Witbank (Bergh 1999: 4-5). This may however only indicate a lack of research in the area.

The environment is such that it does not provide much natural shelter and therefore it is possible that Stone Age people did not settle here for long periods of time. They would have however been lured to the area due to an abundance of wild life as the natural vegetation would have provided ample grazing. One may therefore find small sites or occasional stone tools.

7.1 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts (Coertze & Coertze 1996: 346). In South Africa it can be divided in two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D.
Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.
Middle Iron Age (MIA) 900 – 1300 A.D.
Late Iron Age (LIA) 1300 – 1840 A.D.

Iron Age sites have been identified to the south of the area, around Bethal (Bergh 1999: 7). These all are dated to the Late Iron Age. Sites such as these are known for extensive stone building forming settlement complexes. No indication of metal smelting was identified at any of these sites (Bergh 1999: 8).

It is also known that the early trade routes did not run through this area (Bergh 1999: 9). However one should bear in mind that many of these areas may not have been surveyed before and therefore the possibility of finding new sites is always a reality.

The type of environment around the surveyed area definitely is suitable for human habitation. There is ample water sources and good grazing. One would therefore expect that Iron Age people may have utilized the area. This is the same reason why white settlers later on moved into this environment.

7.2 Historical Age

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. This era is sometimes called the Colonial era or the recent past.

Due to factors such as population growth and a decrease in mortality rates, more people inhabited the country during the recent historical past. Therefore and because less time has passed, much more cultural heritage resources from this era have been left on the landscape. It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to determine whether these indeed have cultural significance. Factors to be considered include aesthetic, scientific, cultural and religious value of such resources.

At the beginning of the 19th century the Phuthing, a South Sotho group, stayed to the east of where Komati is situated. During the Difaquane they fled to the south as Mzilikazi's impi moved in from the southeast (Bergh 1999: 10-11; 109).

The first white traveler to visit these surroundings was Robert Scoon in 1829. The first Voortrekker groups of Hans van Rensburg and Louis Tregardt also passed close to this area in 1836 (Bergh 199: 13-14). The first white farmers only settled here during the late 1850's (Bergh 1999: 18-20).

The last kind of heritage site to refer to is graves. All graves older than 60 years are regarded as being heritage graves. Those with an unknown date are also regarded as heritage graves. Graves of this age have been found in the vicinity of the surveyed area during previous surveys (Archaetnos database) and one may therefore expect to find more.

8. CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the assessment of the area was conducted successfully. In the surveyed area no sites of cultural heritage significance have been found.

The final recommendations are as follows:

- The development may continue and no mitigation is needed.
- It should be remembered that due to the natural factors indicated in the report, it is possible that more cultural sites may be present. Also the subterranean presence of archaeological and/or historical sites, features or artifacts are always a distinct possibility. Care should also be taken when development work commences that if any more sites or artifacts are uncovered, a qualified archaeologist be called in to investigate.

9. REFERENCES

Archaetnos database.

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Van der Ryst, M.M. & Meyer, A. 1999. Die Ystertydperk. Bergh, J.S. (red.). **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.

APPENDIX A

DEFINITION OF TERMS:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B

DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE:

Historic value:	Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.
Aesthetic value:	Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.
Scientific value:	Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period
Social value:	Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
Rarity:	Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.
Representivity:	Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C

SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low — A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.

- Medium — Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.

- High — Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I — Heritage resources with exceptional qualities to the extent that they are of national significance

- Grade II — Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate

- Grade III — Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

- National Grade I significance	should be managed as part of the national estate
- Provincial Grade II significance	should be managed as part of the provincial estate
- Local Grade IIIA	should be included in the heritage register and not be mitigated (high significance)
- Local Grade IIIB	should be included in the heritage register and may be mitigated (high/ medium significance)
- General protection A (IV A)	site should be mitigated before destruction (high/ medium significance)
- General protection B (IV B)	site should be recorded before destruction (medium significance)
- General protection C (IV C)	phase 1 is seen as sufficient recording and it may be demolished (low significance)

APPENDIX D

PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – grade I and II
Protected areas - an area surrounding a heritage site
Provisional protection – for a maximum period of two years
Heritage registers – listing grades II and III
Heritage areas – areas with more than one heritage site included
Heritage objects – e.g. archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states
Structures – older than 60 years
Archaeology, palaeontology and meteorites
Burial grounds and graves
Public monuments and memorials

APPENDIX E

HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or scoping phase – establishment of the scope of the project and terms of reference.
2. Baseline assessment – establishment of a broad framework of the potential heritage of an area.
3. Phase I impact assessment – identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – if there is no likelihood that any sites will be impacted.
5. Phase II mitigation or rescue – planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III management plan – for rare cases where sites are so important that development cannot be allowed.

