NOTES FOR THE RECORD (Version 3)

ADDITIONAL PUBLIC MEETING PURE SOURCE MINE MINING RIGHT APPLICATION (FS 30/5/1/2/2/10048 MR) BY MONTE CRISTO COMMERCIAL PARK (PTY) LTD

Date: 10th November 2018

Venue: Laerskool Vaalrivier Hall, Vanderbijlpark

1. Introductions

1.1. Independent Chairman: Dr David de Waal.
1.2. Monte Cristo Commercial Park representatives:
1.2.1. Mr Michael Cocks.
1.2.2. Mr Robert Schimpers (Goosebay Farm Manager and future Mine Manager).
1.3. Expert Panel Members:
1.3.1. Mr Nick Grobler (Airshed).
1.3.2. Mr Russel Tate (The Biodiversity Company).
1.3.3. Mr Michael Adams (The Biodiversity Company).
1.3.4. Mr Stephan Meyer (Noa Agencies).
1.3.5. Ms Pamela Sidambe (Umsizi Sustainable Social Solutions).
1.3.6. Mr Mader van den Berg (Skets Architecture and Planning).
1.4. Shango Solutions Representatives:
1.4.1. Ms Zizo Siwendu (Environmental Assessment Practitioner).
1.4.2. Ms Mpho Mokhoane.
1.4.3. Ms Stefanie Weise.
1.4.4. Prof Terence McCarthy (apologies provided, did not attend the meeting).
1.5. Vaaloewer Ratepayers and Save Vaal Eden: Mr Gavin Aboud.
1.6. Vredefort Dome Tourism/Vredefort Conservancy/Various NGO's: Mr Warrin Flores.
1.7. Chairperson of the Vredefort Dome Tourism Association: Ms Renee de Jong Hartslief
1.8. Foundation For A Sustainable Environment: Ms Mariette Liefferink.
1.9. Non-attendance of Mr Mark van Wyk questioned by audience.
1.9.1. His attendance would be appreciated in future meetings as the community has certain queries they would like to bring to his attention and also questions they would like to pose to him directly.
1.10. No Ward Councillor present at meeting (although invited).
1.11. The original meeting agenda was not endorsed by the attendees.
1.12. It was agreed that (i) attendees can pose questions regarding the background and related matters before the actual presentation slides are shown (ii) questions can be posed during the presentation, (iii) the Questions and Answers session at the end remains.

2. Establishment of House Rules

2.1. Work via the chairperson.
2.2. Everybody gets a fair chance.
2.3. Focus on the subject of the meeting.
2.4. One speaker at a time.
2.5. Be courteous.

3. General

3.1. The meeting was scheduled to commence at 10:00am.
3.1.1. The registration process (signing of attendance register) delayed the meeting for 25 min.
3.1.1.1. The attendees brought to Shango's attention that this is unacceptable and should be handled in a more efficient manner in the future.
3.2. Only 100 printouts of the presentation were available for distribution.
3.2.1. The attendees brought to Shango's attention that this is unacceptable as more attendees should have been expected.
3.3. The attendees criticised the visual quality of the presentation on the screen and the small font size. Shango increased the font size as per the instruction of the attendees.
3.4. The meeting closed at 03:05pm. The chairman pointed out that this was due to the slow registration process as well as the change in the agenda requested by the attendees.
3.5. The attendees agreed that the meeting provided them with an opportunity to ask questions.
3.6. The Applicant is accused of trying to confuse the public with the changes of names (Goosebay Mine, Pure Source Mine, Monte Cristo Commercial Park) in order to try to get approval for illegal activities and to hide money.
3.7. The Applicant is accused of currently mining illegally on the three farm portions under application (this is denied by the Applicant and it is pointed out that all mining activities ceased once the Mining Permits expired).
3.7.1. It was also brought to the meeting's attention that the applicant is performing rehabilitation work as instructed by the DMR. However, the meeting attendees point out that they have not seen evidence of this and therefore cannot pass an opinion about what is involved.
3.8. The location of the meeting venue was criticised as it is too far away from Vaaloewer.
3.8.1. Shango is accused of choosing this venue to dilute the opposition.
3.8.2. The choice of a venue so far away from Vaaloewer is seen as another devious effort by Shango.
3.9. The quality of life has been and will be compromised by the mining operation(s). Many of the residents had lived in cities with their noise and dust pollution before moving to the area.
3.9.1. Several residents moved away from polluted areas to find quality of life along the banks of the Vaal River.
3.9.2. According to the residents, the air was always good without the sand mines. Many of the residents have been in Vaaloewer in excess of 20 years and up to now, the quality of the air has always been good.
3.9.3. Several residents have asthma or breathing related problems.

3.10. The area is characterised by high gusts of wind and residents state that dust storms are generated by the mine.
3.11. The new Mining Charter was published and became effective on 27th September 2018. The applicant will have to comply with all the provisions in the Charter except for ownership (BEE shareholding) as the Mining Right application was lodged (24th August 2018) and accepted (28th August 2018) prior to the effective date. Therefore Monte Cristo's Mining Right Application will be processed according to the 2010 Mining Charter regarding ownership/BEE shareholding.
3.12. The attendees are encouraged to review the Issues and Responses Report (part of the final Scoping Report to be submitted to the DMR and made available to I&AP's on 14th December 2018) and ensure all comments are included.
3.12.1. The draft Scoping Report was provided on 8th October 2018 for review by the DMR and I&APs.
3.13. It was agreed upon that Shango Solutions will circulate the notes for the record and await feedback from the meeting attendees. The notes (including comments and corrections) will be included into the Issues and Responses Report).
3.14. The presentation provided during the meeting is attached as Appendix 1. Please note that slides originally containing 4 maps have been restructured to allow for detailed scrutiny.
3.15. A copy of the attendance register is attached as Appendix 2.
3.16. The video recordings of the meeting can be accessed from the Shango Solutions website (http://www.shango.co.za/public-documents/pure-source-mine/).

4. Main Points Clarified

4.1. Mining Right Applicant: Monte Cristo Commercial Park (Pty) Ltd.
4.2. The mine will operate/trade as Pure Source Mine.
4.3. Overall application area: 858.5825 ha. However, only 363.5 ha demarcated for mining (and infrastructure). The locality plan on slide 10 outlines the application boundary (blue), sand (yellow) and aggregate (green) resource areas. The sand and aggregate resource areas are demarcated for mining. The locality map also depicts the three site alternatives (infrastructure).
4.4. Mining Right vs Mining Permit. It is criticised that this has not been described fully, especially what has to be in place for the mining to commence.
4.5. Several queries regarding the diamond potential on the farm were raised and the meeting was informed that the potential for diamonds has been established by Dr. Tanja Marshall, South Africa's leading expert in alluvial diamond deposits during a site visit and desktop study. Prospecting for the diamonds will be conducted simultaneously to open pit mining (same areas).

5. Concerns Raised by Attendees (please refer to the video recordings on Shango's website (https://www.shango.co.za/public-documents/pure-source-mine/) for exact wording and source)

5.1. The historic performance and non-compliance of Winners Point Pty Ltd (regarding Mining Permits) sets a precedent for the way forward and the proposed Mining Right application.

5.1.1. It was pointed out several times that the good faith has been disrupted and lost. This refers to the distrust that the audience has for Mr van Wyk.

5.2. Shareholders of the various companies that have operated on the same piece of land should be disclosed (public information). This is critical as there have been so many company name changes but it would appear that the directors are always the same.

5.3. The Integrated Water Use Licence Application is to be made available (not yet applied for) to the public as well (also represents public document)

5.4. Specialists have not been on site and are not well informed about the area and location of settlements. The areas affected include Vaalowewer, the informal settlement bordering Vaalowewer, Vaal Eden and Lindequesdrift.

5.5. Advice was given to the Expert Panel to conduct work ethically and get paid up front.

5.6. Shango displays a dictatorial approach when dealing with the public, as the Public Meeting was scheduled for a Wednesday. Mr Aboud contacted the DMR Regional Manager to enforce an additional public meeting on a Saturday.

5.6.1. The audience is of the opinion that the meeting held on the 10th November does not represent an additional public meeting, but rather represents a rescheduled open day (please note that the Open Day was conducted on 24th October 2018).

5.7. Shango's interest to adhere to schedules as outlined in NEMA was criticised, as it prevents IA&P's to study the Draft Scoping Report in detail (the Draft Scoping Report was made available to the public on 8th October 2018).

5.7.1. It was pointed out that I&AP's can request an extension of the review period from the DMR.

5.8. The FSE has requested documentation related to the Mining Permits from the Applicant. To date no information has been provided. This non-transparent approach by the Applicant is criticised and seen as unlawful.

5.8.1. Once again this behaviour by the applicant makes the I&AP's very uncomfortable and once again the issue of trust was raised.

5.9. The Applicant was accused of not having applied for a Closure Certificate (for the Mining Permit areas) within 180 days as Section 43 of the MPRDA stipulates.

5.9.1. The Applicant has a legal obligation to rehabilitate and the question was raised if non-compliance represents a criminal offense.

5.10. Little confidence exists that the proposed mitigation measures outlined in the Draft Scoping Report will be implemented.

5.11. The Applicant should ensure not to intimidate or threaten any whistle-blowers.

5.11.1. Ms Liefferink refers to Section 31 of NEMA (Act 107 of 1998): Access to environmental information and protection of whistle-blowers.

5.12. Drone footage of application area and current rehabilitation is shown to attendees by Ms Liefferink. The audience insists that the images show mining activities.

5.13. It was pointed out that the Environmental Assessment Practitioner (EAP, Shango in this case) is supposed to be independent. The term notionally independent is utilised by attendees.

5.13.1. Once again the independence and impartiality of Shango was questioned.

5.14. It was pointed out that the Public Participation is a two way conversation and the process is supposed to be a balancing mechanism.

5.15. The end land-use in the form of an Eco Estate is to be aligned with the needs of the surrounding landowners (this is also required by the EIA process).

5.16. It is a legal requirement that a trust account is set up as a rehabilitation fund.

5.16.1. It was pointed out that this fund needs to be established prior to operations and the developer has to have sufficient funds to be deposited in a trust account. This fund cannot be funded out of operations.

5.17. It was brought to the expert panels attention, that the Vaal River between Vaaloewer and Pure Source Mine runs in a natural canyon bordered at times by ridges on each side and therefore the 100 year flood line will be reflected in height rather than in distance and in effect the Pure Source will be mining 100 meters from the 1:100 year floodline. This will increase and all of the objections to air quality and noise pollution. The potential for soil erosion and pollution of the river might greatly increase.

5.18. The Biodiversity Company representatives pointed out the following:

5.18.1. The resource distribution areas consider their scoping phase findings (reduced mining extent).

5.18.2. It is important to note that new buffers might be required to be implemented.

5.18.3. The following buffers have been applied to protect the Vaal River: (i) 1:100 year floodline and (ii) additional 100 m buffer.

5.18.4. The exact distance to the mining away from the river-edge has not yet been calculated and will be completed in the final report (also taking into consideration elevation contours).

5.19. The mitigation measures detailed in the draft scoping report are "…too fluffy…" and the audience assumed that they will not be taken into consideration once mining commences.

5.20. The matter of breathing in very small ("respirable") crystalline silica particles by the residents was raised as it may cause cancer and residents will die.

5.21. It is pointed out that silica is extremely dangerous and when these are mixed with the dust and there is a dust storm, residents do not have any protection against breathing in the silica particles.

5.22. Noise pollution and dust nuisance were the main issues raised by several attendees.

5.23. It is pointed out by residents that once the proposed open pit mine is established, dust storms will be much worse as the area exposed will be much bigger.

5.24. The poor state of the S171 and Boundary Road was raised several times.

5.24.1. The roads and bridges (especially the low water bridges) currently utilised by trucks hauling sand are not built for this usage.

5.24.1.1. The roads are supposed to carry vehicles up to 10t but currently 65t trucks are utilising the roads.

5.24.2. A full report of the status of the road was provided to Shango.

5.24.3. It is requested to include this report into the Final Scoping Report.

5.25. The S171 represents the main access from the Highway to the tourist establishments and residences surrounding the mine.

5.25.1. The road has a key function for the people in the area.

5.25.2. Due to the amount of trucks and reckless driving behaviour, the road cannot be utilised by all residents.
5.25.3. The road is not wide enough to cater for a truck and another vehicle passing. To avoid collisions with trucks the dirt strip next to the road has to be utilised which causes additional, significant dust in the air.
5.26. The sand on the road caused by trucks without canvas was pointed out as an additional issue.
5.26.1. Sand on the road caused a fatal motorbike accident already.
5.27. Consider utilising community radio and local newspapers in the public participation process going forward.
5.27.1. The audience points out that advertising in the Star is totally inappropriate as the readership of such a publication does not extend to this area.

Comment provided by EAP to clarify potential misunderstanding after reviewing the notes for the record (Zizo Siwendu): According to the NEMA 2014 EIA Regulations (GNR 326), advertisement must be placed in at least one provincial newspaper or national newspaper, if an activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken. Based on the above, advertisement was placed in the Star Newspaper, which is distributed nationwide, including distribution in the target areas for the project which consider the Free State, Gauteng and the North West provinces.

5.28. Property values will and have decreased.
5.28.1. Examples were provided of property values being halved.
5.28.2. Strong disagreement with the specialists' statement that the property values will possibly increase due to the mining activities.

Comment provided by specialist unable to attend the meeting after reviewing the notes for the record (Dr Hugo Van Zyl, Economic Specialist): There appears to be a misunderstanding regarding this statement. The introductory part of the "Impacts on Property Values" section of the draft Economic Specialist Study for the Scoping Report states that "Positive impacts would stem from the increased commercial activity and job creation associated with the project which should play a role in boosting demand for houses with potential impacts on values." Using the word "should" instead of "could" in the sentence may have contributed to the misunderstanding and will be adjusted. The more relevant assessment part of the section is, however, clear. It concludes that "… it stands to reason that the relatively small scale of the project would not contribute substantially to property demand thereby supporting only marginal value increases if any at all." This highly tentative conclusion is accurate at this stage of desktop assessment for scoping and will be considered further in the assessment phase.

5.28.3. Overall current value of all properties in the area: 1.5 Billion ZAR.
5.29. The zoning of the property and the correctness for mining activities is being questioned.
5.29.1. The audience states that the land where the mining is anticipated is presently zoned as agriculture and not for mining.
5.30. Boating activities will be affected by the sand mine.
5.30.1. There is an apparent decrease in boating numbers and trips.
5.31. Dust suppression should be conducted 24/7 as the effects will be bad otherwise.

5.31.1. It is pointed out, that dust suppression has to be managed in a constant manner to ensure that it is effective. Spraying with water on an irregular basis is not acceptable as the ground dries out and dust will be created.

5.32. The importance (for tourism, environment and employment opportunities) of the Vredefort Dome UNESCO World Heritage site on the surrounding areas is pointed out.

5.32.1. The tourism is already established and the mining will have a negative effect.

5.32.2. Tourism crosses all sectors, whereas mining fails to do so.

5.32.3. Facts regarding the importance of the tourism sector for South Africa and the Gauteng Province are presented to the meeting.

5.32.4. Employment opportunities for people from townships in the tourism sector.

5.32.5. President Cyril Ramaphosa also emphasised the importance of tourism during the 2018 SONA

5.32.5.1. Gauteng received over 4.1Mill oversees visitors during last year

5.32.6. The Vredefort Dome UNESCO World Heritage Site is only 60min away from Johannesburg.

5.32.7. The World Travel and Tourism Council's latest report on South Africa is also quoted:

5.32.7.1. 1.5Mill jobs in South Africa are attributed to tourism.

5.32.7.2. 1 out of 23 people are involved in tourism.

5.32.8. The cumulative factors of all three mines together should be assessed. When evaluating the application from Monte Cristo, it is necessary to consider the fact that there are already 3 mines in this area (Goosebay/Monte Cristo/Pure Source (1) / Tja Naledi (2) / Sweet Sensations (3). The cumulative effect of all these mines must be taken into account. And, what happens when other mines apply for licences to operate.

5.33. Comment that a certain species of Owl (that migrates to North Africa) might not return to the area due to current mining activities.

5.33.1. The specialists have completed an initial review of all avifaunal species that are known to occur, or that may occur in the project area. A number of owl species are known to occur in the area, including two threatened species (the African Grass Owl and the Verreaux's Eagle Owl). It is not known to which exact owl species the respondent is referring. However, all species will be considered for the purposes of this assessment with a specific focus on threatened or endangered species. Suitable habitat for this species was found in some of the wetland areas. These areas were part of the wetland areas that were already excluded from mining in order to protect these habitats.

5.34. Comment that the correct floral species need to be used during rehabilitation process.

5.35. Question was put to the air quality specialist asking how many monitors had been put up for the study. The answer was one (1) as electricity was a requirement for the equipment. The monitor was situated at the Goosebay Canyon Eco and River Estate Camp and Chalet site, on the farm Woodlands 407, which is in an area with trees and vegetation, no monitors had been situated in Vaaloewer at all. There is no data in the scoping report measuring the air quality over a period of time to establish a more accurate picture of the impact on air quality.

6. Summary of Specialist Presentations

6.1. *Air Quality Baseline Information (Nick Grobler, Airshed, please refer to presentation slides).*

6.1.1. Sensitive receptors have been identified.

6.1.2. Existing sources of emission in the area include the following (i) mining activities, (ii) vehicle tailpipe emissions, (iii) domestic fuel combustion, (iv) biomass burning (veld fires) and (v) various miscellaneous fugitive dust sources (agricultural activities, wind erosion of open areas, vehicle-entrainment of dust along paved and unpaved roads).

6.1.3. Prevailing wind is from Vaaloewer towards the mining area. On average, air quality impacts are expected to be slightly more notable to the south of the project activities.

6.2. *Noise Baseline Information (Nick Grobler, Airshed, please refer to presentation slides).*

6.2.1. Current noise levels are typical of rural areas.

6.2.2. Severe noise mitigation measures will be required.

6.2.3. Recorded day-time LReq,d at all sampling locations during the day-time survey are similar to those given in SANS 10103 as typical for rural districts (45 dBA).

6.2.4. Recorded night-time LReq,n = sampling locations 1, 4 and 5 are typical for rural districts at 35 dBA as prescribed by SANS 10103.

6.2.5. Recorded night-time LReq,n at sampling locations 2 and 3 are however more akin to those typical for urban districts (45 dBA) as prescribed by SANS 10103.

6.3. *Biodiversity Baseline Information (Russel Tate and Michael Adams, The Biodiversity Company, please refer to presentation slides*).

6.3.1. Future work will include the compilation of (i) a surface water management plan and (ii) the water balance.

6.3.2. Baseline information is based on studies conducted during the winter months, and the summer studies will commence in the next week.

6.3.3. The applicant excluded ridge areas from resource areas as these are protected areas when considering Gauteng legislation (although the application area is located in the Free State Province, no similar legislation exists but applicant chose conservative route by excluding these areas).

6.3.4. The public is invited to provide details on observed species (including photos).

6.3.5. The riverine ecology assessment reveals that the aquatic fauna lacks diversity.

6.3.6. The desktop data for the Vaal River C23B-01731 Sub Quaternary Reach considered in this assessment indicates that the Present Ecological Status (PES) of the watercourse is Largely Modified (class D).

6.3.7. Quality deterioration, of the Vaal River in the form of excessive sewerage input is outlined to the audience.

6.3.8. The default ecological category of the Vaal River was rated as Largely Natural (class B).

6.3.9. The catchment of the watercourses in the application area is not National Freshwater Priority Area (NFEPA).

6.3.10. The proposed project is largely outside the delineated riparian and floodline buffer zones.

6.3.11. The topographical river line data for quarter degree square “2627” indicates six major river lines flowing from inland towards the Vaal River.

6.4. *Geohydrology and Waste Classification Baseline Information (Stephan Meyer, Noa Agencies, please refer to presentation slides*).

6.4.1. Initial hydrocensus identified 20 sites and 11 groundwater samples were collected for water quality analysis.

6.4.2. The groundwater levels varied from 2.5 m to 7 m across the proposed mining area, to a maximum depth of 20.5 Meters Below Ground Level.

6.4.3. The sampled groundwater is currently not showing any negative impacts associated with the historical mining activities of the application area or at the neighbouring sand mine operations.

6.4.4. Samples in proximity and in the river show elevated *E. coli* concentrations.

6.4.5. Future work will include (i) geohydrological model and simulations and (ii) waste classification.

6.4.6. Water supply has been identified as a key challenge.

6.5. *Social Baseline Information (Pamela Sidambe, Umsizi Sustainable Social Solutions, please refer to presentation slides*).

6.5.1. Social Impact Assessment based on the Municipalities' Integrated Development Plan (IDP), Mining Work Programme (MWP) and Social and Labour Plan (SLP).

6.5.2. Positive impacts of the proposed mine include: (i) employment opportunities for qualified and non-qualified workers, (ii) business opportunities and (iii) the opportunity for skills development.

6.5.3. Negative impacts of the proposed Mining Right include (i) noise, (ii) dust, (iii) safety and security issues, (iv) loss of sense of place and (v) poor state of the roads.

6.6. *Visual Baseline Information (Russel Tate presented on behalf of Andy Pirie, please refer to presentation slides).*

6.6.1. Within a 5 km radius of the application area, the region can be broadly divided into three categories: (i) agricultural areas: crop and livestock agriculture are the dominant land use in the area, (ii) residential areas: housing developments occur mostly along the Vaal River and (iii) sand mining activities.

6.6.2. The removal of vegetation will expose the Project to sensitive visual receptors, particularly those located on elevated areas surrounding the Project. This will result in an altered sense of place.

6.6.3. Dust generated is likely to create a visual disturbance.

6.7. *Planned Rehabilitation Methodology (Mader van den Berg, Skets Architecture and Planning, please refer to presentation slides).*

6.7.1. Presentation slides utilised to explain step-by-step process of rehabilitation and land allocation.

6.7.2. Presentation of end use: Eco Estate.

7. Comments/Recommendations to Specialist Panel and EAP by Ms Liefferink

7.1. NEMA weights science (as presented by experts) and local knowledge equally.

7.1.1. Specialists are asked to please make use of local knowledge and to consider it in reports.

7.2. It is impossible to restore the original environment after mining activities ceased.
7.2.1. An agreed upon, sustainable land use with sustainable resources should be defined.
7.3. It is recommended that the full spectrum of metals be tested in the water samples going forward.
7.4. Efforts of the biodiversity study are acknowledged.
7.5. Consider the differentiation between ambient noise and intrusive noise (>7dB).
7.6. Dust fallout at residential areas should not exceed 600 mg/m²/day while dust fallout at non-residential locations should not exceed 1200 mg/m²/day as per the National Dust Control Regulations.
7.7. The Biodiversity Company representatives are thanked for their honest comment in the specialist report (forms part of scoping report) regarding the wetlands.
7.7.1. If mitigation measures are not properly implemented, this will represent a fatal flaw of the project.
7.7.2. The Biodiversity Company agrees with Ms Liefferink, that for some impacts (biodiversity, flora and fauna) the risks remain high even after mitigation.
7.8. What is the loss in economic value considering a loss of sense of place?
7.9. What are the impacts on the poor communities in proximity to the mining right application area?
7.10. A study to assess the best practical environmental option for the area (eco-tourism vs. agriculture vs. mining) is required.
7.11. The specialists are to assess the cumulative impacts on the Vaal River as it is already stressed, especially with regards to the increased solids and volumes of water required by the applicant.
7.12. The visual assessment should concentrate on the original tranquil sense of place vs the barren sense of place (caused by mining activities).
7.13. A cost benefit analysis is requested.
7.14. The loss to the environment is to be evaluated.
7.15. The strategic importance of sand and gravel has not been established. Therefore establishing a mine in a peaceful environment is not justified.
7.16. Minutes of this meeting are to be distributed prior to inclusion in the Issues and Responses Report.
7.17. Provide Ms Liefferink with a copy of the (Integrated) Water Use Licence Application (once submitted).

8. Questions posed during meeting and not answered (Please note duplication with items detailed in Section 7. Note that it was agreed upon that the notes for the record will include answers to the posed questions).

8.1. *Applicant: (no answers have been received from the applicant, to be distributed as soon as available)*
8.1.1. Who are the directors and shareholders of Monte Cristo Commercial Park (Pty) Ltd? Full disclosure and transparency is requested.
8.1.2. Will a trust account be set up for the rehabilitation costs and will the applicant have the financial means?
8.1.3. Who will be employed?
8.1.4. How much money has been spent on rehabilitation to date and on what rehabilitation activities? How does this amount compare to the rehabilitation fund set aside before the mining of the Mining Permits commenced?

8.1.5. Do pumping and treatment of water form part of operational costs?
8.1.6. Please provide the Environmental Authorisation for the Eco Estate.
8.1.7. Please provide the volumes of water required by the Applicant.

8.2. *Legal Advisors: (no answers have been received from the legal advisors of the applicant, to be distributed as soon as available)*
8.2.1. The application covers three portions of Woodlands 407. Is it therefore required to have three separate applications and processes?
8.2.2. Was this additional meeting legal as it was held in Gauteng, although the application areas are situated in the Free State Province?
8.2.3. Scenario: landowner across the river claims that three buildings recently built have developed cracks because of the mining activities. How will he claim from the mine for the damages?
8.2.4. Is the current zoning of the property supporting mining activities? If not when does the zoning have to be changed?

8.3. *Civil/Mining Engineer:*
8.3.1. Are the settling ponds silicon/silica based?
Answer by Civil/Mining Engineer pending. However, settling ponds are usually concrete structures (or lined earth works), designed and operated so that nonpoint water pollution is minimised and water quality protected.

8.4. *Geological Consultant:*
8.4.1. Where are the diamonds located?
Answer (Dr Tania Marshall): During the period 1922-1926, some 25,000ct are recorded as having been recovered from five farms located on the northbank of the Vaal River in the vicinity of Woodlands. The largest number of diamonds recorded historically (+13,000ct), were recorded from the farm Zeekoeifontein, which is located directly across the river from Woodlands, in the meander bend where Vaaloewer is situated today. During a site visit in mid-June 2018, I visited the banks of the Vaal River across from Zeekoeifontein and noted the presence of "diggers heaps" and an old plant-site. The spoil heaps comprise rounded to well-rounded, pebble-cobble size, alluvial clasts that could, conceivably, date back to the mid-1920's. These "diggers heaps" prove that diamonds were recovered from the Woodland property, likely at the same time that diamonds were being mined elsewhere in the vicinity. The implication is that alluvial diamond deposition is associated with the palaeochannel that deposited the sand. In a meandering river system, such as the Vaal is seen to be at this location, the coarse-grained (gravel) units occur as channel lag deposits overlain by finer-grained, sandy point bar deposits. The point bar deposits would represent the silica sand deposits that are currently being mined on Woodlands, and the channel lag deposits would be the priority target for alluvial diamonds. The channel lag occurs as a relatively thin, non-continuous unit located on the bedrock at the base of the sand deposit. Consequently, prospecting for this unit would be concentrated within the sand units that are already part of the mine plan. The north pit is the primary exploration target, with the main sand pit to the south being the secondary target.

8.4.2. Why are no contour maps of the basement available?

Answer (Stefanie Weise): The exploration activities conducted during the prospecting phase have established the thicknesses for the sand resource. Surface pits established the overburden thickness, the gravel characteristics and both the competency and the depth of the bedrock. During the diamond exploration activities the base of the sand deposit will be exposed and further investigated.

8.5. *Social Impact Practitioner:*

8.5.1. Will there be an assessment regarding the employment that will be lost due to the mining operation (e.g. in the tourism sector, domestic work)?

Answer (Pamela Sidambe): This assessment will be conducted during the EIA phase of the project.

8.5.2. The specialist is requested to test what the best practical environmental option is. The balancing of negative impacts and short term positive social impacts needs to be taken into account.

Answer (Pamela Sidambe): This assessment will be conducted during the EIA phase of the project.

8.6. *Health Professional/Air Quality Specialist:*

8.6.1. What will the effects of silica particles be on the residents?

Answer (Nick Grobler): Alpha quartz (silica) concentrations will be modelled and assessed against international health screening criteria during the full air quality impact assessment.

8.6.2. Can we expect any other health implications?

Answer (Nick Grobler): Ambient particulate and gaseous concentrations due to the mining operations will be assessed during the air quality impact assessment.

8.6.3. What precautions is the mine going to put in place to prevent silica dust from reaching the houses that are on the ridge directly opposite the mine? How many kilometres can silica travel with wind?

Answer (Nick Grobler): During the air quality impact assessment, dust fallout, inhalable particulate concentrations as well as inhalable silica concentrations will be quantified and dispersion modelling simulations undertaken to estimate ambient pollutant concentrations and dust fallout. Ambient pollutant concentrations will depend on the area being mined, the wind direction and the level of activity.

8.7. *Traffic Specialist:*

8.7.1. Incorporate report stating the poor state of the road (provided by residents) into scoping phase report. A road assessment should be performed.

The report provided has been forwarded to Leon Roets (Siyazi Transportation Services Free State (Pty) Ltd) for consideration. Mr Roets has taken note of the report and its contents.

8.8. *Economic/Social Specialist:*

8.8.1. What is the loss in economic value considering a loss of sense of place? A cost benefit analysis must be conducted as we need to understand the opportunities that

might be lost. Wouldn't the best value for this are be tourism, eco-tourism and agriculture, but not mining?

Answer (Dr Hugo van Zyl): Regulation 50 (d) of the Mineral and Petroleum Resources Development Regulations states that a sustainable development cost-benefit analysis be conducted to determine the best use of alternative land options. To this end, all the sustainable development impacts (social, economic and environmental) need to be listed and equitably weighed up against one another to determine the best land-use for this and the next generation. Furthermore, in terms of the principles of the National Environmental Management Act (NEMA), the Environmental Assessment Practitioner (EAP) should evaluate the Best Practicable Environmental Option (BPEO). The BPEO, as defined in NEMA, means the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long-term as well as in the short-term. As such, a sustainable development cost-benefit analysis will be conducted during the Environment Impact Assessment (EIA) phase of the project. Land uses that will be considered in the assessment include mining, agriculture and eco-tourism/tourism.

8.8.2. What are the impacts on the poor communities in proximity to the mining right application area?

Answer (Dr Hugo van Zyl): Impacts on both lower income and relatively higher income communities will be assessed in the economic and also more specifically in the social specialist studies. In addition, the other specialist studies such as the air pollution, noise and visual studies will assess impacts on sensitive receptors including lower income communities as relevant.

8.8.3. A study to assess the best practical environmental option for the area (eco-tourism vs. agriculture vs. mining) is required.

Answer (Dr Hugo van Zyl): A sustainable development cost-benefit analysis will be conducted during the EIA phase of the project.

8.8.4. The cumulative factors/effects on tourism of all three mines combined should be assessed.

Answer (Dr Hugo van Zyl): The cumulative impacts on tourism of all three mines combined will be assessed during the EIA phase.

8.9. *Wetland Specialist:*

8.9.1. Has the effect of the 7 drainage lines, as identified during the desktop study been considered during (heavy) rain events?

Answer (Michael Adams): Yes, the drainage lines were identified by the wetland specialist based on desktop analysis and in-field analysis. The proposed mine will not discharge water into any of these drainage lines and as such, even during heavy rainfall events, no pollutants from the mine are envisaged to enter these areas and therefore drain into the Vaal River. The mine works plan has been amended to exclude these and other wetland areas.

Answer (Russel Tate): The drainage lines have been considered in the assessment. A buffer, where no activities can take place will be established around the drainage lines. This will reduce the potential for the flooding of the mine during high rainfall events. In addition, the 1:100 year floodlines of the Vaal River was delineated and will also be used to identify the flooding potential of these systems.

8.9.1.1. Is there a possibility that there is run-off from the mines along these drainage lines?

Answer (Michael Adams): The proposed mine will not discharge water into any of these drainage lines and as such, even during heavy rainfall events, no pollutants from the mine are envisaged to enter these areas and therefore drain into the Vaal River. The mine works plan has been amended to exclude these and other wetland areas.

Answer (Russel Tate): There is a potential for surface water runoff from the active mining areas to drain into these drainage lines. The surface water runoff on the mining areas will however be managed effectively through the implementation of the Surface Water Management Plan to ensure that only clean water enters the drainage lines.

8.9.1.2. Will the silica land up in the river?

Answer (Nick Grobler): The river will be included in the assessment of dust fallout impacts. It should be noted that silica is only harmful when inhaled and is not harmful if it lands up in the river.

Answer (Michael Adams): The specialist can only comment on this as it relates to wetlands and flow of water and not on the possible effects of wind-blown silica entering the drainage lines and Vaal River. As mentioned, the current drainage lines and wetland areas have been excluded from the mine works programme and therefore it is envisaged that no significant levels of silicia (above normal levels) will enter the Vaal River. The Geohydrological assessment will also inform this process.

Answer (Russel Tate): As described above in point 8.9.1.1, a Surface Water Management Plan will be established and will negate the movement of dirty water into the drainage lines or river systems.

8.10. *Air Quality Specialist/Ecologist:*

8.10.1. Will the dust fallout impact on the food chain and fishes?

Answer (Nick Grobler): Dust fallout on animals and vegetation will be qualitatively assessed. It should be noted that alpha quartz (silica) is only harmful when inhaled and is not considered harmful through ingestion or dermal contact.

Answer (Russel Tate): The effect of silica on freshwater organisms, based on toxicity exposures, is considered to be a low order of toxicity and therefore classified as having a low hazard profile. Effect concentrations have only been observed between 210 mg/l and 1 700 mg/l. These are considered to be very high concentrations of silica and the proposed project will likely not result in the formation of these artificially high concentration solutions.

8.10.2. Impacts of dust on fauna and flora.

Answer (Michael Adams): Yes, excessive levels of dust may have potential negative direct and/or indirect impacts on fauna and flora. The effects of dust generated due to traffic on gravel roads for example, is well documented. Dust most often affects plant species close to the source of dust. This can have an impact on floral species composition in an area and therefore in turn can impact on faunal assemblages or food resources. The potential impacts of dust will be assessed in the final scoping report, and will be informed by the results of the air quality specialist and whether or not dust levels are expected to be higher than standard parameters.

8.11. *Air Quality Specialist:*

8.11.1. Eskom has sample points 100km away from power stations. How far away will monitoring stations be positioned from the proposed sand mined?

Answer (Nick Grobler): The Eskom monitoring stations are located based on the area of impact from the elevated power station stacks, which are much further from the source than mining operations would impact. Recommendations for monitoring stations will be based on dispersion modelling results, but will usually be at the closest sensitive receptor locations for ground level releases such as mining activities.

8.12. *Noise Specialist:*

8.12.1. Winter vs. summer noise levels to be considered.

Answer (Nick Grobler): It is noted that baseline noise levels are much lower in winter due to the absence of insects, this will be considered during the noise impact assessment.

8.12.2. Baseline noise measure provided by manufacturers are dependent on wind and distance from effected residences. Vaaloewer is a residential area but taking the aforementioned factors into account regarding wind and distance the air pollution and noise pollution would be greatly increased. Kingfisher Bend is situated directly opposite the proposed pump station. Mechanised wash plant noise levels? Mechanised rotary pan for alluvial diamond mining noise levels? Mechanised pump stations? Mechanised drying and screening plants? Mechanised conveyor systems? Trucks, Excavators and wheel loaders?

Answer (Nick Grobler): All of these sources will be quantified and included in the noise source inventory and noise propagation simulations during the noise impact assessment phase of the study.

8.12.3. The issue was raised that only one (1) monitor was utilised during the study presented and the chosen location for the measurements was not a true indication of the Air Quality over 30 years.

Answer (Nick Grobler): The one monitor was deployed to get a rough indication of baseline air quality in the study area compared to sampling results at the closest permanent monitoring stations (in Vanderbijlpark, Sebokeng, Orange Farm and Zamdela). Recommendations for the siting of permanent monitoring locations will be made based on the results of the air quality impact assessment and dispersion modelling simulations. These recommendations will then feed into EMP for the mine.

8.13. *Rehabilitation Specialist:*

8.13.1. What types of grasses will be utilised for rehabilitation? The correct floral species are to be utilised during the rehabilitation process

Answer (Michael Adams): The specialists agree that it is vitally important that the correct floral species be used for rehabilitation measures and recommendations for the correct species to be used will be made in the final report.

Answer (Mader van den Berg): The rehabilitation plan will recommend the planting of commercially available grass seeds that will aim at improving the grazing potential for the benefit of the game on the farm. The seed mixture will be chosen based on its suitability for the region and may consist, but is not limited to the following species; Eragrostis teff (an annual cover crop that quickly germinates to prevent erosion), Eragrostis curvula, Digitaria eriantha, Chloris gayana and Panicum coloratum. The planting time will be crucial and if necessary, a temporary winter grass may be planted if irrigation is available. Typically, Aventa sativa could be considered as an annual winter grass.

8.13.2. Please ensure that the rehabilitation activities for year one to three are clearly outlined.

Answer (Mader van den Berg): Year 1 of the mine activity will not involve any rehabilitation as the mining is starting up. Years 1 and 2 consider the construction phase, although mining will occur in the areas allocated to Year 1 and 2. The construction of the wash and drying plant will occur in this period, but will only be active from Year 3. Topsoil (if present), will be stripped and stockpiled in the correct areas. Progressive rehabilitation will start in Year 2 and may consist of bulk earthworks and fine grading. Depending on the season and the climatic conditions, re-vegetation may also occur in Year 2. Year 3 should see the areas mined in Year 1 as rehabilitated and monitoring will continue to ensure until satisfactory rehabilitation. If planting was unsuccessful, the area may be prepared again and re-seeded, depending on the reason for the failure (please note that the areas allocated for year 1 and 2 in the main sand deposit, are also where the processing plant is proposed. This area will only be rehabilitated after the 30 year life of mine).

8.14. *All Specialists/Unassigned:*

8.14.1. Is climate change included in the reports?

Answer (Nick Grobler): A climate change assessment will not be conducted as part of the air quality impact assessment. Greenhouse gas emissions from the mining operations can however be included in the emissions inventory.

8.14.2. Has the weather been considered (including winds)?

Answer (Nick Grobler): The current dispersion potential of the site will be considered based on modelled MM5 meteorological data. The dispersion potential is discussed in the air quality scoping report.

9. <u>Way Forward Outlined by Ms Zizo Siwendu (EAP, Shango Solutions)</u>

9.1. The overall application process is outlined in the presentation slide labelled NEMA application process:

1. <u>Application:</u>
   Simultaneous submission of Mining Right (MR) and Environmental Authorisation (EA) Application.

2. Scoping Phase:

Baseline (mainly desktop) information about the receiving environment.
Identification of potential fatal flaws to minimise project risks.
Assessment of impacts and recommendation of appropriate mitigation measures.
Undertake a Public Participation Process.
Compile a Plan of study for the Environmental Impact Assessment (EIA) phase.

3. EIA Phase:

Detailed specialist studies (incl. a site visit and consultation with community members).
Compilation EIR and EMPR (legally binding document).
Public Consultation Process.

4. Record of Decision:

Based on the review of the EIR and EMPR, DMR makes a decision to grant or reject the MR and EA Application.

9.2. The mining right application is currently in the scoping phase.

9.3. The draft scoping report was made available to the DMR and the public (incl. I&AP's) on 8th October 2018 for a 30 day review period).

9.4. The final scoping report will be submitted to the DMR and the public (incl. I&AP's) on 14th December 2018. This report will reflect changes in the Specialist reports and incorporate the written and oral comments from I&APs (including comments from authorities).

9.5. If the Scoping phase is accepted, the EAP will commence with the EIA phase of the process, which will entail the following:

9.5.1 Compilation of the Environmental Impact Report.

9.5.2 EIA specialist studies (incl. site visits and public consultation).

9.5.3 Development of the Environmental Management Programme.

9.5.4 Development of the Integrated Water and Wastewater Management Plan in support of the Integrated Water Use License Application.