Appendix 9

Interested and Affected Parties Consultation and Results Thereof for the Proposed Access Brown Shaft II Project Area

ROMANZ PIZZA
Vacancy: Cashier
• Young lady
• Gr.12
Contact: 013 282 5838
DD009121

TECHNICAL SALES ASSISTANT
The successful applicant will be a self-starter, who is proactive and passionate about customer service. You will show an interest in what you do with excellent product knowledge, and a keen interest for the outdoors.
Inherent Job Requirements:
• Previous sales experience in precision products
• Previous experience in Point of Sale
• Excellent communication skills
• Computer service orientation
• Product Training & Product Feedback as required
Key Duties:
• Assisting and education customers on products
• Merchandising and maintaining of department
• Achieving own store goals
• Point of Sale duties
• House keeping
Please forward CV to Onesimo Sigingqi via email to:
simo@capeunionmart.co.za by no later than 28 February 2013. **No late applications will be accepted. When applying, please note the criteria listed above.**
DD009100

TRIDENT PANELBEATERS
Requires qualified Paintless Dent Removal specialists.
Please contact us on
013 282 5335
SR066142

[illegible]YDELIKE POS
F[illegible]sigheid benodig
[illegible] wat
[illegible]geletterd is.
Besuursliensie.
Verantwoordelik vir verkope, Voorraadbeheer en algemene bestuur.
Faks 2 Bladsy CV na:
086 614 2820
SR066127

URGENTLY NEEDED
Millwrights
Trade Test Papers
Must be able to do PLC & Fault Finding.
Must reside in Witbank/Middelburg area.
Fax: 086 775 2628
Email:
joey@parsonseng.co.za
SR066050

'N VAKATURE IS BESKIKBAAR VIR 'N KONSULTANT:
In ons verkope afdeling. Vorige ondervinding in die verkoop van kantoortoerusting sal 'n aanbeveling wees. Moet ten volle tweetalig wees en die voertuig besit met 'n geldige besturdersliesensie. Grondige kennis van MS Office is belangrik. Ons bied 'n basiese salaris, kommissie en petrol toelaag aan. Stuur CV aan
(f) 013 282 7668 of
selco@live.co.za
SF022100

VACANCY MIDDELBURG FOOTWEAR
The successful applicant will be a self-starter, who is proactive and passionate about customer service. You will show an interest in what you do, with excellent product knowledge, and a keen interest for the outdoors.
Inherent Job Requirements:
• Previous sales experience in footwear
• Previous experience in Point of Sale
• Excellent communication skills
• Customer service orientation
• Product Training and Product Feedback as required
Key Duties:
• Assisting and educating customers on products
• Merchandising and maintaining of department
• Achieving own and store goals
• Point of Sale duties
• House keeping
If you fit the above criteria please forward an internal application form to **Simo Sigingqi via email to: simo@capeunionmart.co.za by no later than 28TH February 2013. No late applications will be accepted. When applying please note the criteria listed above.**
DD009098

WAITERS NEEDED
Are you young, vibrant and motivated? Leading restaurant seeks dynamic waitrons. Very high earning potential. Fax 1 page CV to (013)282 8182.
DD009051

VACANCY MANAGER
We are looking for a self-motivated, goal orientated individual, passionate about fashion retail and customer service and willing to take on a challenge. The successful candidate will be young, funky and original with fresh thinking and progressive ideas. You will show an interest in what you do with a proven track record as a Store Manager with a minimum of 2 yrs experience in Management. You will have a successful track record, in achieving turnover targets, controlling expenses, stock loss results, and in people management and development.
Inherent Job Requirements:
• Previous management experience essential (minimum 2 years)
• Ability to manage all aspects of the store
• Ability to handle pressure
• Excellent leadership skills and ability to develop and motivate staff
• Excellent communication skills
• Computer Literate
• Interest in fashion and excellent customer service orientation
Please send applications to simo@capeunion mart.co.za before or on the 28th February 2013.
When applying, please note the criteria listed above (no late applications will be accepted) This is an internal placement and is only applicable to employees of Cape Union Mart.
DD009099

VACANT POSITION FOR NANNY/AU PAIR/DAY MOTHER
Needed from Mon-Fri.
Sleep out. Previous experience in working with children necessary. Salary negotiable; to start as soon as possible.
Contact Carla
083 377 2826
SR066116

0836 Management

BRANCH MANAGER

Leading Construction Plant Hire Company seeks a Branch Manager in Witbank. Managing skills and capable to work under pressure essential.
Experience in mechanical /technical and knowledge of small/medium construction plant an advantage
E-mail a short CV to: andrew@performanceplanthire.co.za
MD017946