Appendix 1: Presentation Slides

Monte Cristo Commercial Park (Pty) Ltd

Pure Source Mine

Additional Scoping Phase Public Consultation

10 November 2018

Agenda

- Welcome
- Proposed Agenda
  - Introduction
  - Purpose of the Meeting
  - Project Overview
  - Feedback on the Scoping Phase
  - Questions and Answers
  - Way forward
  - Closing

Introduction

Chairperson:

- Dr David De Waal - Social Management and Specialist (D.Litt . et Phil).

EAP and Specialists:

- Dr Terence McCarthy – Geological Consultant (Ph.D. in Geology).
- Ms Stefanie Weise – Geological Consultant (M.Sc. in Geology).
- Ms Zizo Siwendu - Environmental Consultant (B.Sc. Hons. in Environmental Management).
- Mr Mader van den Berg - Environmental Consultant (ML (Prof) – Masters in Landscape Architecture).
- Ms Mpho Mokhoane - Geological Consultant and Translator (B.Sc. Hons. in Geology).
- Ms Pamela Sidambe - Social Specialist (M.A. in Social Impact Assessment).
- Mr Michael Adams- Terrestrial Biodiversity Specialist (MBA and B.Sc. Hons. in Wildlife Management).
- Mr Russel Tate – Surface Hydrology Specialist (M.Sc. in Aquatic Eco-toxicology).
- Mr Stephan Meyer - Geohydrology Specialist (B.Sc. Hons. In Hydrogeology).
- Mr Nick Grobler - Air Quality and Noise Specialist (B.Eng. in Chemical Engineering).

Representatives of the Applicant:

- Mr Michael Cocks - The VLDC Group (Dip. MA. B.Com).
- Mr Robert Schimpers - Goosebay Farm Manager.

Purpose of Meeting

- Present the findings of the Scoping Phase.
- Solicit comments from the public for inclusion into the Final Scoping Report.

House Rules

- Work via the chairperson.
- Everybody gets a fair chance.
- Focus on the subject of the meeting.
- One speaker at a time.
- Be courteous.

Public Participation Undertaken To Date

- To date, there are 1 632 registered I&APs for this project.
- Notification of this Public Consultation was given in the following manner:

Public Participation			
Action	**Description**	**Publication/Place**	**Date**
Announcement of Scoping Additional Public Consultation (Laerskool Vaalrivier Hall, Vanderbijlpark)	Notification of I&APs	I&APs were notified via: • E-mail and fax • Site Notices • A3 Posters • SMSes	26/10/2018 06/11/2018 29/10/2018

Project Overview

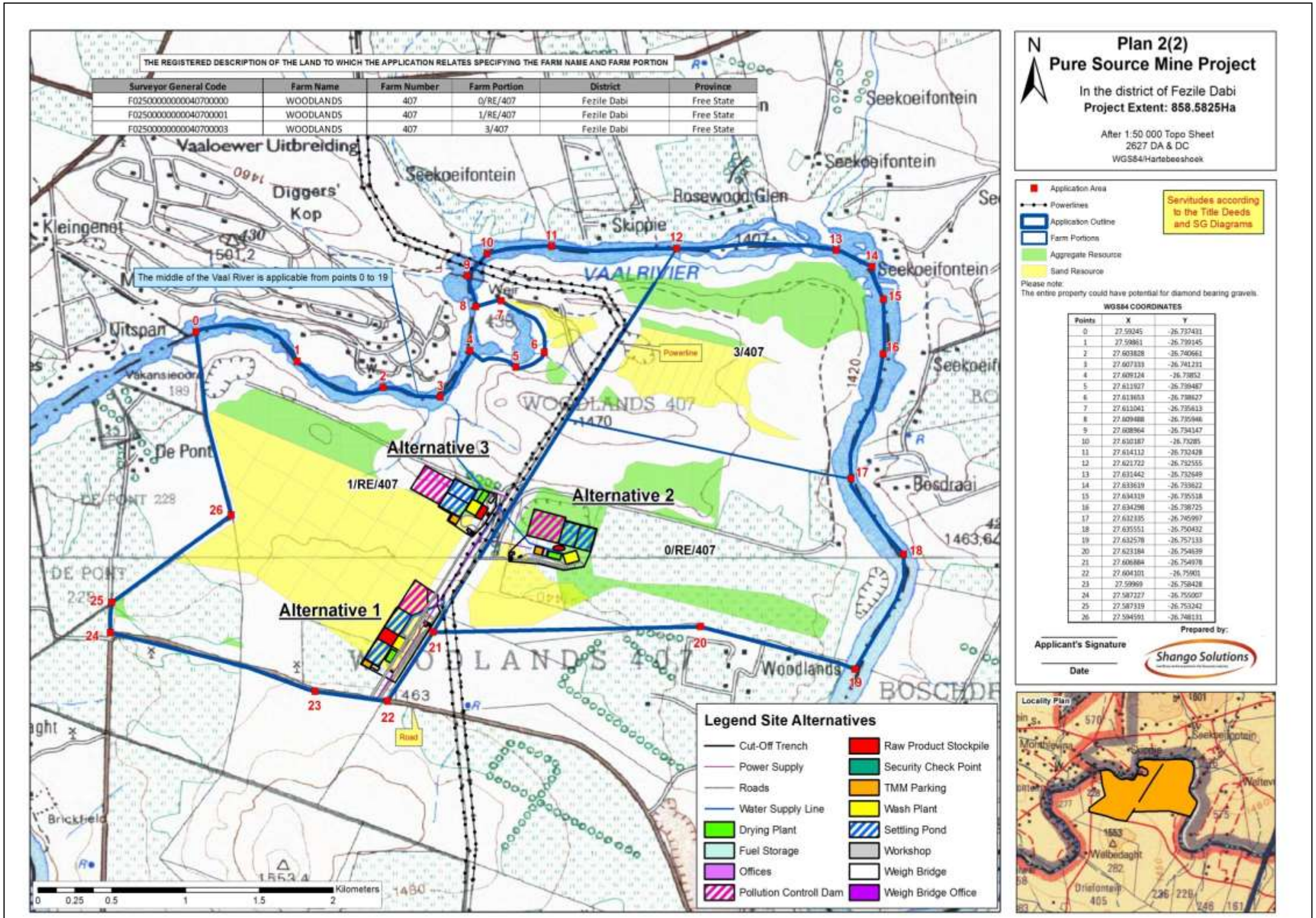
Project Description

- Monte Cristo Commercial Park (Pty) Ltd (MCCP) is proposing to establish an open pit mine which will involve the development of open pits and associated mine infrastructure.
- The project will be known as Pure Source Mine. Commodities to be mined include:
  - Sand.
  - Aggregate/gravel.
  - Diamond (alluvial).
- Mining will be undertaken by a "truck and shovel" method utilising suitably sized diesel driven equipment.
- The proposed mining area covers an actual extent of 858.5825 hectares (ha). However, a 363.5 ha area will be demarcated for phased open pit mining and associated infrastructure.
- The anticipated life of the mine is 30 years.
- The closure objective is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River.

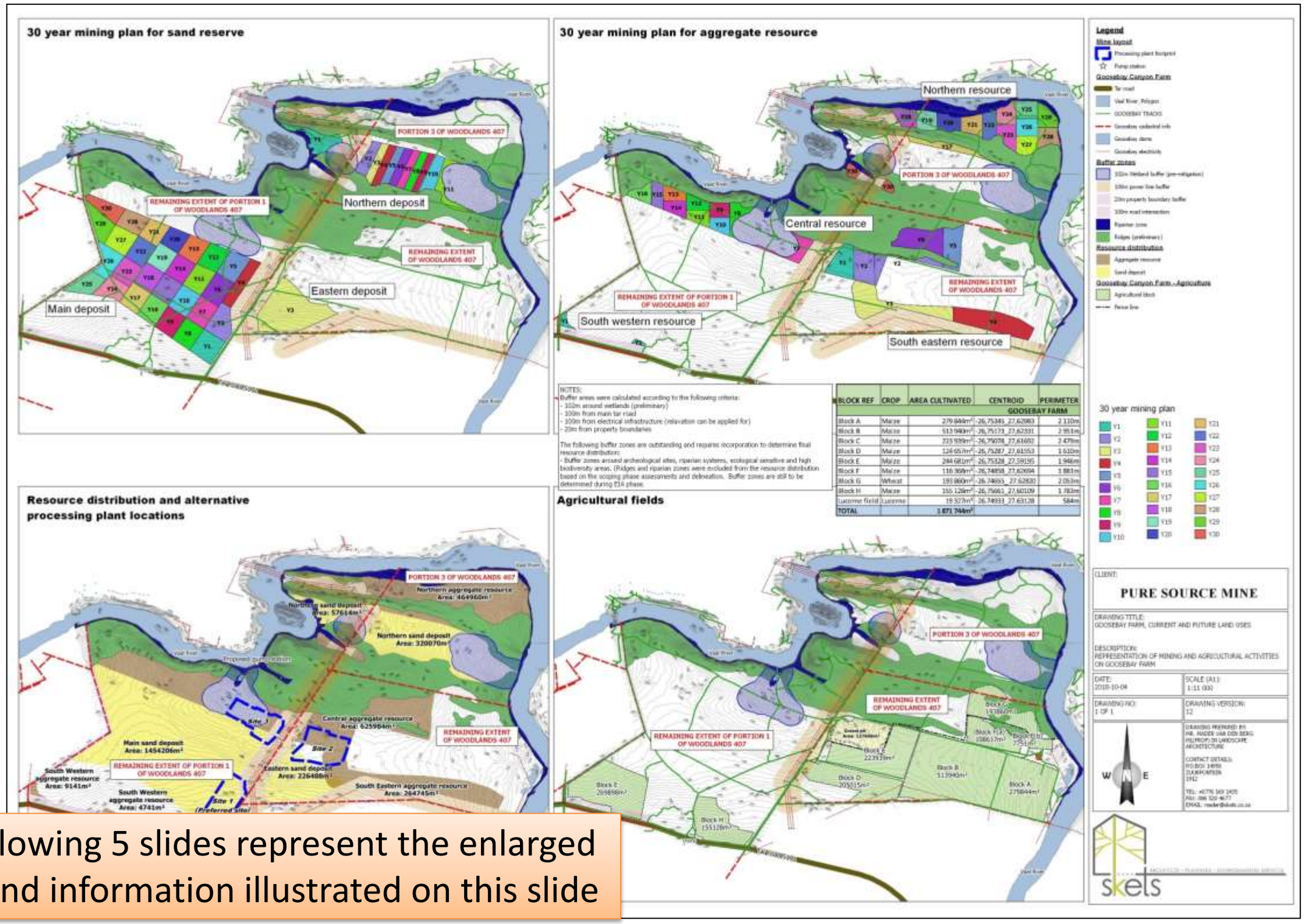
Project Description

- The following infrastructure components will be established for the mining process:
  - Dams.
  - Wash plant for sand mining.
  - Rotary pan processing plant for alluvial diamond mining.
  - Potential alluvial diamond X-ray and/or flow sorting facility.
  - Clean and dirty water management infrastructure (pollution control dams, water recycling plan (part of the wash plant), settling ponds, storm water runoff structures, water pipeline network as well as pump stations).
  - Drying and screening plants.
  - Topsoil and run-of mine stockpiles.
- Additional mining and processing infrastructure will include haul roads, workshop, weigh bridge and offices, conveyor systems, powerlines, change houses, portable chemical ablution facilities for employees during the construction and operational phases.

Locality Map



Mine Plan and Resource Distribution



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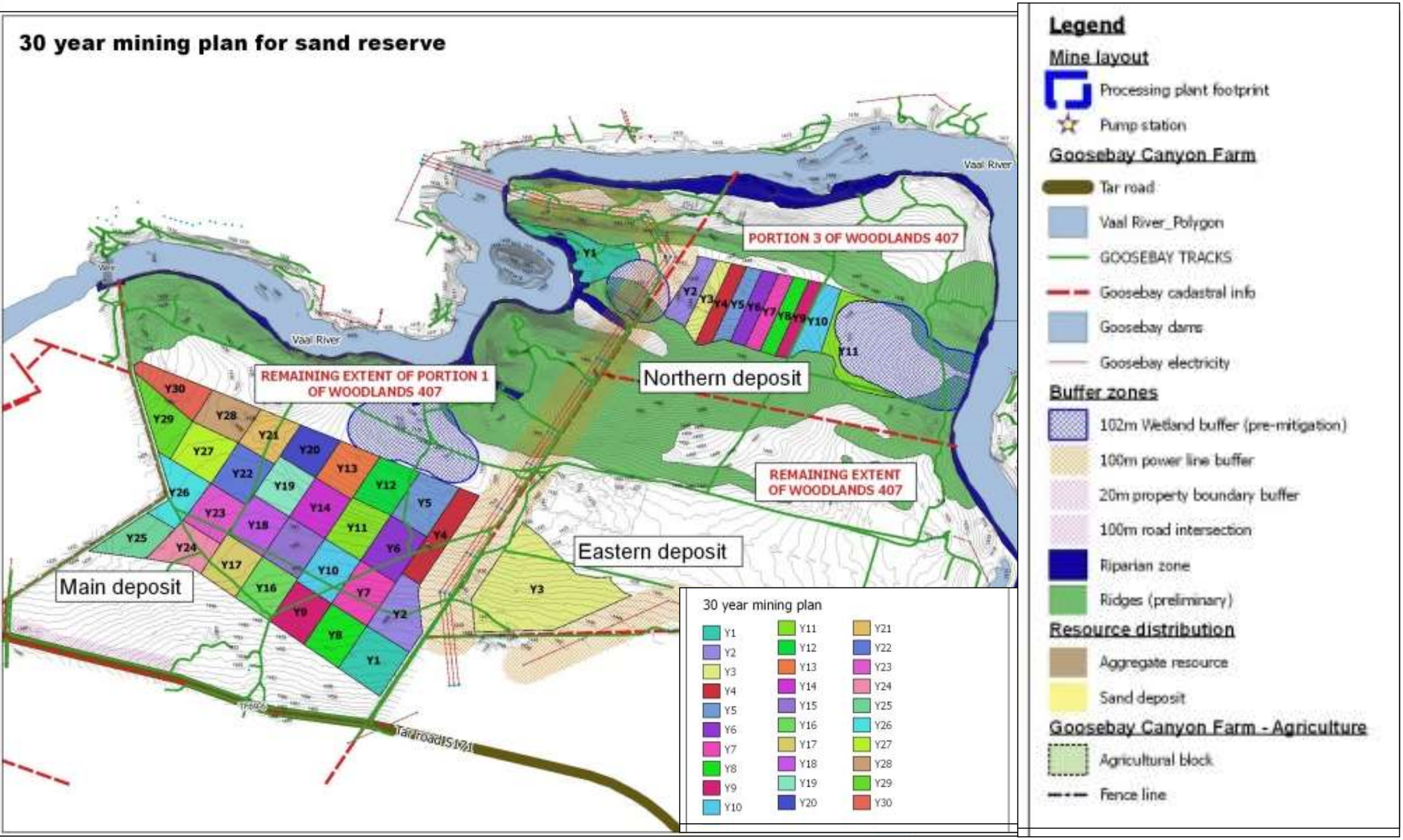
Mine Plan and Resource Distribution



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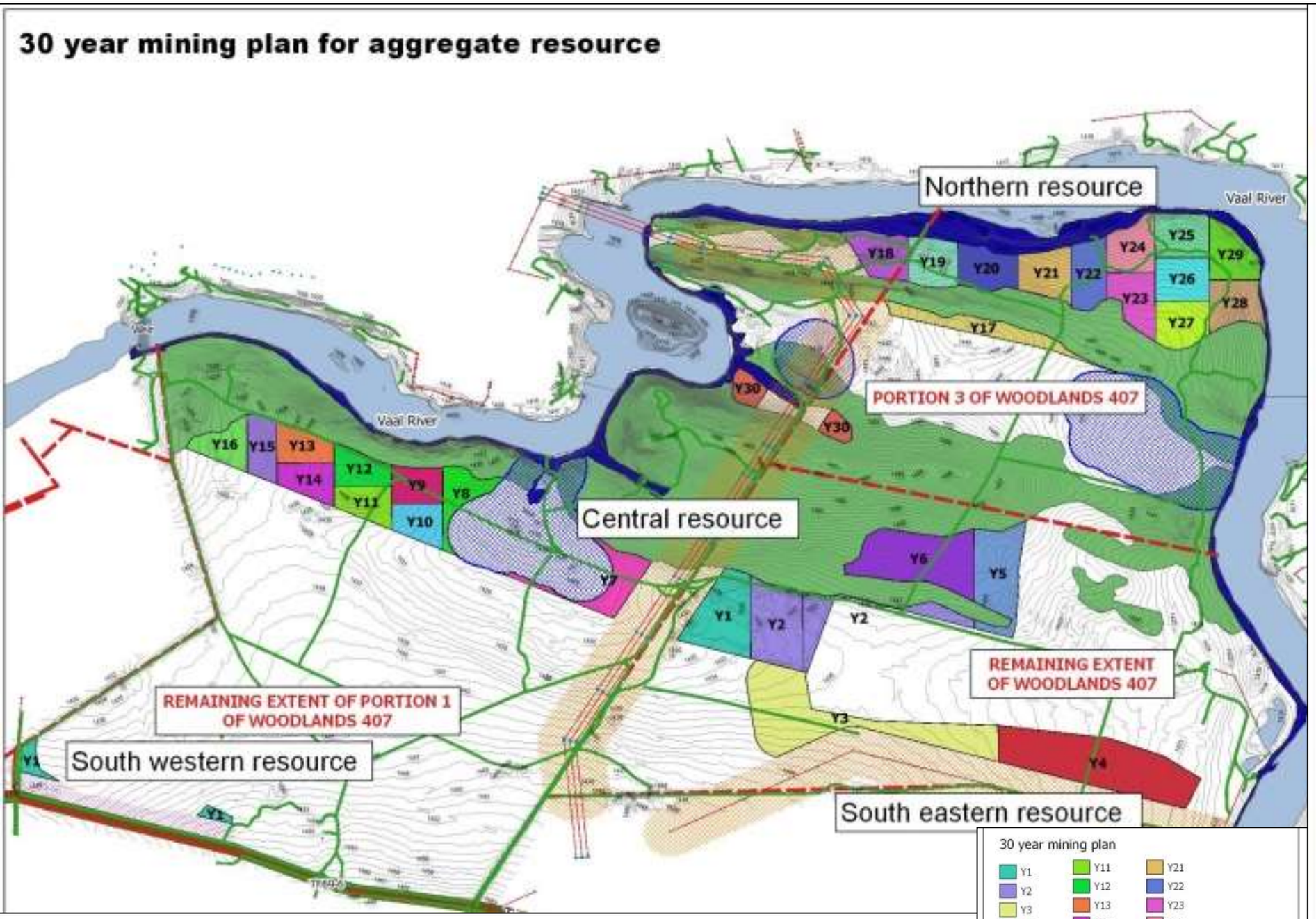

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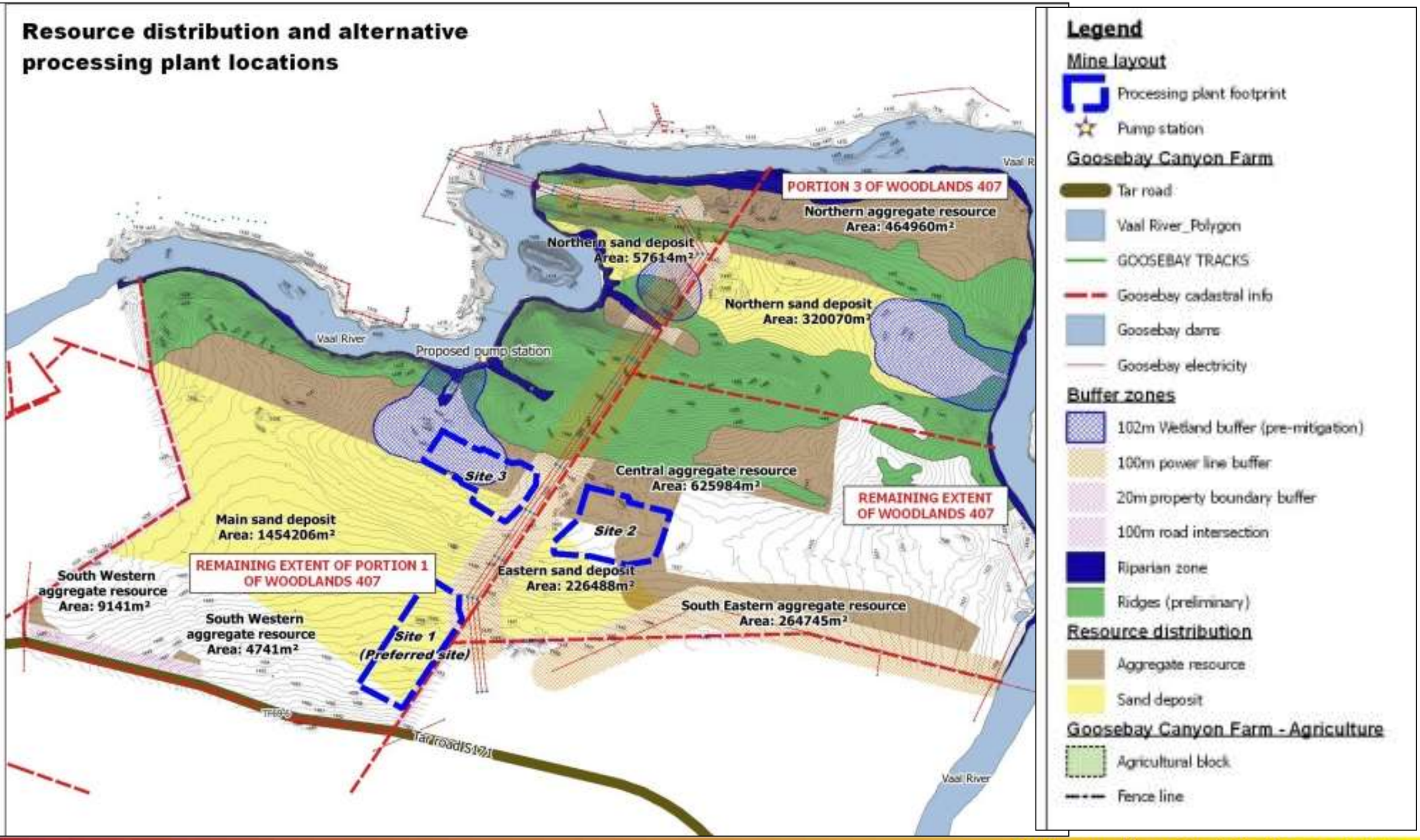

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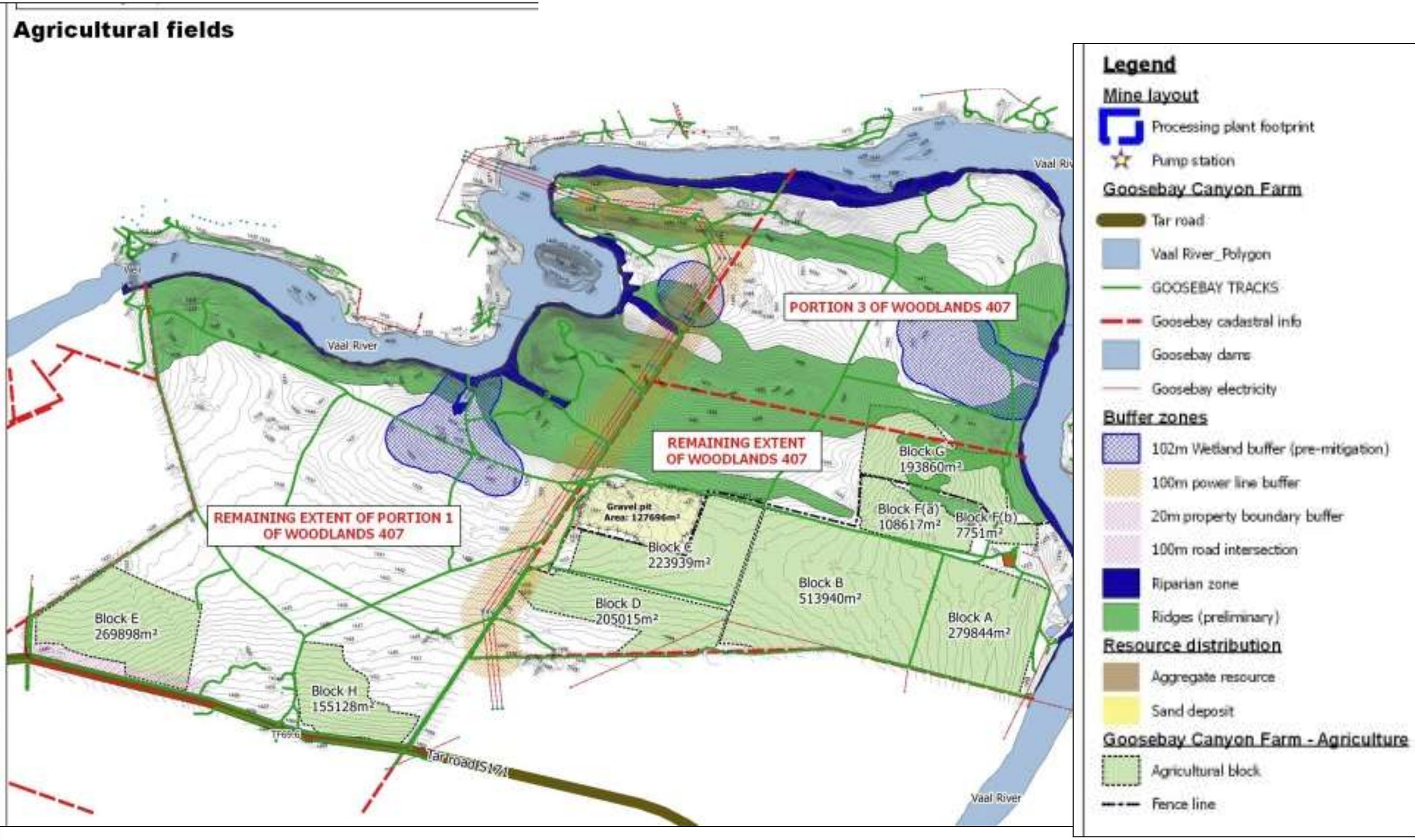


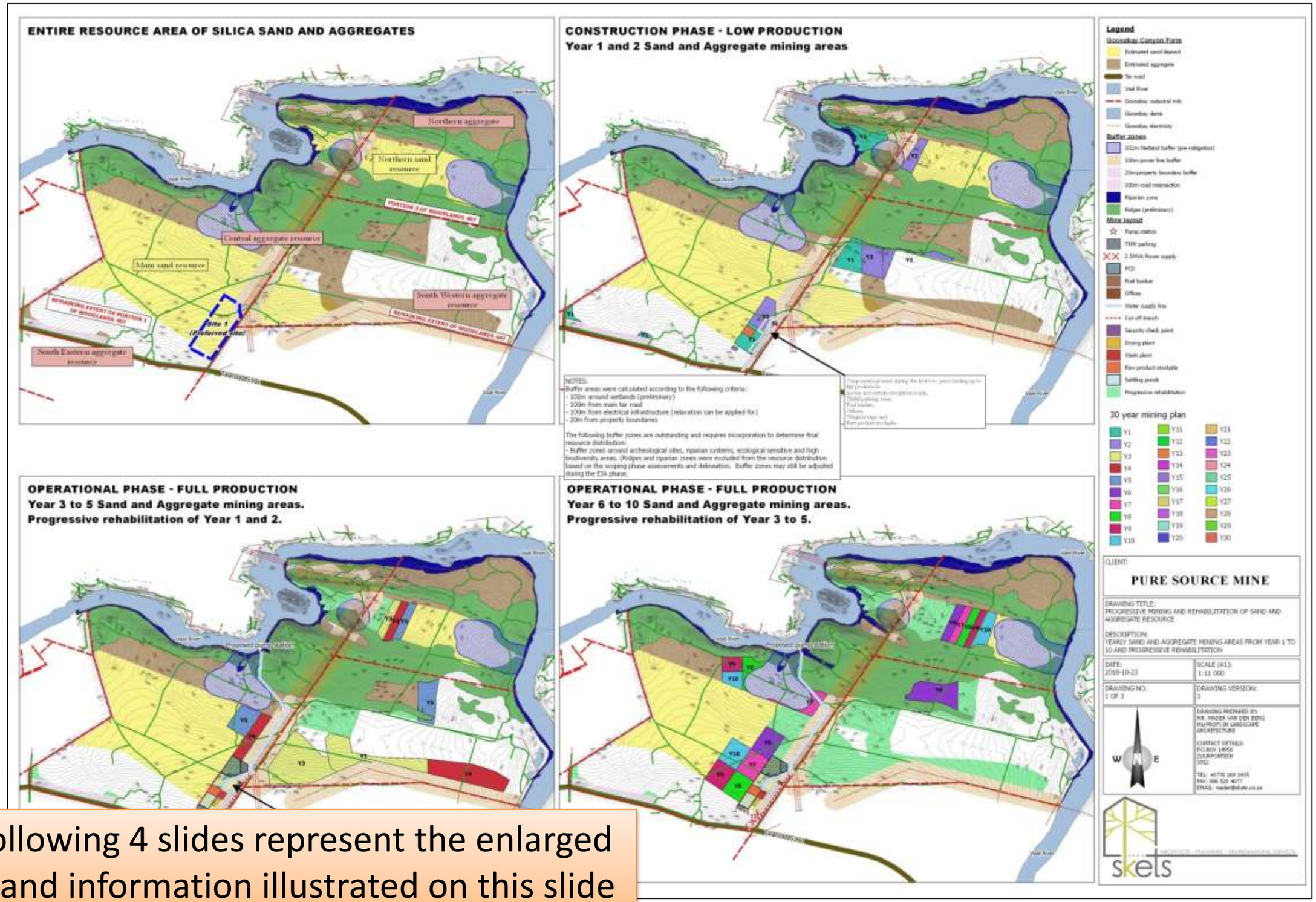
Mine Plan and Resource Distribution

NOTES:
Buffer areas were calculated according to the following criteria:
- 102m around wetlands (preliminary)
- 100m from main tar road
- 100m from electrical infrastructure (relaxation can be applied for)
- 20m from property boundaries

The following buffer zones are outstanding and requires incorporation to determine final resource distribution:
- Buffer zones around archeological sites, riparian systems, ecological sensitive and high biodiversity areas. (Ridges and riparian zones were excluded from the resource distribution based on the scoping phase assessments and delineation. Buffer zones are still to be determined during EIA phase.

BLOCK REF	CROP	AREA CULTIVATED	CENTROID	PERIMETER
			GOOSEBAY FARM	
Block A	Maize	279 844m²	-26,75345_27,62983	2 110m
Block B	Maize	513 940m²	-26,75173_27,62331	2 951m
Block C	Maize	223 939m²	-26,75078_27,61692	2 479m
Block D	Maize	124 657m²	-26,75287_27,61553	1 610m
Block E	Maize	244 681m²	-26,75328_27,59195	1 946m
Block F	Maize	116 368m²	-26,74858_27,62694	1 881m
Block G	Wheat	193 860m²	-26.74655_27.62820	2 053m
Block H	Maize	155 128m²	-26,75661_27,60109	1 783m
Lucerne field	Lucerne	19 327m²	-26.74933_27.63128	584m
TOTAL		**1 871 744m²**		

Mine Plan and Resource Distribution



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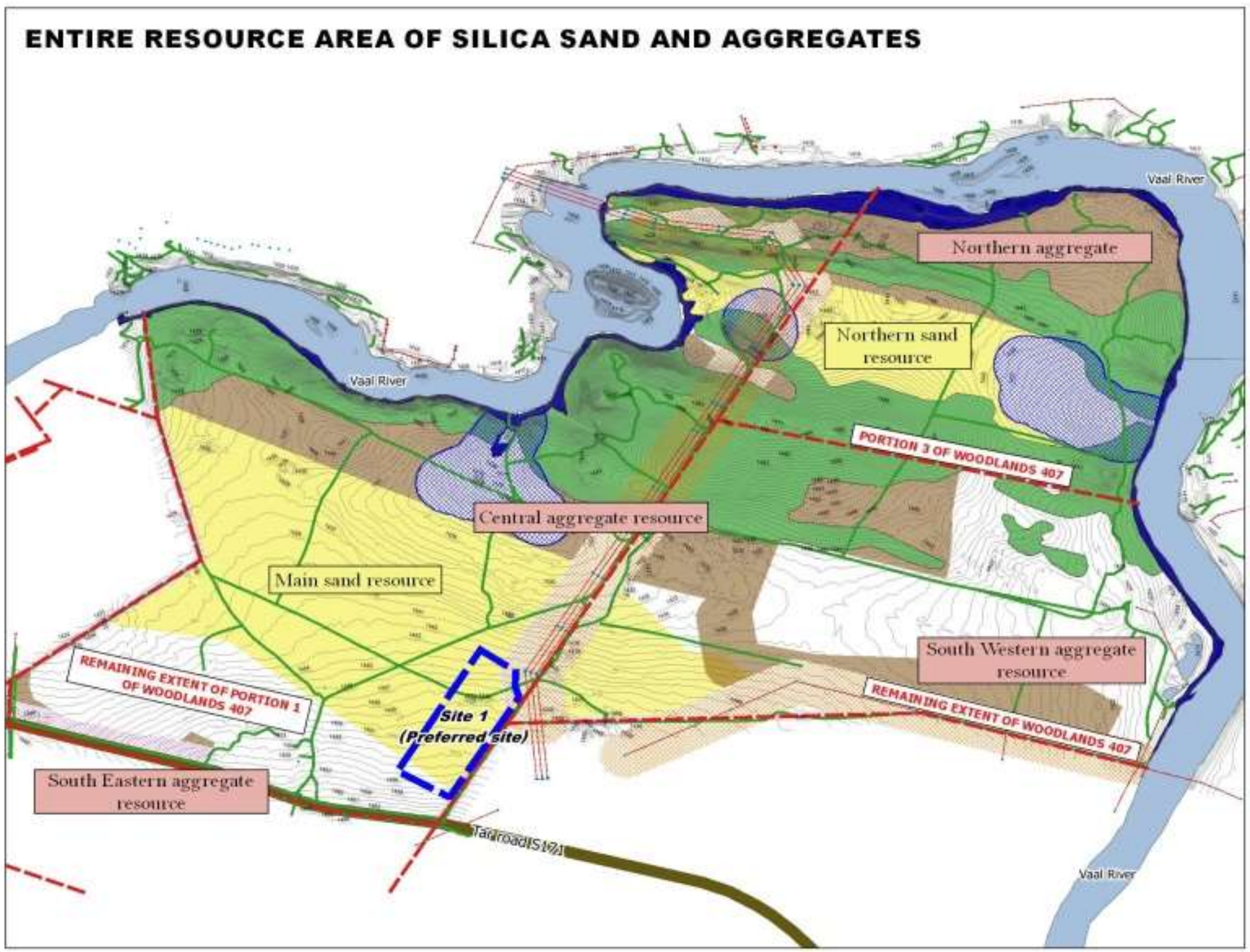


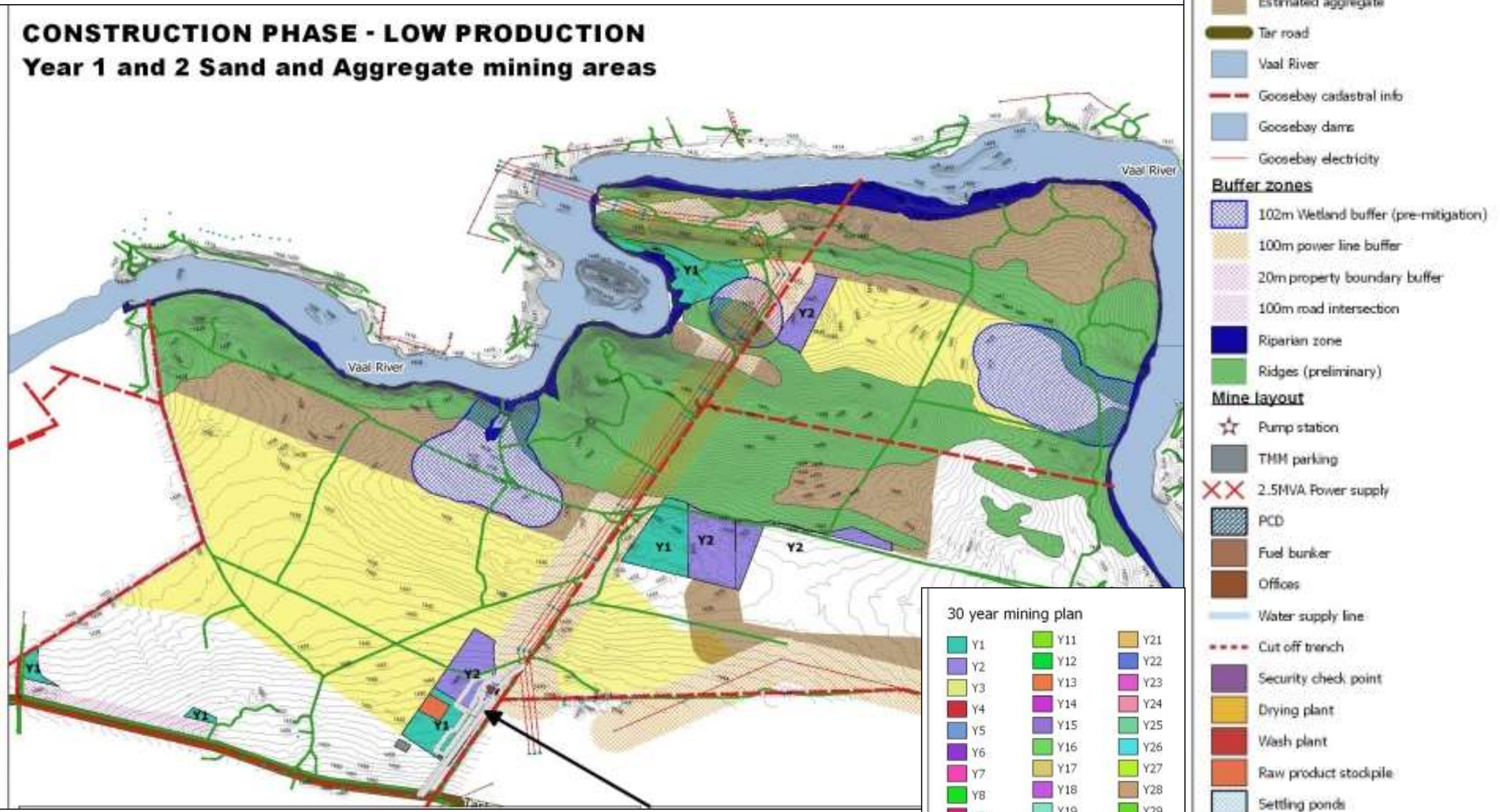
Legend

Goosebay Canyon Farm
- Estimated sand deposit
- Estimated aggregate
- Tar road
- Vaal River
- Goosebay cadastral info
- Goosebay dams
- Goosebay electricity

Buffer zones
- 102m Wetland buffer (pre-mitigation)
- 100m power line buffer
- 20m property boundary buffer
- 100m road intersection
- Riparian zone
- Ridges (preliminary)

Mine layout
- Pump station
- TMM parking
- 2.5MVA Power supply
- PCD
- Fuel bunker
- Offices
- Water supply line
- Cut off trench
- Security check point
- Drying plant
- Wash plant
- Raw product stockpile
- Settling ponds
- Progressive rehabilitation