FIELD-MECHANIC
Leading Construction Plant Hire Company seeks a field-mechanic in Witbank. Experience in construction plant and knowledge of 2 stroke, 4 stroke and diesel engines are essential.
E-mail a short CV to: andrew@performanceplanthire.co.za
MD017949

0847 Personnel / HR

HR CITY VACANCIES FOR:
Qualified Boilermakers
Qualified Electricians
Qualified Fitter & Turner
Qualified Diesel Mechanics
Junior Site Accountant
Email CV to:
ilse@hrcity.co.za or fax to:
013 243 5435
SR065986

PRESTIGE PERSONNEL
97 MANDELA STREET WITBANK
TEL (013) 690 2311
FAX (013) 690 1282
prestige@lantic.net
www.prestigepersonnel.co.za
TO REGISTER YOUR CV FREE ON LINE, & VIEW OUR POSITIONS
BOILERMAKER:
Trade Test, must have 4-5 yrs exp past trade at Power Stations/Construction
MILLWRIGHT:
R15 000.00 pm. Trade test + 5 yrs exp in Manufacturing environment. Own transport
40X RIGGERS:
Matric/Trade test/3-5 yrs exp Construction/Power Stations
60X PIPE FITTERS:
Trade test with 3-5 yrs exp or no trade test but 5 yrs exp as a Pipe Fitter. Grade 10
FIELD SERVICE TECHNICIAN:
Trade Electrician/Millwright, Gas & Flame Certificate. 5 yrs Underground experience latest Joy & Stamler equipment
INSTRUMENT TECHNICIAN:
N4-N6 plus Trade Test in Instrumentation
Programming PLC's, Process Automation 5yrs exp
AUTO ELECTRICIAN:
Trade Test-(Not Section 28) 3-5 years Opencast Mining experience
SHE MANAGER:
Boksburg-AA Female Bach. Deg Economics Co-Ordinate SHE Systems & SHE Control
ESTIMATOR-Witbank:
Mechanical Trade/AutoCAD must be able to read drawings & do estimating of costs
COMMUNICATION SUPERINTENDENT-Northern Cape:
B.Degree Public Relations /Communication/HR. 5yrs experience in Community Development
COUNTER SALESMAN-Secunda:
3-5 yrs exp in Sale of Motor Spares. Salary negotiable & Provident Fund Medical Aid
TEMP TYPIST-Witbank:
(4 Months) Good typing speed & spelling
TEMP CLERK:
For Short term contracts-Office Management Diploma, 3 years working exp
DEBTORS /CREDITORS-Witbank:
Pastel Partner
3 X SALES REPRESENTATIVES:
With office equipment experience, own transport
3 X REPRESENTATIVES:
Mining Supply experience
HYDRAULIC REPRESENTATIVE:
Technical Background
MD018004

0859 Domestic

BETTY
Benodig huiswerk van Maandag - Saterdag. Insiaap
072 385 8339
DD009078

BETTY
Seeks domestic work 3/5 days per week. Sleep out.
073 899 1261
DD009079

ESTHER
Benodig huiswerk. Maandag -Vrydag. In/uitslaap. Kan huis skoonmaak, wasgoed was en stryk, na kinders omsien.
Kontak 079 549 9167
SF022098

FRANCINA
079 956 3139
Benodig huishoudelike werk. Maandag, Woensdag & Vrydag. Kan alles doen in die huis, skoonmaak en stryk. Is 'n goeie werker.
DD009086

GETRUDE
Benodig huiswerk vir 2/5 dae per week. In/Uitslaap. kan mooi skoonmaak, wasgoed was en stryk.
082 965 6105
SF022124

GRACE
074 663 3060
Seeks domestic work, Monday to Friday. Sleep in or out. Speaks English.
DD009101

JOHANA
083 710 4961
Seeks domestic employment 5-6 days per week, as well as accommodation. A reference is available. She does cleaning, washing, ironing & can look after children.
DD009118

JOYCE
Seeks domestic work 3/5 days per week.
072 445 3223
DD009105

KATE SKOSANA
Benodig graag huiswerk van Maandag tot Vrydag of 3 dae per week. Kan skoonmaak, stryk en kinders oppas, kook. Praat/Skryf Afrikaans & Engels.
082 867 2975
076 706 3282
SR066130

MARIA
Benodig huiswerk van Maandag tot Vrydag. Uitslaap.
Kan mooi skoonmaak en na kinders omsien.
079 480 3186
SF022101