Mine Plan and Resource Distribution



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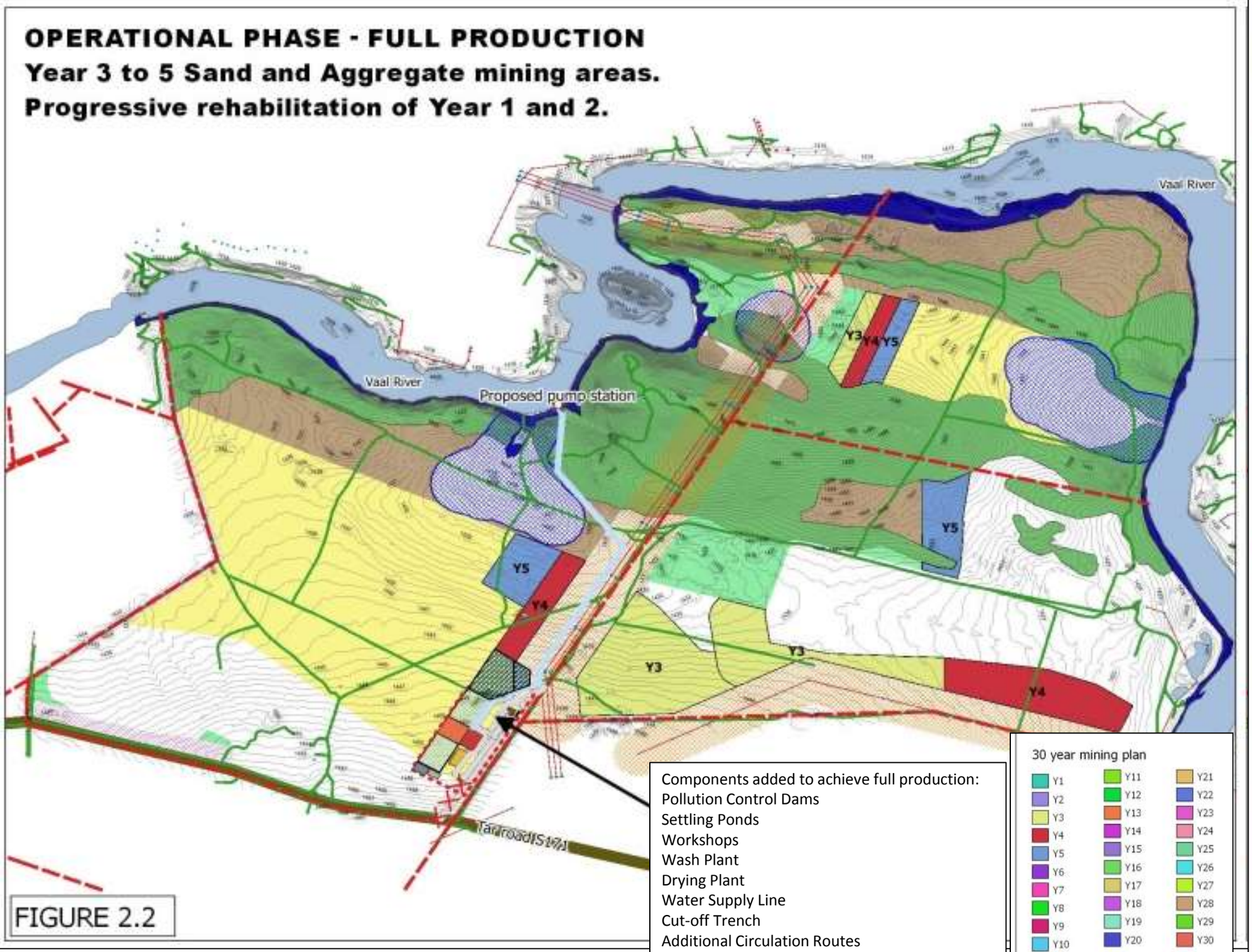
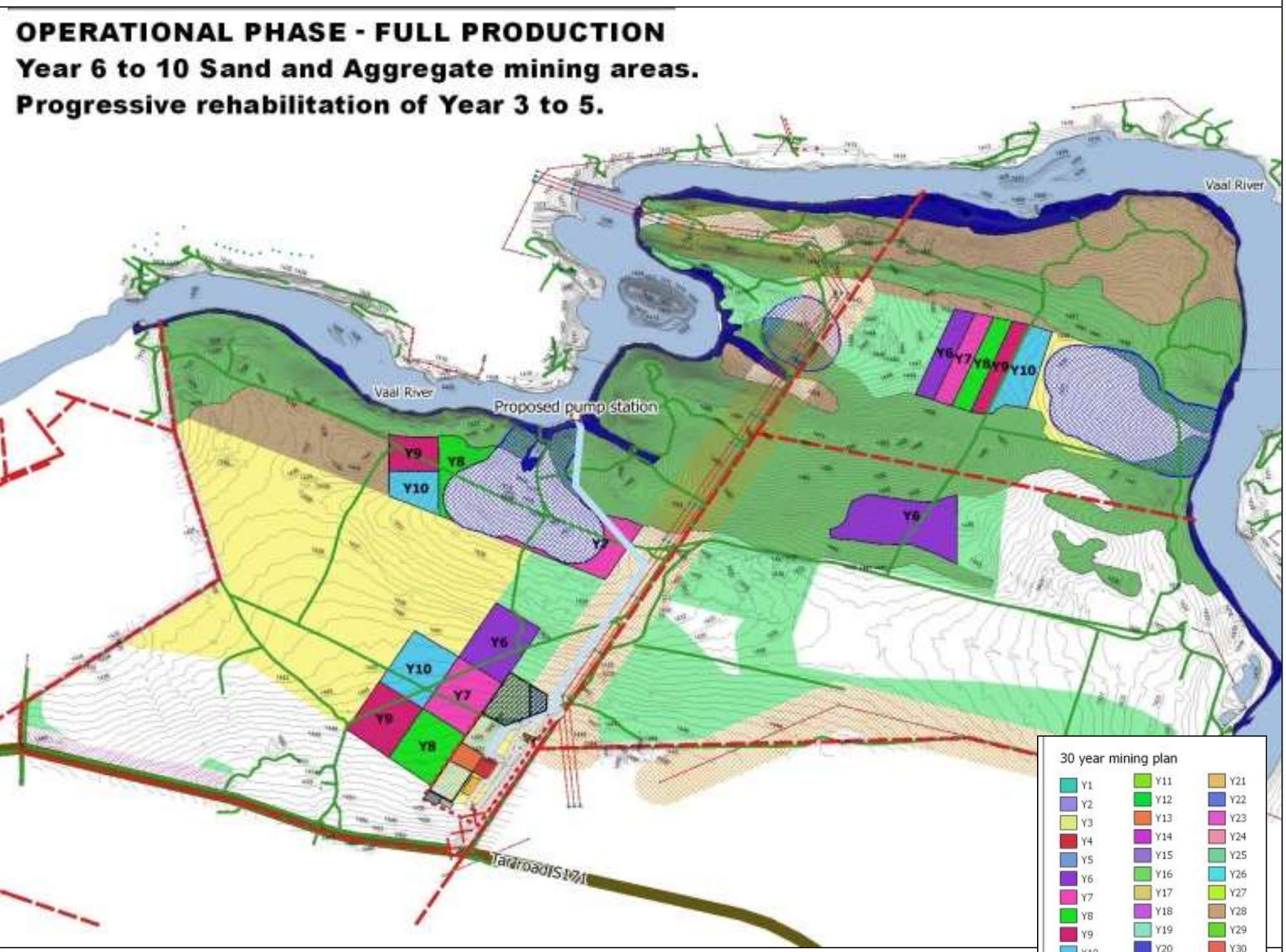


FIGURE 2.2

Mine Plan and Resource Distribution



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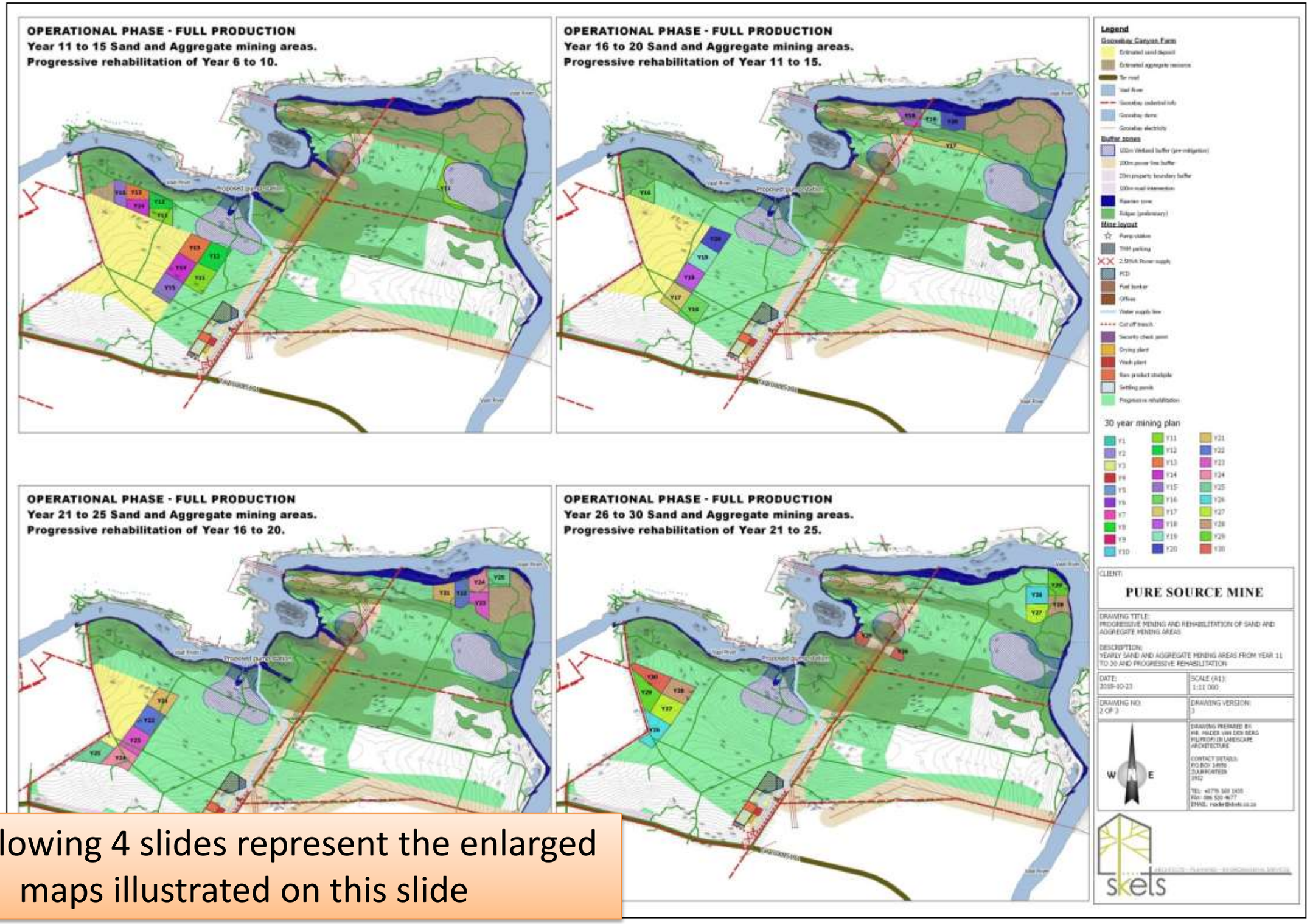

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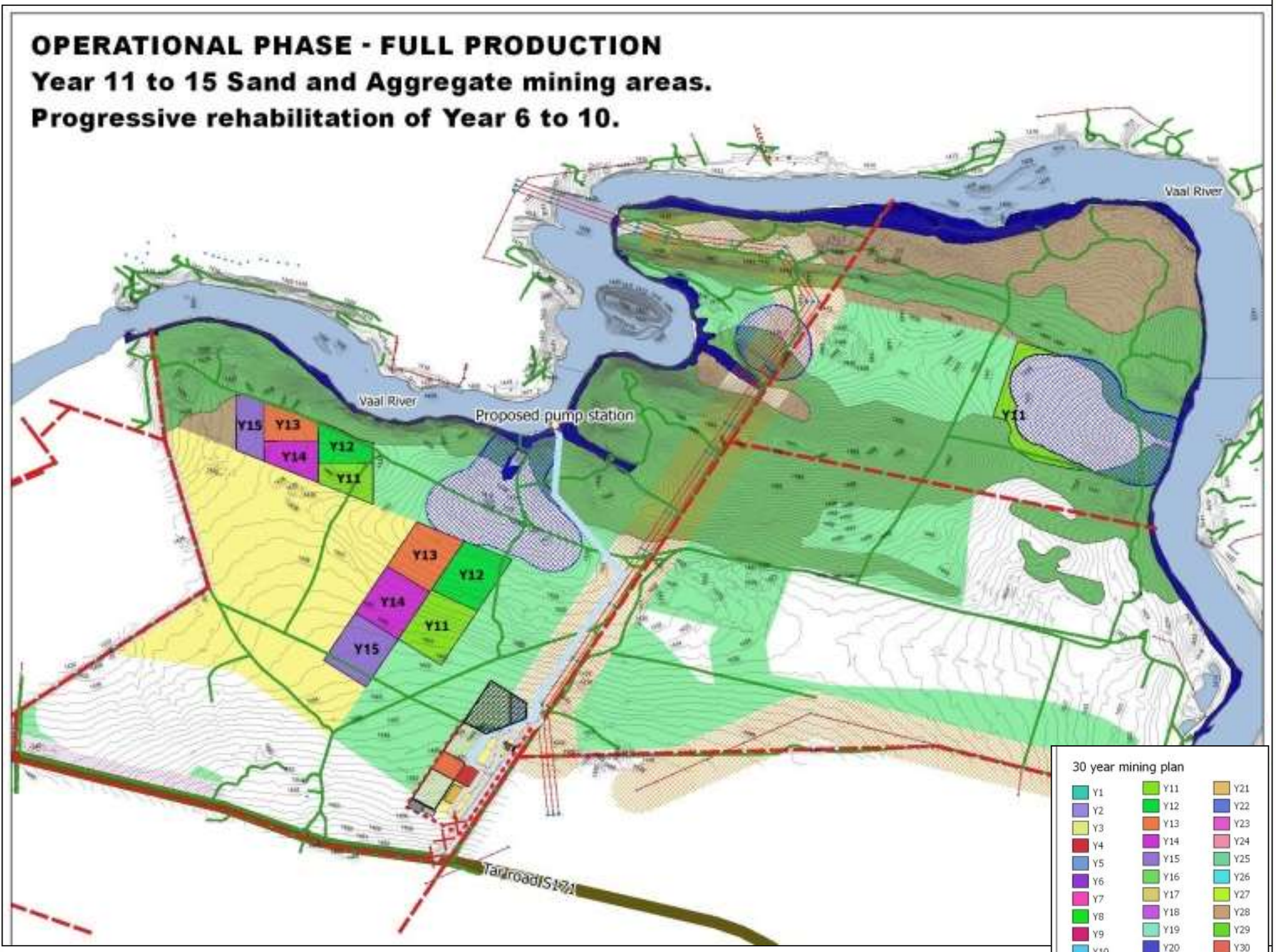

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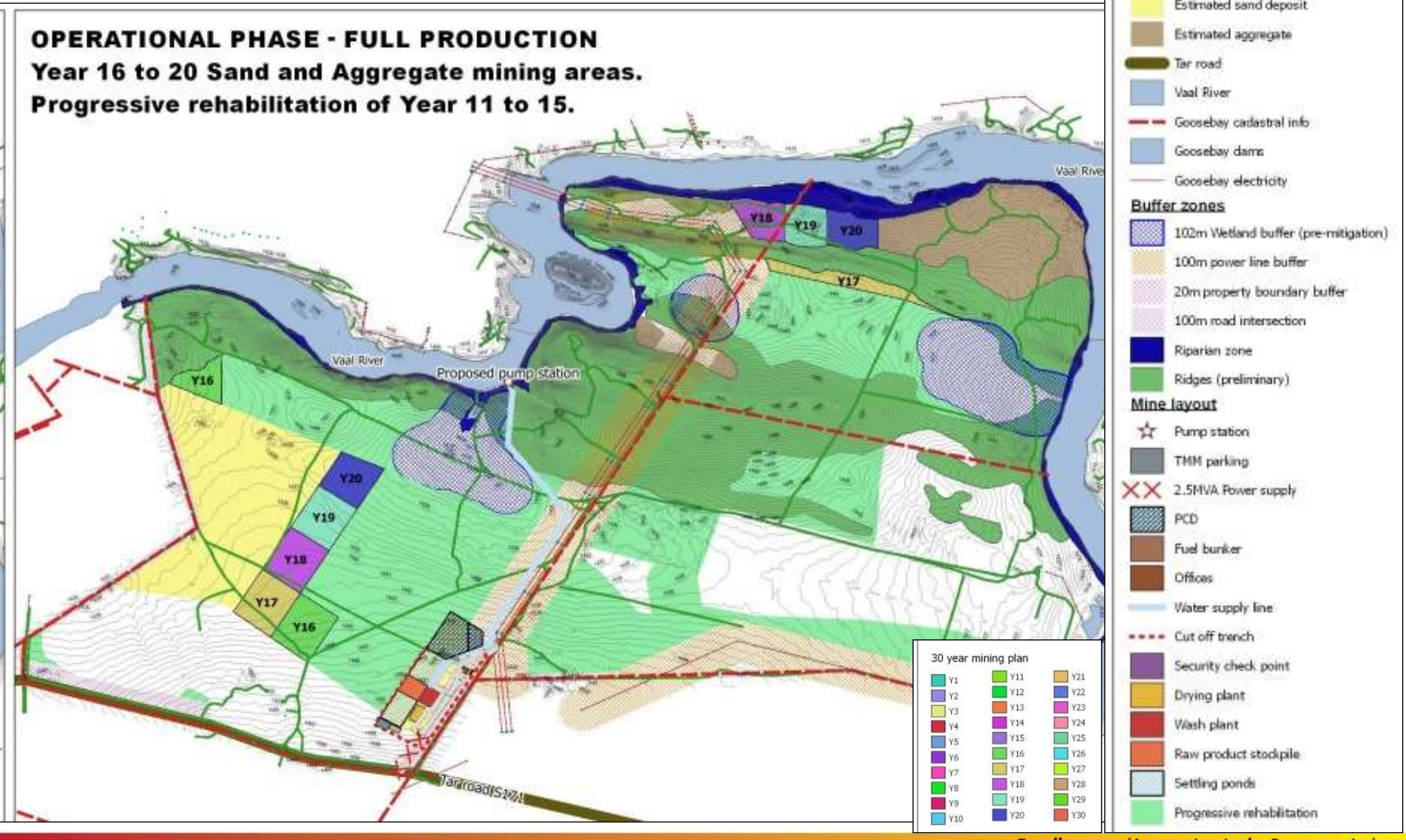
Mine Plan and Resource Distribution

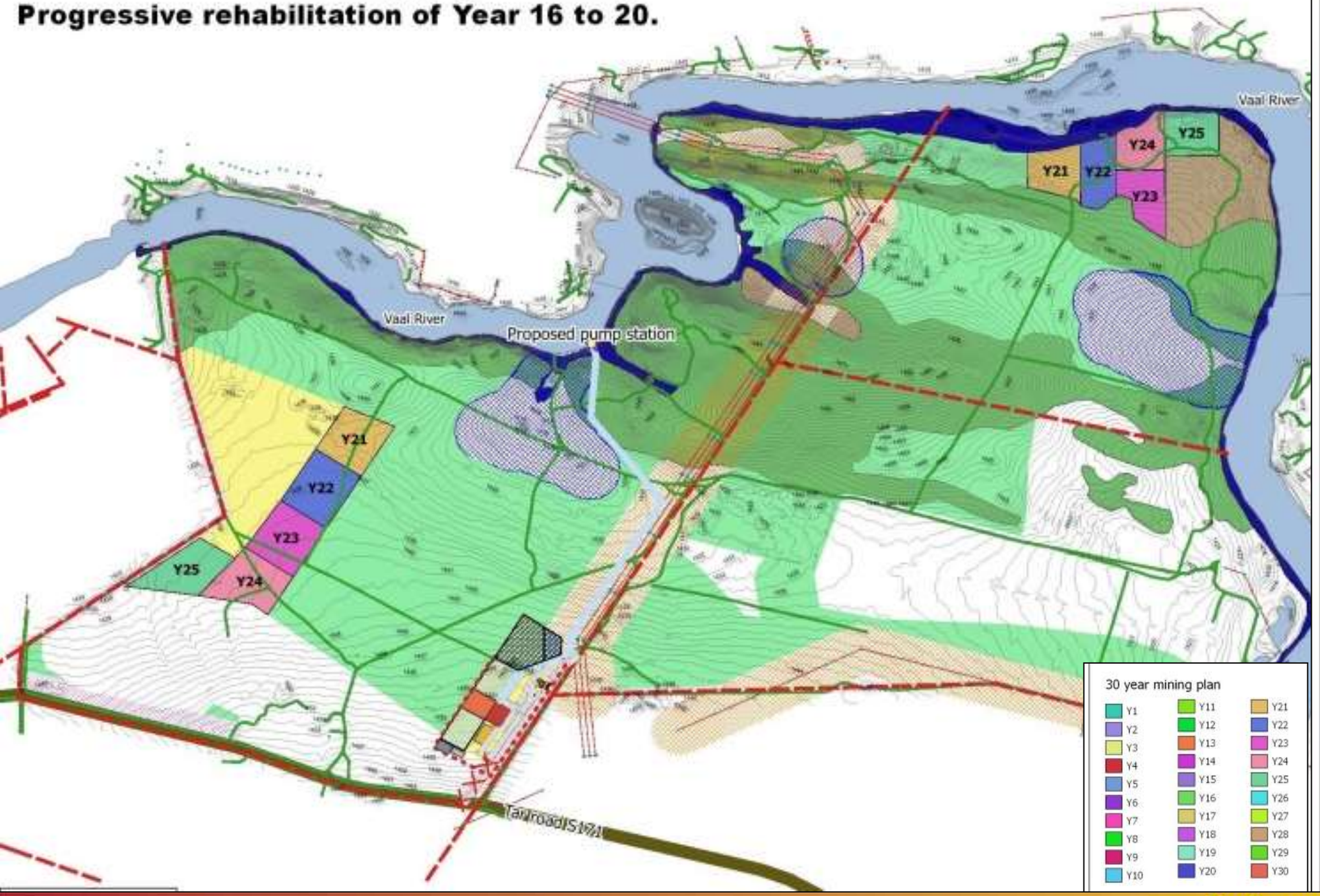


Mine Plan and Resource Distribution

OPERATIONAL PHASE - FULL PRODUCTION

Year 21 to 25 Sand and Aggregate mining areas.