MARTHA MOTSWENE
Seeks housework. Monday-Friday. Sleep out. All cleaning in house. Cooking and looking after children.
076 895 5249
SF022106

MARTHA
Seeks domestic work 3-5 days per week. Sleep out. Can clean, do washing & iron.
076 308 9152
DD009077

ROSE
Seeks domestic employment 3 days per week.
Contact - 078 484 8142
DD009106

SALMINA
082 221 3445
Seeks domestic employment 6 days per week & also needs accommodation. She does cleaning, washing and can also look after children.
DD009103

SARAH
Benodig huiswerk vir 3 dae per week. Maandag, Woensdag en Vrydag. verw: (073 604 2286)
Sarah 072 325 2363
SF022099

SIBONGILE
Seeks domestic work.
Monday to Friday. Sleep out.
073 701 5980
SF022122

VIRGINIA
Seeks domestic work for 2,3 or 5 days a week.
Sleep out.
CONTACT 083 955 9019
SR066046

@SUNSETPERSONNEL CC
VAT NO 483024459
D.O.L LICENCE NO 7293
More than 1000 Domestic Workers, Nannies, Childminders in our database. Sleep in and out with references. We are opp Witbank hospital
Tel:0136565355 a/h
0713519731
VP007875

0900 LEGALS

0910 Public / Legal Notices

KENNISGEWING VAN AANSOEK OM WYSIGING VAN DIE DORPSBEPLANNINGSKEMA INGEVOLGE ARTIKEL 56(1)(b)(I) VAN DIE ORDONNANSIE OP DORPSBEPLANNING EN DORPE NR. 15 VAN 1986
Steve Tshwete Wysigingskema 484
Ons, Izwe-Libanzi Development Consultants, synde die gemagtigde agent van die eienaars van Erf 419, Mhluzi Dorpsgebied gee hiermee ingevolge Artikel 56(1)(b)(I) van die Ordonnansie op dorpsbeplanning en Dorpe, 1986 (Ordonnansie no. 15 van 1986) kennis gee dat ek by die Steve Tshwete Plaaslike Munisipaliteit aansoek gedoen het om die wysiging van die dorpsbeplanningskema bekend as die Steve Tshwete Dorpsbeplanningskema, 2004 deur die hersonering van die eiendomme hierbo beskryf, vanaf:
"Industrieel"
na
"Residensieel 3" gebruiksone.
Besonderhede van die aansoek lê ter insae gedurende gewone kantoorure by die Munisipale Bestuurder, Steve Tshwete Munisipaliteit Kantoor, Middelburg, hoek van Kerk en Wandererssstrate, vir 'n tydperk van 28 dae vanaf **15 Februarie 2013.**
Besware teen of vertoë ten opsigte van die aansoek moet binne 'n tydperk van 28 dae vanaf
15 Februarie 2013
skriftelik tot die Munisipale Bestuurder by bovermelde adres of by Posbus 14, Middelburg, 1050 ingedien of gerig word.
Adres van agent:
Libanzi Development Consultants
Posbus 114
Ekangala
1021
Tel: 013 934 5745
SR065942

KENNISGEWING VAN AANSOEK OM WYSIGING VAN DIE STEVE TSHWETE DORPSBEPLANNINGSKEMA. 2004 INGEVOLGE ARTIKEL 56(1)b)(I) VAN DIE ORDONNANSIE OP DORPSBEPLANNING EN DORPE, 1986
STEVE TSHWETE WYSIGINGSKEMA 421
Ek, Karel Wilhelm Rost Pr Pln, synde die gemagtigde agent van die eienaar van Erf 12298, Middelburg Mpumalanga, gee hiermee ingevolge artikel 56(1)(b)(I) van die Ordonnansie op Dorpsbeplanning en Dorpe, 1986, kennis dat ek by die Steve Tshwete Plaaslike Munisipaliteit aansoek gedoen het om die wysiging van 'n Gedeelte van die eiendom hierbo beskryf, voorheen Gedeelte 3 van Erf 711, geleë te Luttigstraat 5, vanaf "Residensieël 1" na "Residensieël 3" vir medium digtheid behuising.
Besonderhede van die aansoek lê ter insae gedurende gewone kantoorure by die Stadsekretaris, Tweede Vloer, Munisipale Gebou, Wandererslaan, Middelburg vir 'n tydperk van 28 dae vanaf 15 Februarie 2013. Besware teen of vertoë ten opsigte van die aansoek moet binne 'n tydperk van 28 dae vanaf
15 Februarie 2013 skriftelik tot die Stadsekretaris by bovermelde adres of by Posbus 14, Middelburg, 1050 ingedien of gerig word.
Adres van applikant:
Townscape Planning Solutions
Posbus 375
River Crescent
1042
Tel: 013 656 0554
SF022030

NOTICE OF APPLICATION FOR AMENDMENT OF A TOWN PLANNING SCHEME IN TERMS OF SECTION 56(1)(b)(I) OF THE TOWN PLANNING AND TOWNSHIPS ORDINANCE NO: 15 OF 1986
Steve Tshwete Amendment Scheme 484
We, Izwe Libanzi Development Consultants being the authorized agents of the registered of Erf 419 Mhluzi township herby give notice in terms of Section 56 (1)(b)(I) of the Town Planning and Townships Ordinance, 1986 (Ordinance No. 15 of 1986) that we have applied to the Steve Tshwete Local Municipality for the amendment of the town planning scheme known as the Steve Tshwete Town Planning Scheme, 2004 by the rezoning of the property described above, from
"Industrial "
to
"Residential 3"
use zone.
Particulars of the application will lie for inspection during

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NOTICE: INTERESTED AND AFFECTED PARTIES; BANK COLLIERY - ACCESS BROWN SHAFT II; A DIVISION OF ANGLO OPERATIONS LIMITED; NEMA SCOPING PHASE

AngloAmerican
Real Mining. Real people. Real Difference

Anglo Operations Limited (Reg. No.: 1921/006730/06) has applied for the authorisation of listed activities in terms of sections 24 and 24D of the National Environmental Management Act (Act no. 107 of 1998) read together with Government Notice No. R544, R545 and R546, which comprise the construction of an access adit and associated infrastructure for the purpose of underground coal mining activities (Access Brown Shaft II). The activities will result in the transformation of undeveloped land of more than 20 hectares to commercial (mining) and industrial (mining) use. A conveyor belt will be constructed to transport the raw coal to an existing plant (Bank Colliery) for further processing. Pipelines will be constructed to transport water from the proposed access adit to a mined out underground water storage area. These activities will occur on certain portions of the following farms: **Wolvenfontein 471 JS and Blesbokvlakte 24 IS, Nkangala district, Mpumalanga.** The application was accepted by the Mpumalanga Department of Economic Development. Environment and Tourism (MDEDET), with the following reference number: **17/2/3N-206.**

Geovicon Environmental (Pty) Ltd has been appointed as the environmental consultant to compile the Draft Scoping Report in terms of section 28 of the Environmental Impact Assessment Regulations published in Government Notice No. R543. The draft Scoping Report will be available at the Gerard Sekoto Middelburg Public Library and Goedehoop Colliery - Environmental Office (Contact person at Goedehoop Colliery: Kgaowelo Moshokwa, Cell: 079 890 9147) from 22 January 2013 for public perusal.
Comments regarding the proposed mining operation must be submitted in writing, under reference number **17/2/3N-206**, on or before 22 March 2013 to:

Consultant:
GEOVICON Environmental (Pty) Ltd
P[illegible]x 4050
[illegible]burg
Tel.: 013 243 0542
Fax.: 086 632 4936
Cell.: 082 359 5604
E-mail: geovicon@lafrica.com
Contact person: Riana Bate
m22feb/geovicon eng/het

KENNISGEWING: BELANGHEBBENDE EN GEAFFEKTEERDE PARTYE; BANK STEENKOOLMYN - ACCESS BROWN SHAFT II; 'n AFDELING VAN ANGLO OPERATIONS LIMITED; NOBW OMVANGS FASE

AngloAmerican
Real Mining. Real people. Real Difference

Anglo Operations Limited (Reg. Nr.: 1921/006730/06) het aansoek gedoen vir die magtiging van genoteerde aktiwiteite in terme van artikel 24 en 24D van die Nasionale Omgewings Bestuurswet (Wet nr. 107 van 1998) gelees tesame met Staatskoerant Kennisgewing Nr. R544, R545 en R546 wat die ontwikkeling van 'n horisontale skag en die konstruksie van geassosieerde infrastruktuur insluit, vir die doel van ondergrondse steenkool mynbou bedrywighede (Access Brown Shaft II). Die ontwikkeling sal voortvloei in die transformasie van 'n onbewoonde area van meer as 20 hektaar na kommersiele (mynbou) en industriële (mynbou) grond gebruik. 'n Vervoerband sal operig word vir die vervoer van steenkool tot by n bestaande aanleg (Bank Steenkoolmyn) vir prosessering. Pyplyne sal geïnstalleer word om die water vanaf die voorgestelde horisontale skag na 'n uitgemynde ondergrondse opdam area te lei. Hierdie aktiwiteite sal op sekere gedeeltes van die volgende plase plaasvind: **Wolvenfontein 471 JS en Blesbokvlakte 24 IS, Nkangala distrik, Mpumalanga.** Die aansoek is aanvaar deur die Mpumalanga Departement van Ekonomiese Ontwikkeling, Omgewing en Toerisme (MDEOOT) met verwysingsnommer: **17/2/3N-206.**