Progressive rehabilitation of Year 16 to 20.



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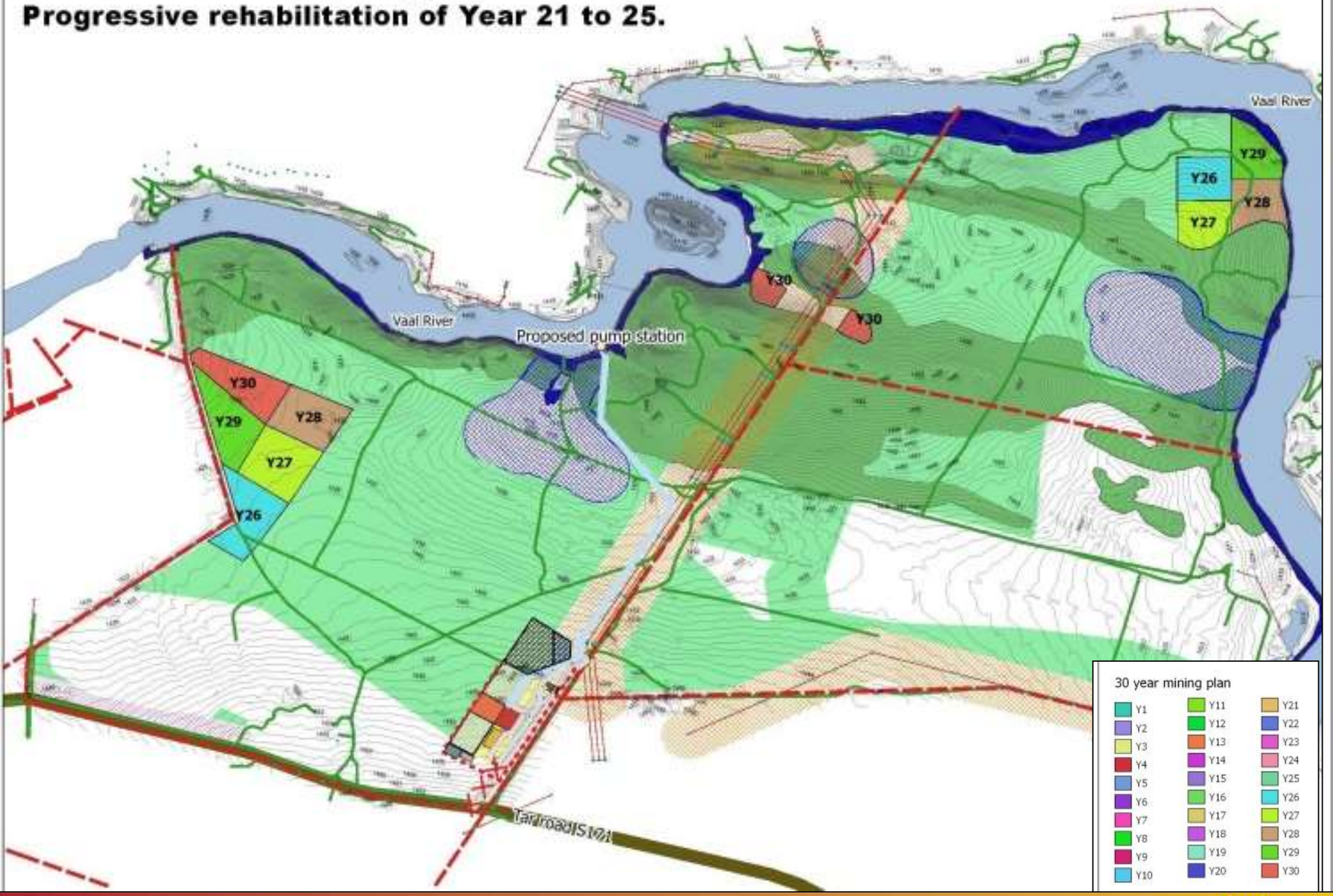
Mine Plan and Resource Distribution

OPERATIONAL PHASE - FULL PRODUCTION
Year 26 to 30 Sand and Aggregate mining areas.
Progressive rehabilitation of Year 21 to 25.



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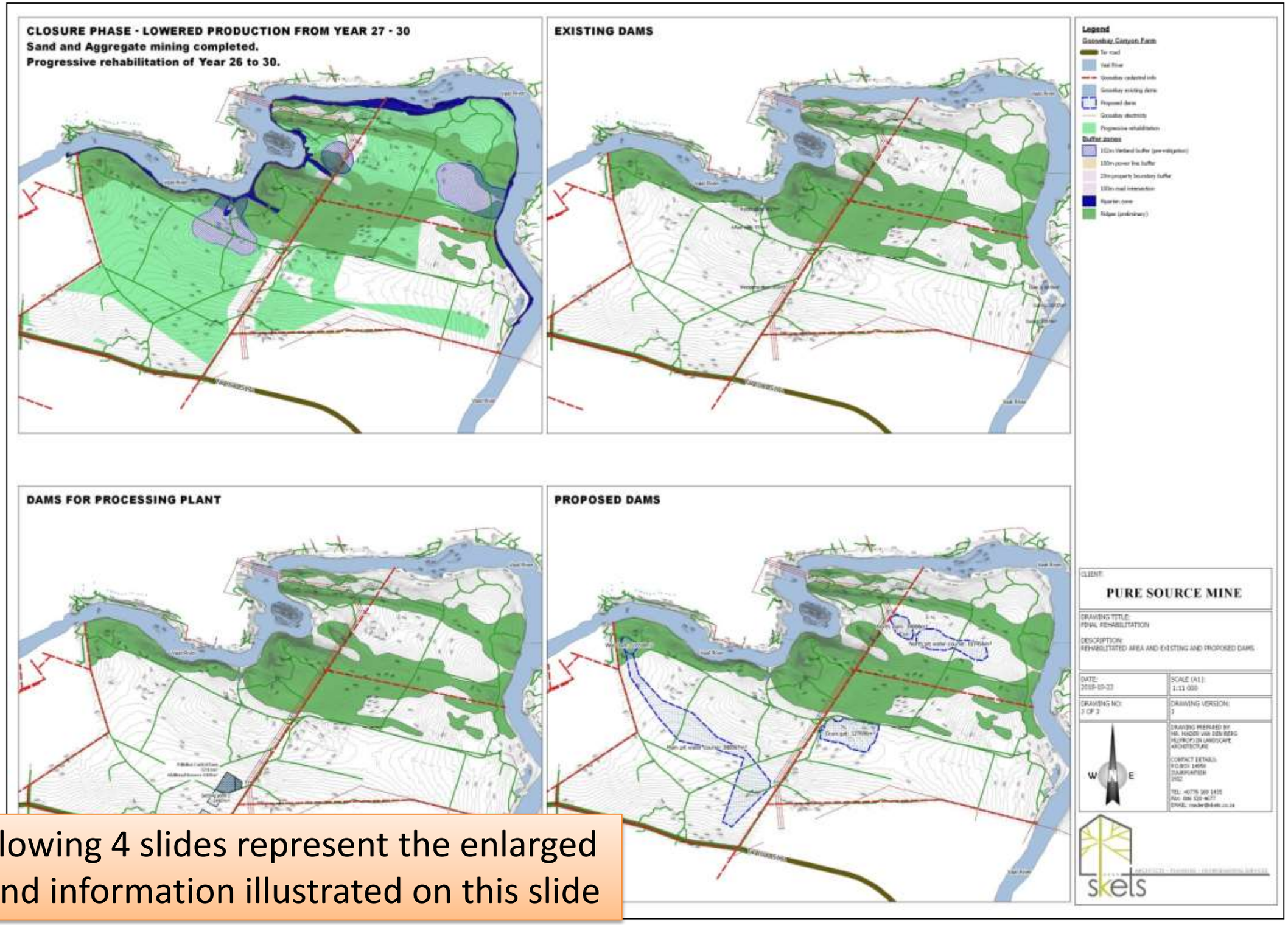
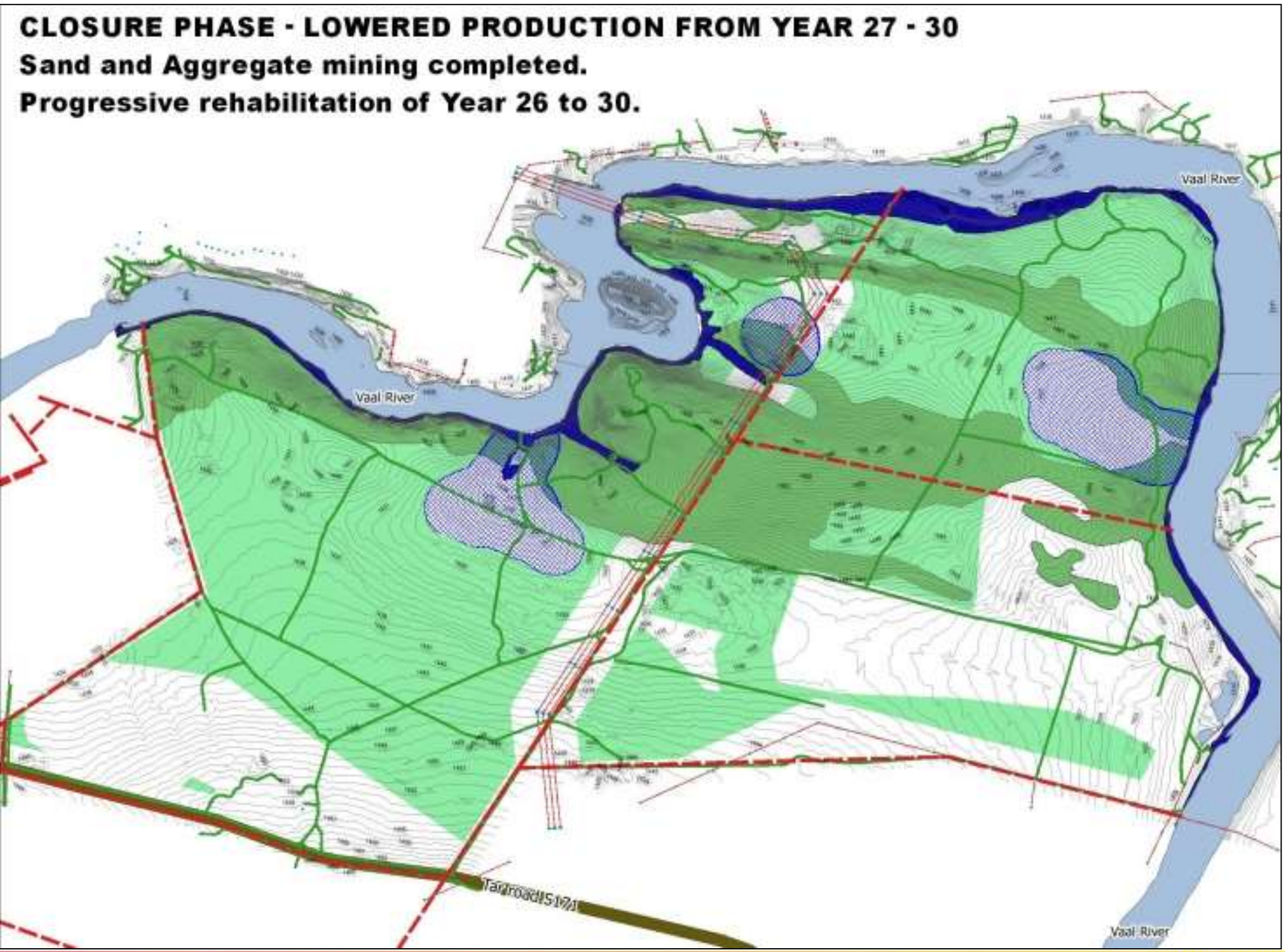
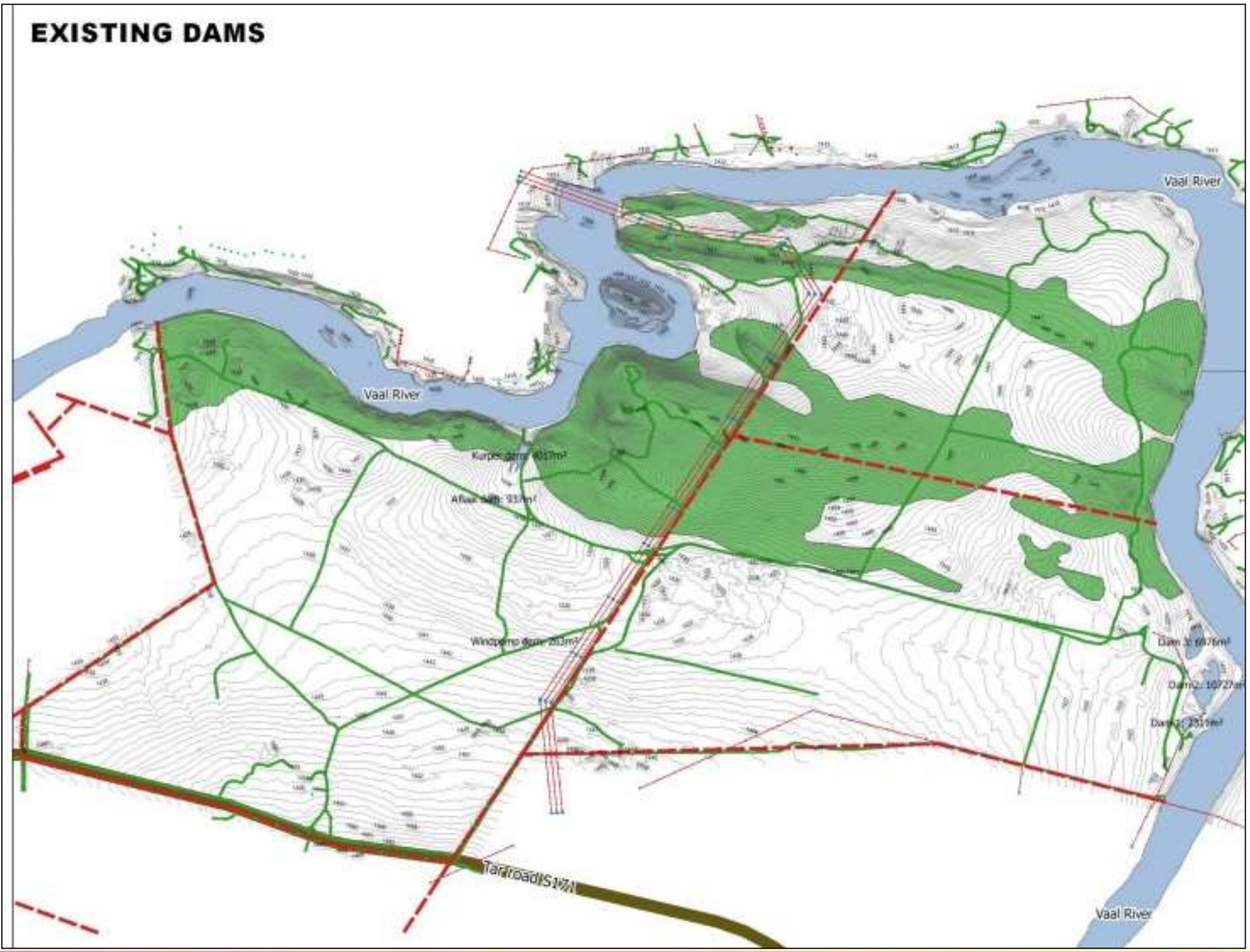


The following 4 slides represent the enlarged maps and information illustrated on this slide