Geovicon Environmental (Pty) Ltd is aangestel as die omgewings konsultant wat die Omvangs verslag gaan saamstel, in terme van artikel 28 van die Omgewings Impak Beramings Regulasies gepubliseer in Staatskoerant Kennisgewing Nr. R543. Die konsep Omvangs Verslag sal beskikbaar wees in die Gerard Sekoto Middelburg Publieke Biblioteek en Goedehoop Steenkoolmyn - Omgewings Kantoor (Kontakpersoon by Goedehoop Steenkoolmyn: Kgaowelo Moshokwa, Sel: 079 890 9147) vanaf 22 Februarie 2013 vir publieke ondersoek.

Kommentaar rakende die voorgenome mynbou bedrywighede moet skriftelik gerig word, voor of op 22 Maart 2013, met verwysingsnommer **17/2/3N-206**, aan:

Konsultant:
GEOVICON Environmental (Pty) Ltd
Posbus 4050
Middelburg
1050
Tel.: 013 243 0542
Faks.: 086 632 4936
Sel.: 082 359 5604
E-pos: geovicon@lafrica.com
Kontakpersoon: Riana Bate
m22feb/geovicon afr/het

STEVE TSHWETE
LOCAL MUNICIPALITY

STEVE TSHWETE LOCAL MUNICIPALITY ALIENATION OF PROPERTY BY MEANS OF AN UNSOLICITED BID

Notice is hereby given in terms of Section 79(18) of the Local Government Ordinance 17 of 1939 as amended read together with Section 21 of the Local Government: Municipal Systems Act 32 of 2000 as amended, Section 113 of the Local Government: Municipal Finance Management Act 56 of 2003 and Section 44 of the Council's Supply Chain Management Policy that the Steve Tshwete Local Municipality intends to sell Erf 9342 Extension 06 Mhluzi, measuring 201m2 in extent ("the property") to Ms. M.E. Moukangwe for residential purposes at an amount of R13 100,00 (Thirteen Thousand One Hundred Rand) excluding VAT.

The alienation of the property is not open for competitive bidding because:

I) The person who made the proposal will be prejudiced if a competitive bidding process is followed.

The potential benefits of the acceptance of this unsolicited bid are:

II) That additional income for Council will be generated.

Any person who wishes to submit comments in respect of the intended alienation of the above-mentioned property by means of an unsolicited bid must do so in writing to the Director : Legal & Administration, at Room C308, Municipal Buildings, Corner of Wanderers and Walter Sisulu Streets, Middelburg by no later than 22 March 2013.

Comments clearly marked for the attention of the Director : Legal & Administration, can also be posted to P.O. Box 14, Middelburg, 1050 or faxed to number (013) 243 2550 to reach him by no later than the abovementioned date.

Any person who cannot write may visit the office of the Director: Legal & Administration, during office hours, before 22 March 2013 where he/she will be assisted with the transcription of his/her comments.

W D FOUCHÉ
MUNICIPAL MANAGER
m/22Feb/steve20s2/cb

South Africa

PO BOX 4050
MIDDELBURG
Mpumalanga
1050

TEL: +27 (0)13 243 0542
FAX: +27 (0) 086 632 4936
CEL: 082 498 1847/082 359 5604
E-MAIL: geovicon@iafrica.com

GEOVICON ENVIRONMENTAL (Pty) Ltd

2006/030830/07 VAT nr. 4930233137

Geological & Environmental Consultants

To:	**Department of Economic Development, Environment and Tourism**	From:	Zahira Shaikh
Fax:	013 656 6633	Pages:	1
Phone:	013 656 6632	Date:	**2013/02/20**
Re:	**Anglo Operations Limited: Bank Colliery's Brown Shaft II- Application for Listed Activities**		

Attention: Musa

Application for environmental authorization for Anglo Operation Limited (Pty) Ltd in terms of the National Environmental Management Act, 1998 (Act No.107 of 1998), as amended, and the Environmental Impact Assessment Regulations 2010 Government Notice R544 (Listing Notice 1), Government Notice R545 (Listing Notice 2) and Government Notice R546 (Listing Notice 3) situated on certain portions of the farms Wolvenfontein 471 JS and Blesbokvlakte 24 IS, Middelburg, Mpumalanga

Reference number: 17/2/3/N-206

Submission of the **Draft Scoping Report** for comment

Please find **2 copies** of the abovementioned documentation.