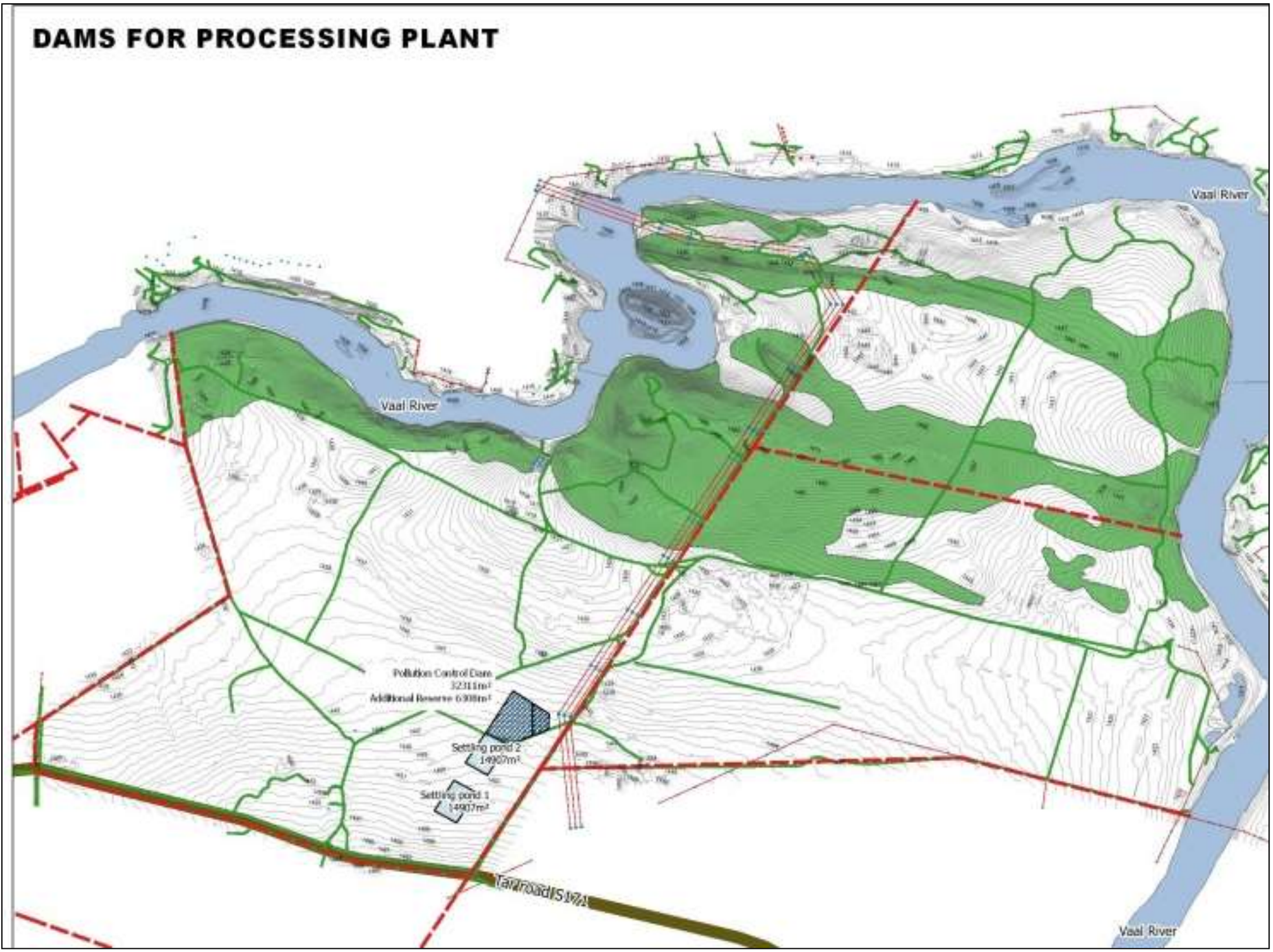
Mine Plan and Resource Distribution



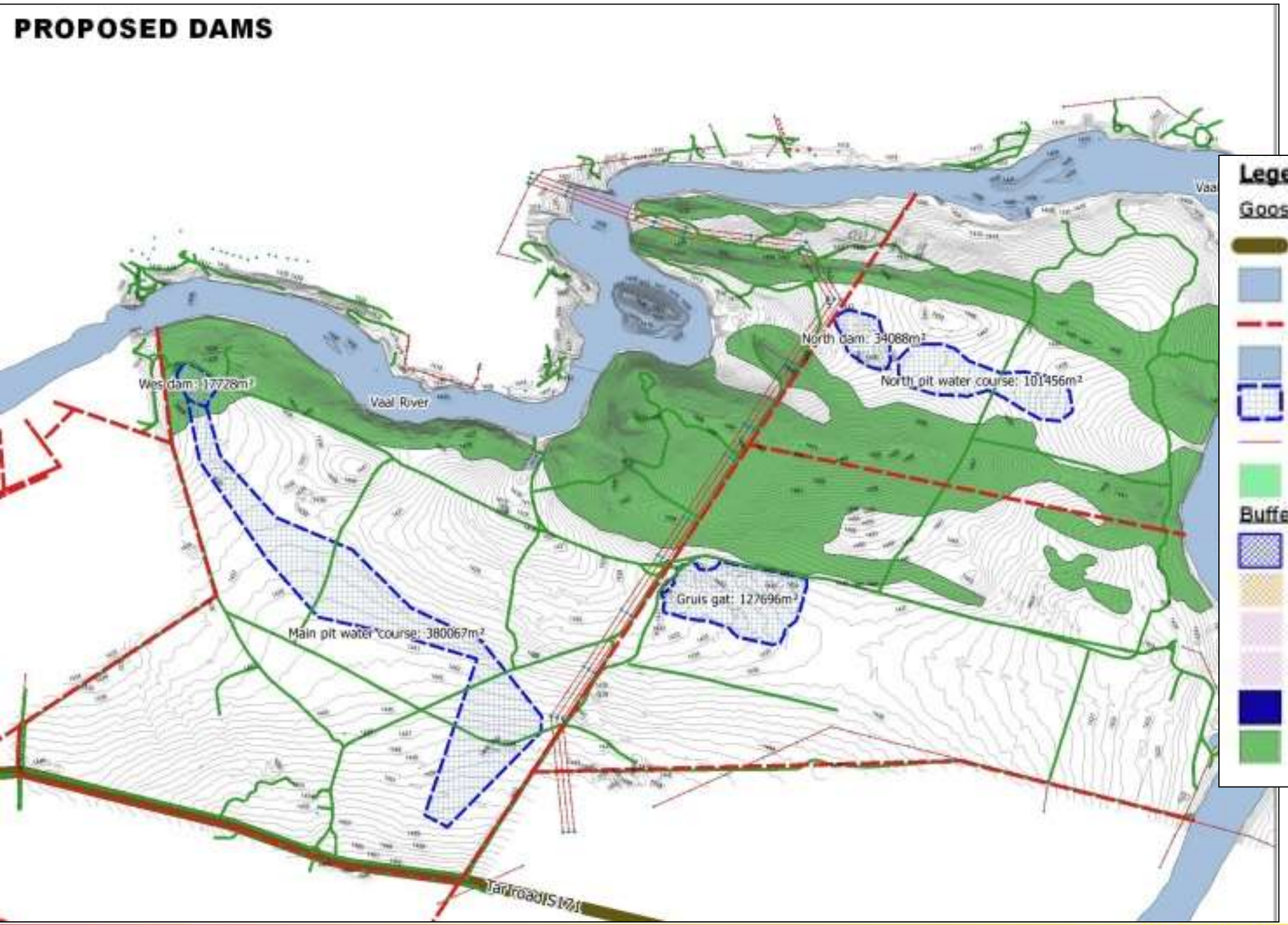
Mine Plan and Resource Distribution



Mine Plan and Resource Distribution



Mine Plan and Resource Distribution



Feedback on the Scoping Phase

Scoping Report

- Compilation of Scoping Report required input and contribution from several specialists.
- Specialist studies assisted in the following:
  - Determining the baseline information on the receiving environment.
  - Identifying environmental sensitivities.
  - Assessing impacts associated with project activities.
  - Recommendation of mitigation measures.
- Specialist studies were undertaken mainly at a desktop level. Based on these studies, no major fatal flaws were identified, provided that recommended mitigation measures are implemented.
- Slides provide a summary of the baseline receiving environment of the application area.
- Baseline information provides a point of reference for assessing impacts in the future.

Social Baseline Information

- The application area can be found in Ward 7 of the Ngwathe Local Municipality (NLM) which forms part of the Fezile Dabi District Municipality, in the Free State Province of South Africa.
- The main economic activities in the District are agriculture, manufacturing, mining and tourism.
- According to the NLM Integrated Development Plan (2018-19), mining activities in the region are restricted, but not limited, to the following:
  - Gravel obtained from open cast pits for construction or road building purposes.
  - Sand winning along the Vaal River (Parys vicinity).
  - Alluvial diamonds in isolated locations of the Vaal River riparian.

Impacts

- **Positive:** Employment and skills development opportunities, business opportunities and economic multiplier effects.
- **Negative:** Influx of jobseekers, safety and security risks, nuisance impacts (noise and dust) an impact on sense of place, impact of heavy vehicles, including damage to roads and dust and potential job losses.

Proposed mitigation measures

- Maximise positive impacts through optimisation of economic growth opportunities.
- Develop and implement procedures for recruiting, training and procurement that align with good industry practise.
- Employ local people and procure goods and services locally as far as practically possible.
- Minimise impacts of job loss through compensation, skills development and livelihood restoration.
- Avoid through implementation of preventative measures (e.g. consultation and communication).
- Avoidance and control through preventative measures (e.g. site security, code of conduct) and through mitigation measures (e.g. recruitment procedure, grievance mechanism and code of conduct).

Visual Baseline Information

- Within a 5 km radius of the application area, the region can be broadly divided into three categories:
  - Agricultural areas: crop and livestock agriculture are the dominant land use in the area.
  - Residential areas: housing developments occur mostly along the Vaal River.
  - Sand mining activities.
- The following visual receptors have been identified within a 5 km radius of the application area:
  - Residential areas, particularly those located along the Vaal River.
  - Farm houses.
  - Main roads within the area, particularly the N1 highway.

Impacts

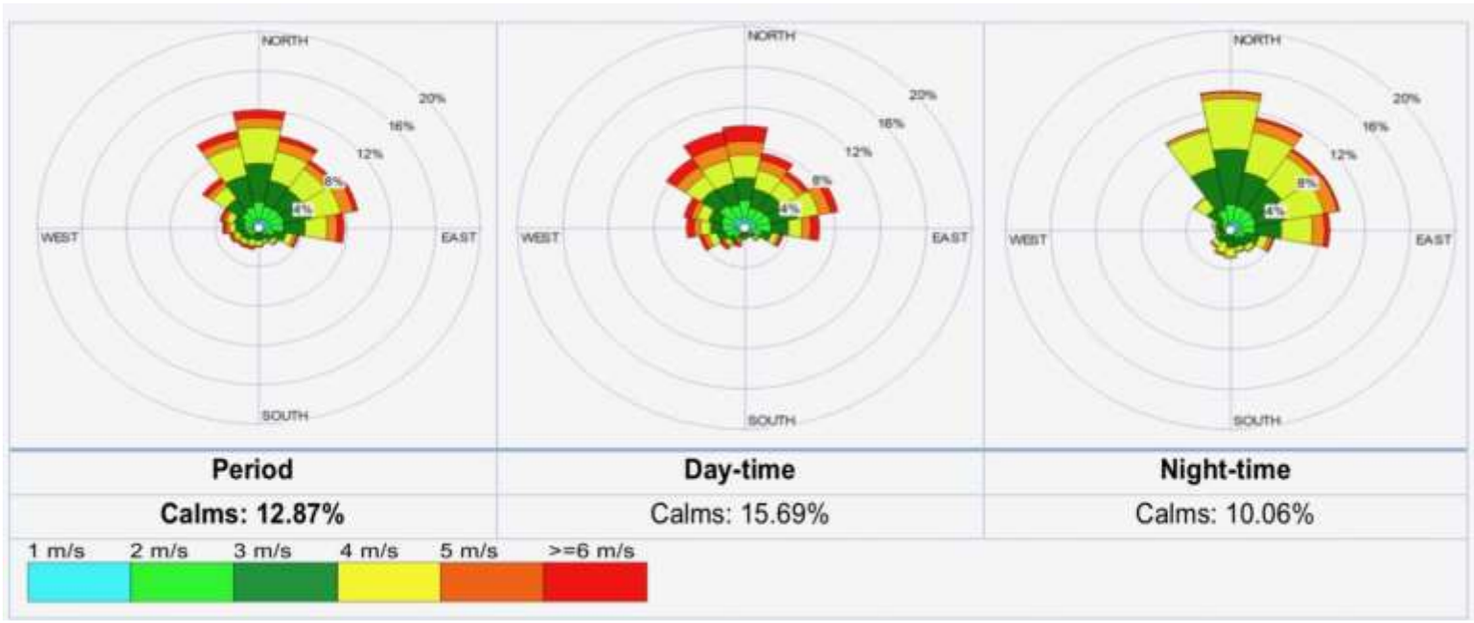
- The removal of vegetation will expose the Project to sensitive visual receptors, particularly those located on elevated areas surrounding the Project. This will result in an altered sense of place.
- Dust generated is likely to create a visual disturbance.

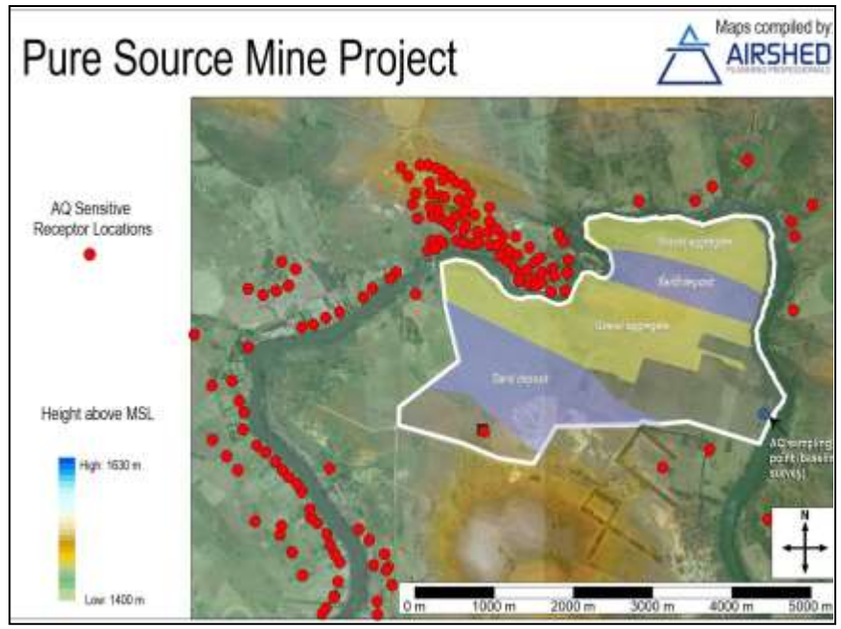
Proposed mitigation measures

- Clearance of vegetation must be limited as far as possible to only necessary areas.
- Tall dense vegetation that can conceal the Project from sensitive visual receptors, should as far as possible be left in place.
- Dust suppression measures should be implemented to limit the generation of dust.
- If at all possible, the mined out areas should be rehabilitated to a pre-mining topography.
- Mined out areas should be vegetated with indigenous species as soon as possible. This will to a degree, mitigate the visual intrusion of these areas on surround visual receptors.

Air Quality Baseline Information

- The identification of existing sources of emission in the region and the characterisation of existing ambient pollutant concentrations is fundamental to the assessment of the potential for cumulative impacts given the proposed operation and its associated emissions. Source types present in the area and the pollutants associated with such source types are noted with the aim of identifying pollutants, which may be of importance in terms of cumulative impact potentials.
- Existing sources of emission in the area include the following:
  - Mining activities.
  - Vehicle tailpipe emissions.
  - Domestic fuel combustion.
  - Biomass burning (veld fires).
  - Various miscellaneous fugitive dust sources (agricultural activities, wind erosion of open areas, vehicle-entrainment of dust along paved and unpaved roads).
- Prevailing wind is from Vaal Oewer towards the mining area. On average, air quality impacts are expected to be slightly more notable to the south of the project activities.





Air Quality Baseline Information

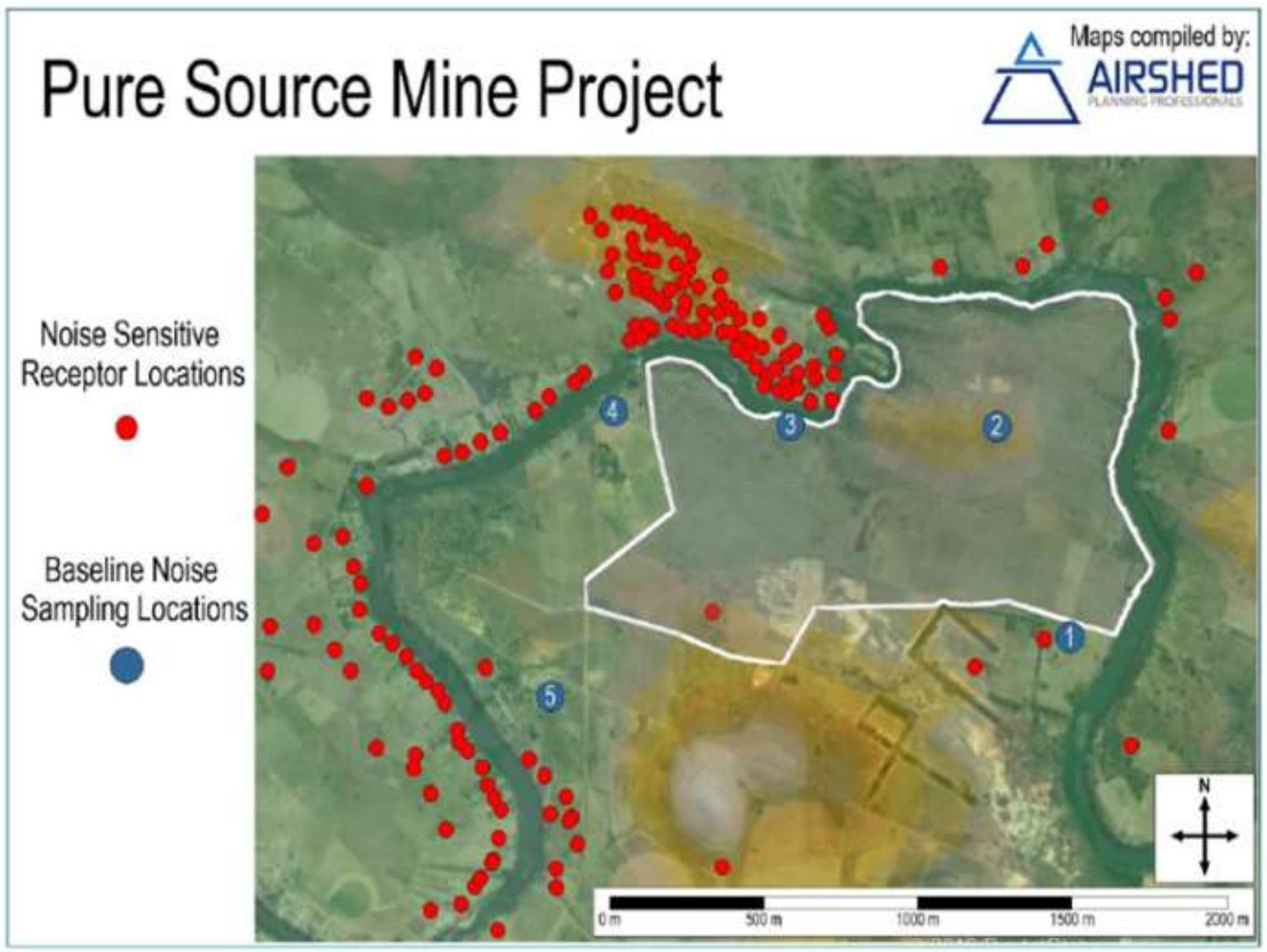
- The impact (in terms of air quality) from mines is usually up to a distance of 5 km from the emitting source. However, without substantial control measures being implemented the impact from mines can reach further depending on the terrain, wind speeds and properties of the material mined.
- The impact area also depends largely on what sources of emissions are present at the mine site and the throughput of material. For example, if material is transported via haul roads there will be greater emissions than if it were conveyed.

Proposed mitigation measures

- A water car must be maintained and kept in good working order at all times. It is important for the water car to maintain a schedule for rounds to keep the roads damp and so assist in dust suppression.
- Provide speed-reduction structures positioned in the dirt access road to ensure maximum effectiveness at slowing down vehicles utilising dirt roads.
- Maintain sprinkler system alongside dirt roads.
- Operators of mobile machinery and truck drivers should be reminded not to speed, to limit dust generation.

Noise Baseline Information

- Noise Receptors (NRs) generally include private residences, community buildings such as schools, hospitals and any publicly accessible areas outside an industrial facility's property. NRs for the project include a 2 km radius of the proposed operations include several residences on the both banks of the Vaal River to the west and east of the proposed operations, as well as the residential area of Vaal Oewer to the north of the operations.
- The extent of noise impacts as a result of an intruding noise depends largely on existing noise levels in an area and onsite meteorology. Simulated MM5 weather data set was utilised for an on-site location. Data for the 2015 to 2017 period was considered.



Noise Baseline Information

- Recorded LReq,d at all sampling locations during the daytime survey are similar to those given in SANS 10103 as typical for rural districts (45 dBA).
- Recorded night-time LReq,n =sampling locations 1, 4 and 5 are typical for rural districts at (35 dBA) as described by SANS 10103.
- Recorded night time LReq,n at sampling location 2 and 3 are however more akin to those typical for urban districts (45 dBA) as described by SANS 10103.