Yours,

Zahira Shaikh

Receipt of above-mentioned documents is hereby acknowledged.

Received by ..Evelyn Mkwem..... Date ..20-February-2013.....

Signed .....

NOTICE: INTERESTED AND AFFECTED PARTIES;
BANK COLLIERY - ACCESS BROWN SHAFT II; A DIVISION OF ANGLO OPERATIONS LIMITED;
NEMA SCOPING PHASE

AngloAmerican

Real Mining, Real people, Real Difference

To:	**Department of Water Affairs**	From:	Riana Bate
Fax:	086 637 4302	Pages:	1
Phone:	013 932 2061	Date:	**2013/02/21**
Re:	**Anglo Operations Limited: Access Brown Shaft II- Application for Listed Activities in terms of the National Environmental Management Act (Act no. 107 of 1998)**		

Attention: Ms. Betty Mnguni

Anglo Operations Limited (Reg. No.: 1921/006730/06) has applied for the authorisation of listed activities in terms of sections 24 and 24D of the National Environmental Management Act (Act no. 107 of 1998) read together with Government Notice No. R544, R545 and R546, which comprise the construction of an access adit and associated infrastructure for the purpose of underground coal mining activities (Access Brown Shaft II). The activities will result in the transformation of undeveloped land of more than 20 hectares to commercial (mining) and industrial (mining) use. A conveyor belt will be constructed to transport the raw coal to an existing plant (Bank Colliery) for further processing. Pipelines will be constructed to transport water from the proposed access adit to a mined out underground water storage area. These activities will occur on certain portions of the following farms: **Wolvenfontein 471 JS and Blesbokvlakte 24 IS, Middelburg district, Mpumalanga.** The application was accepted by the Mpumalanga Department of Economic Development. Environment and Tourism (MDEDET), with the following reference number: **17/2/3N-206.**

Geovicon Environmental (Pty) Ltd has been appointed as the environmental consultant to compile the Draft Scoping Report in terms of section 28 of the Environmental Impact Assessment Regulations published in Government Notice No. R543.

The **Draft Scoping Report** is hereby submitted to you for perusal.

Comments regarding the proposed mining operation must be submitted in writing, under reference number **17/2/3N-206**, on or before 22 March 2013 to:

Consultant:
GEOVICON Environmental (Pty) Ltd
P. O. Box 4050
Middelburg
1050

Tel.: 013 243 0542
Fax.: 086 632 4936
Cell.: 082 359 5604
E-mail: geovicon@iafrica.com
Contact person: Riana Bate

Dept. of Water Affairs & Forestry
Private Bag X 10580
Brokhorstspruit 1020
2013 -02- 21
REGISTRY WMA
OLIFANTS
Dept van Waterwese & Bosbou

Receipt of above-mentioned notice is hereby acknowledged.

Received by: Susan Hlatshwayo Signature: Hlatshwayo

Contact number: 013 932 2061 E-mail address: —

Postal address: P Bag X 10580 Brokhorstspruit

Geovicon

From: Geovicon [geovicon@iafrica.com]
Sent: 21 February 2013 04:46 PM
To: 'vanwyk@nashuaisp.co.za'
Subject: Anglo Operations Limited: Access Brown Shaft II: Interested and Affected Party Consultation- NEMA Scoping Phase (Draft Scoping Report)
Attachments: DS van Wyk Draft SCOPING Report NOTICE.pdf

Daniel Solomon van Wyk

Attention: Mr. D.S. van Wyk

Anglo Operations Limited has applied for environmental authorization in terms of the National Environmental Management Act 107 of 1998. As an Interested and Affected Party please find attached a Notice informing you about the project as well as an opportunity to comment on the **Draft Scoping Report** as an Interested and Affected Party.

e Draft Scoping Report will follow.

Kindly fax the attached letter as confirmation of receipt of the Draft Scoping Report.

Kind Regards,
Zahira Khan

Geovicon Environmental (Pty) Ltd
Tel: 013 243 0542
Fax: 086 632 4936

Geovicon

From: Geovicon [geovicon@iafrica.com]
Sent: 22 February 2013 09:49 AM
To: 'vanwyk@nashuaisp.co.za'
Subject: Anglo Operation Limited: Access Brown Shaft II- Interested and Affected Party Consultation: NEMA Scoping Phase (Draft Scoping Report)
Attachments: Brown Shaft II Draft Scoping Report.zip

Daniel Solomon van Wyk

Attention: Mr. D. S. van Wyk

Attached herewith The Draft Scoping report for perusal. Fax or email any comments or concerns about the proposed Access Brown Shaft II Project on the "Comment Reply Sheet" attached to the Draft Scoping Report.

Regards,
Saira Khan

Geovicon Environmental (Pty) Ltd
Tel: 013 243 0542
Fax: 086 632 4936

NOTICE: INTERESTED AND AFFECTED PARTIES;
BANK COLLIERY - ACCESS BROWN SHAFT II; A DIVISION OF ANGLO OPERATIONS LIMITED;
NEMA SCOPING PHASE

AngloAmerican

Real Mining, Real people, Real Difference

To:	**Daniel Solomon van Wyk**	From:	Riana Bate
Fax:	-	Pages:	1
Phone:	083 633 5773	Date:	**2013/02/21**
Re:	**Anglo Operations Limited: Access Brown Shaft II- Application for Listed Activities in terms of the National Environmental Management Act (Act no. 107 of 1998)**		

Attention: Mr. D.S. van Wyk

Anglo Operations Limited (Reg. No.: 1921/006730/06) has applied for the authorisation of listed activities in terms of sections 24 and 24D of the National Environmental Management Act (Act no. 107 of 1998) read together with Government Notice No. R544, R545 and R546, which comprise the construction of an access adit and associated infrastructure for the purpose of underground coal mining activities (Access Brown Shaft II). The activities will result in the transformation of undeveloped land of more than 20 hectares to commercial (mining) and industrial (mining) use. A conveyor belt will be constructed to transport the raw coal to an existing plant (Bank Colliery) for further processing. Pipelines will be constructed to transport water from the proposed access adit to a mined out underground water storage area. These activities will occur on certain portions of the following farms: **Wolvenfontein 471 JS and Blesbokvlakte 24 IS, Middelburg district, Mpumalanga.** The application was accepted by the Mpumalanga Department of Economic Development. Environment and Tourism (MDEDET), with the following reference number: **17/2/3N-206.**

Geovicon Environmental (Pty) Ltd has been appointed as the environmental consultant to compile the Draft Scoping Report in terms of section 28 of the Environmental Impact Assessment Regulations published in Government Notice No. R543.

The **Draft Scoping Report** is hereby submitted to you for perusal.

Comments regarding the proposed mining operation must be submitted in writing, under reference number **17/2/3N-206**, on or before 22 March 2013 to:

Consultant:
GEOVICON Environmental (Pty) Ltd
P. O. Box 4050
Middelburg
1050

Tel.: 013 243 0542
Fax.: 086 632 4936
Cell.: 082 359 5604
E-mail: geovicon@iafrica.com
Contact person: Riana Bate

Receipt of above-mentioned notice is hereby acknowledged.

Received by: Sonja van Wyk Signature: [signature]

Contact number: 083 642 4170 E-mail address: vanwyk@nashuaisp.co.za

Postal address: Posbus 137 Hendrina 1095

Geovicon

From: Geovicon [geovicon@iafrica.com]
Sent: 21 February 2013 04:51 PM
To: 'j.s@mweb.co.za'
Subject: Anglo Operations Limited: Access Brown Shaft II: Interested and Affected Party Consultation- NEMA Scoping Phase (Draft Scoping Report)
Attachments: Bleswolf Boerdery Draft SCOPING Report NOTICE.pdf

Bleswolf Boerdery

Attention: Mr. J. Schoeman

Anglo Operations Limited has applied for environmental authorization in terms of the National Environmental Management Act 107 of 1998. As an Interested and Affected Party please find attached a Notice informing you about the project as well as an opportunity to comment on the **Draft Scoping Report** as an Interested and Affected Party.

The Draft Scoping Report will follow.

Kindly fax the attached letter as confirmation of receipt of the Draft Scoping Report.

Kind Regards,
Zahira Khan

Geovicon Environmental (Pty) Ltd
Tel: 013 243 0542
Fax: 086 632 4936

Geovicon

From:	Geovicon [geovicon@iafrica.com]
Sent:	22 February 2013 09:58 AM
To:	'j.s@mweb.co.za'
Subject:	Anglo Operation Limited: Access Brown Shaft II- Interested and Affected Party Consultation: NEMA Scoping Phase (Draft Scoping Report)
Attachments:	Brown Shaft II Draft Scoping Report.zip

Bleswolf Boerdery

Attention: Mr. J. Schoeman

Attached herewith The Draft Scoping report for perusal. Fax or email any comments or concerns about the proposed Access Brown Shaft II Project on the "Comment Reply Sheet" attached to the Draft Scoping Report.

;ards,
Zanira Khan

Geovicon Environmental (Pty) Ltd
Tel: 013 243 0542
Fax: 086 632 4936