Proposed mitigation measures

- Maintain vehicles and equipment in good working order.
- Provide noise berms where possible between activities and receptors.
- Conduct noise monitoring in response to noise complaints.
- Operators of mobile machinery and truck drivers should be reminded not to speed, to limit noise generation.

Biodiversity Baseline Information

Terrestrial Biodiversity

- The project area is situated within the grassland biome, specifically in the Soweto Highveld Grassland (Gs4) vegetation type.
- Scattered small wetlands, narrow stream alluvia, pans and occasional ridges or rocky outcrops interrupt the continuous grassland cover.

Plant Species of Conservation Concern

Based on the Plants of Southern Africa (BODATSA-POSA, 2016) database, 445 plant species are expected to occur in the project area. Of these, one (1) species (*Miraglossum laeve)* is listed as being a Species of Conservation Concern (SCC).

Avifauna

- Based on the South African Bird Atlas Project, Version 2 (SABAP2) database, 317 bird species are expected to occur in the vicinity of the project area. Of these, twenty-four (24) species are listed as SCC either on a regional scale or international scale . The SCC include the following:
  - Four (4) species that are listed as Endangered (EN) on a regional basis:
    - (*Balearica regulorum, Circus ranivorus, Mycteria ibis, Phalacrocorax capensis*).
  - Six (6) species that are listed as Vulnerable (VU) on a regional basis:
    - (*Aquila verreauxii, Eupodotis senegalensis, Falco biarmicus, Sagittarius serpentarius, Sterna caspia, Tyto capensis*).
  - Twelve (12) species that are listed as Near Threatened (NT) on a regional basis:
    - (*Alcedo semitorquata, Anthropoides paradiseus, Certhilauda brevirostris, Ciconia abdimii, Circus macrourus, Coracias garrulus, Falco vespertinus, Glareola nordmanni, Oxyura maccoa, Phoeniconaias minor, Phoenicopterus ruber and Rostratula benghalensis*).

Biodiversity Baseline Information

Mammals

- The IUCN Red List Spatial Data (IUCN, 2017) lists 78 mammal species of conservation concern (SCC) that could be expected to occur within the vicinity of the project area. Of these, 10 are medium to large conservation dependant species, such as *Ceratotherium simum* (Southern White Rhinoceros) and *Equus quagga* (Plains Zebra) that, in South Africa, are generally restricted to protected areas such as game reserves. These species are not expected to occur in the project area and are removed from the expected SCC list.
- Of the remaining 67 small to medium sized mammal species, eleven (11) are listed as being of conservation concern on a regional or global basis. The list of potential species includes:
  - Five (5) that are listed as Vulnerable (VU) on a regional basis
    - (*Crocidura maquassiensis, Felis nigripes, Hydrictis maculicollis, Mystromys albicaudatus, Panthera pardus*).
  - Six (6) that are listed as Near Threatened (NT) on a regional scale.
    - (*Aonyx capensis, Atelerix frontalis, Crocidura mariquensis, Leptailurus serval, Parahyaena brunnea, Poecilogale albinucha*).

Birds of important species

- Important Bird Areas (IBAs) are the sites of international significance for the conservation of the world's birds and other conservation significant species as identified by BirdLife International. These sites are also all Key Biodiversity Areas; sites that contribute significantly to the global persistence of biodiversity (Birdlife, 2017).
- No IBAs occur within the proximity of the application area. The nearest IBA to the project area is the Suikerbosrand Nature Reserve which is situated approximately 64 km north-east of the project area.

Reptiles

- Based on the IUCN Red List Spatial Data (IUCN, 2017) and the ReptileMap database provided by the Animal Demography Unit (ADU, 2017) 20 reptile species are expected to occur in the project area. No reptile species of conservation concern are expected to be present in the application area.

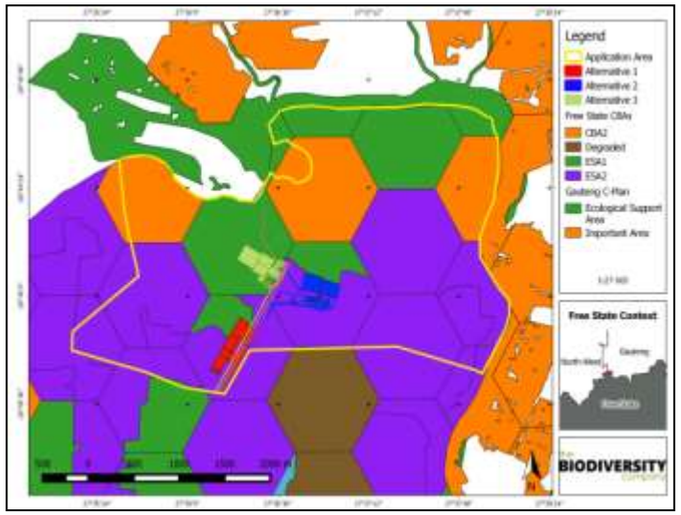
Biodiversity Baseline Information

Amphibians

- Based on the IUCN Red List Spatial Data (IUCN, 2017) and the AmphibianMap database provided by the Animal Demography Unit (ADU, 2017) twenty (20) amphibian species are expected to occur in the application area. One (1) amphibian species of conservation concern (*Pyxicephalus adspersus*) could be present in the application area according to the above-mentioned sources.

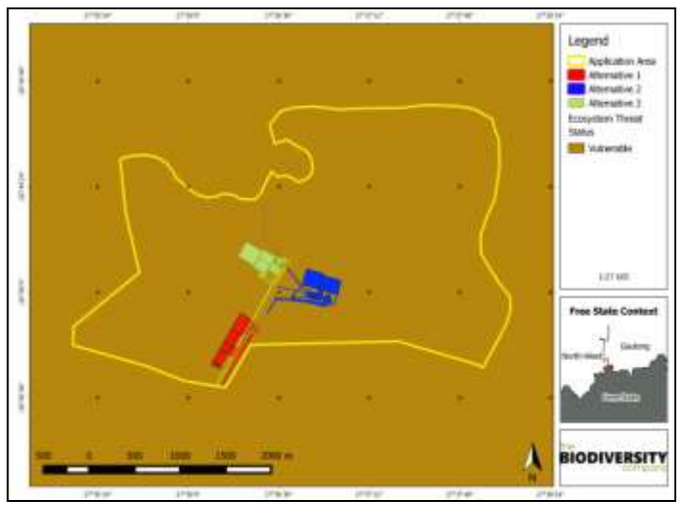
Free State Terrestrial CBA Plan

- According to the Free State Terrestrial CBA Plan, the project area is comprised of three identified areas: Critical Biodiversity Area 2 (CBA2), Ecological Support Area 1 (ESA1) and Ecological Support Area 2 (ESA2). All of these areas will have a high or moderately-high biodiversity value.
- Three areas across the central portion are considered CBA2. These areas coincide with areas which are considered to be rocky ridges and or wetland areas (both high biodiversity areas) based on desktop analyses.



Flora - Ecosystem Threat Status

- Ecosystem threat status outlines the degree to which ecosystems are still intact or alternatively losing vital aspects of their structure, function and composition, on which their ability to provide ecosystem services ultimately depends.
- Ecosystem types are categorised as Critically Endangered (CR), Endangered (EN), Vulnerable (VU) or Least Threatened (LT), based on the proportion of each ecosystem type that remains in good ecological condition.
- According to the National Biodiversity Assessment (NBA, 2011), the application area falls entirely within one ecosystem, which is listed as a Vulnerable (VU) ecosystem.



Biodiversity Baseline Information

Project Area in Relation to Protected Areas - Vredefort Dome World Heritage Site

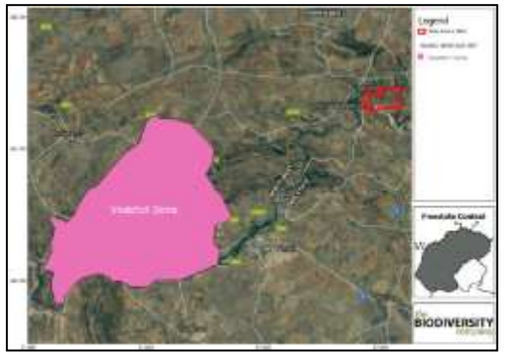
- Formally protected areas refer to areas protected either by national or provincial legislation. Based on the SANBI (2010) Protected Areas Map and the National Protected Areas Expansion Strategy (NPAES), the application area does not overlap with, nor will it impact upon, any formally protected area.

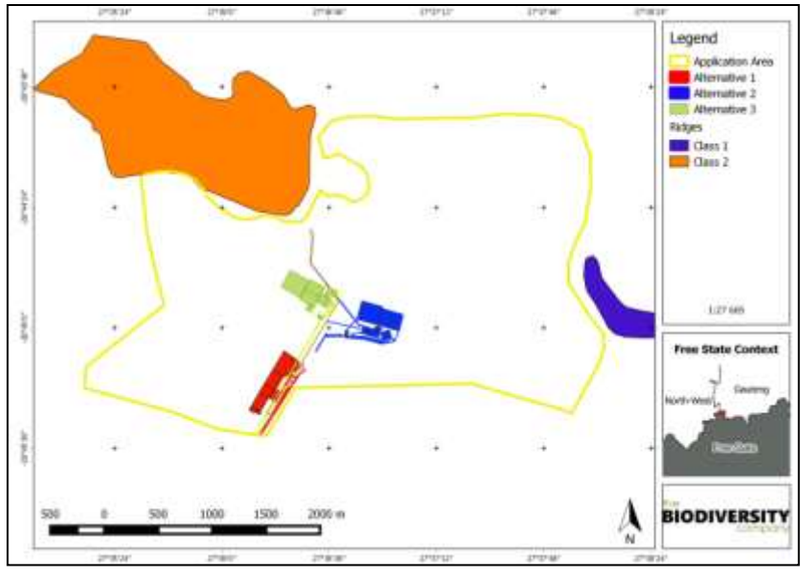
Rocky Ridges and Outcrops

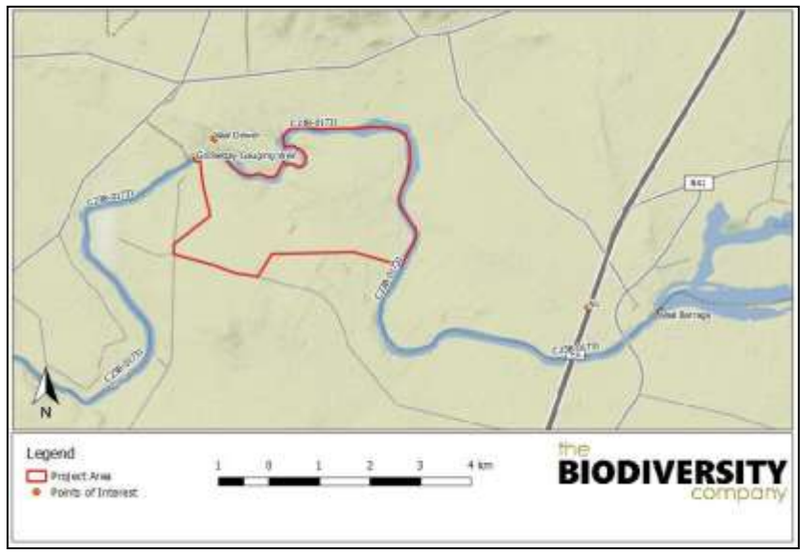
- Ridges are characterised by a particularly high biodiversity and it follows that their protection will contribute significantly to the conservation of biodiversity in the country.
- According to the Gauteng Conservation C-Plan, the ridges of this Province are vital habitat for many threatened plant species. Sixty-five percent of Gauteng's threatened plant species and 71% of Gauteng's endemic plant species have been recorded on ridges. However, this policy does not exist as yet within Free State legislation. The Applicant took cognisance of the sensitivity and environmental importance of the rocky ridge and outcrops in determination of the proposed mining footprint.

Aquatics and Wetland Biodiversity

- The application area is situated within the Vaal Water Management Area in the C23B quaternary catchment. C23B quaternary catchment drains into the C23B-01731 Sub Quaternary Reach (SQR) of the Vaal River system. The specific reach of the SQR is located downstream of the Vaal River Barrage and upstream of the Goosebay gauging weir near to the town of Vaal Oewer.
- Notable aquatic ecology in the Vaal River basin are the several endemic Cyprinid species such as *Labeo capensis (*Least Concern), L. umbratus (Least Concern), *Labeobarbus kimberleyensis* (Near Threatened), *Labeobarbus aeneus* (Least Concern) and the Rock Catlet, *Austroglanis sclateri* (Least Concern). In addition to the above species, *Enteromius cf. palidus* is undergoing systematic revision and likely represents several species. In the case of this assessment, *E. cf. palidus* is regarded as a listed species as a precautionary approach.







Biodiversity Baseline Information

Desktop Ecological Status of the Vaal River within the C23B-01731 Sub Quaternary Reach (DWS, 2018).

Present Ecological Status (PES)	**Largely Modified (class D)**
Ecological Importance (EI)	**Moderate**
Ecological Sensitivity (ES)	**High**
Default Ecological Category	**Largely Natural (Class B)**

- The desktop data for the Vaal River SQR considered in this assessment indicates that the Present Ecological Status (PES) of the watercourse is Largely Modified (class D).
- The central factors negatively affecting the PES were water quality deterioration, in the form of excessive sewerage input compounded by industrial, agricultural and urban runoff, habitat quality degradation, in the form of extensive flow regulation and riparian habitat modification.
- The ecological importance of the watercourse at a desktop level was determined to be moderate. The moderate rated level of importance can be attributed to the wide distribution of aquatic fauna throughout the Orange-Vaal River Basins. The ecological sensitivity was derived to be high.
- The presence of flow and water quality sensitive taxa renders the fauna sensitive to changes to the physical components of the watercourse. The default ecological category was rated as Largely Natural (class B).
- Management of land use must be completed in a manner which aims to improve the PES class of the watercourse. However, the extensive and permanent nature of the existing impacts renders the management of the watercourse to this level implausible. The default ecological category should therefore be revised.

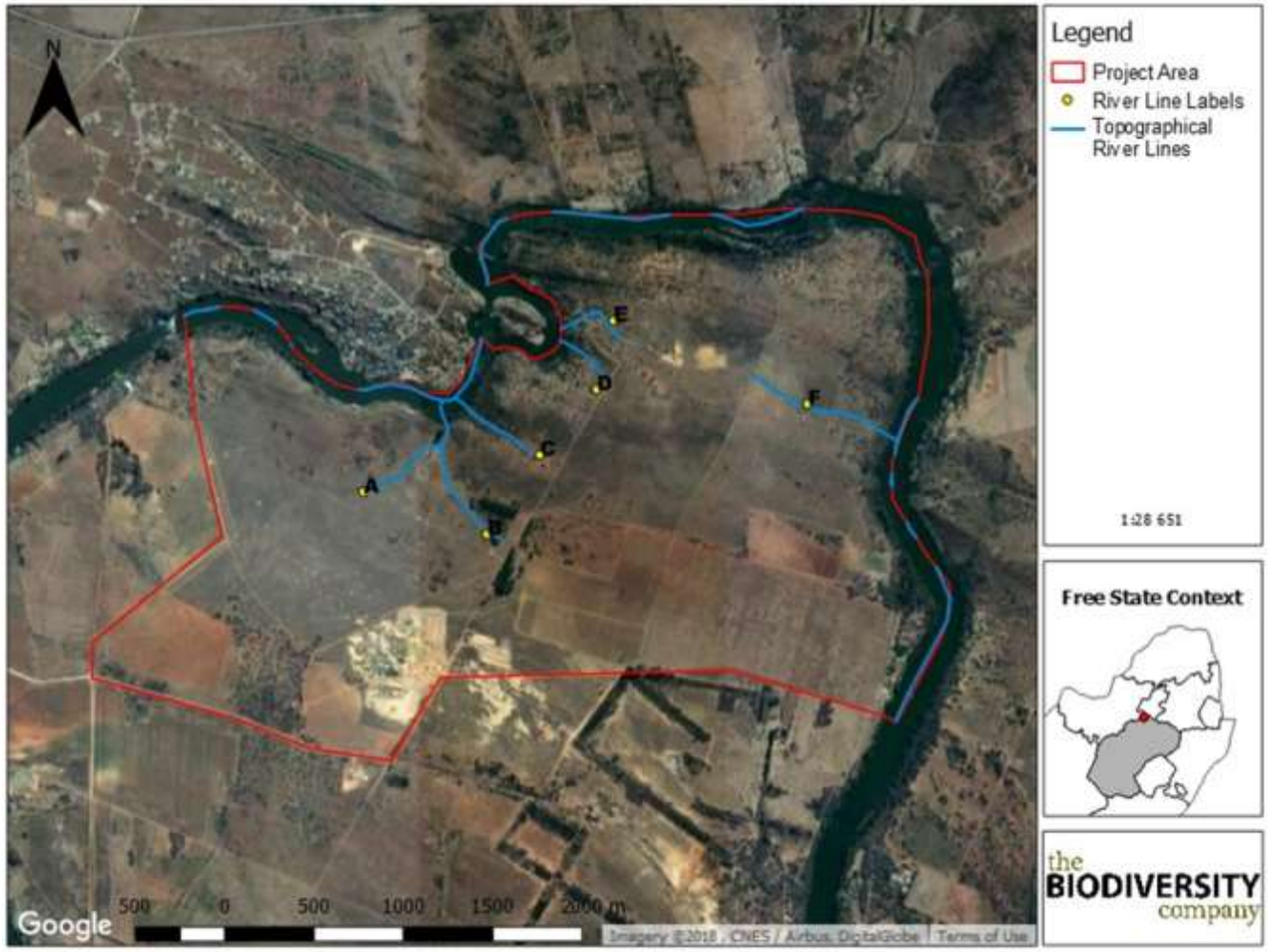
Priority Area (NFEPA) Status, Riparian Zone and Floodlines

- The catchment of the watercourses in the application area are not National Freshwater Priority Areas (NFEPA). The proposed project is largely outside the delineated riparian and floodline buffer zones.

Biodiversity Baseline Information

Topographical River Lines (Quarter Degree Square "2627")

- The topographical river line data for quarter degree square "2627" indicates six major river lines flowing from inland towards the Vaal River.
- These river lines have been investigated and either labelled as likely wetland areas or drainage lines given the suitable topography. Topographical river lines have been used to identify possible wetland areas.
- This information has resulted in the classification of various wetlands and dry drainage channels. The river lines labelled "A", "B", "E" and "F" have been identified as likely wetland areas, whereas those labelled "C" and "D" have been identified to be likely dry drainage lines.



Biodiversity Baseline Information

Impacts on biodiversity

- Loss of areas classified as CBA and sensitive rocky ridges.
- Loss of area of plant endemism.
- Loss of Endangered and Vulnerable habitat.
- Encroachment of alien invasive plant species.
- Loss of habitat for species of conservation concern.
- Displacement, direct mortalities and disturbance of faunal community (including multiple threatened species) due to habitat loss and disturbances (such as dust and noise), and poaching.
- Destruction of wetland systems.
- Reduction in surface water quality affecting third party users.
- Reduction in surface water quantity affecting third party users.
- Decrease in air quality from project emissions.
- Increase in noise levels.
- Effect on roads due to project related traffic.
- Visual disturbance and intrusion to surrounding visual receptors.
- Loss of or damage to heritage and/or palaeontological resources.

Biodiversity Baseline Information

Proposed Mitigation measures

- Avoid CBA areas and implement buffer zones.
- Avoid areas of remaining indigenous vegetation as far as practically possible.
- Restrict infrastructure areas to brownfield areas only.
- Avoid areas in which plant species of conservation concern occur. If some areas cannot be avoided implement rescue of plant species of conservation concern.
- Implementation of a biodiversity action plan to ensure that the undeveloped/disturbed areas within the property are properly conserved and maintained.
- An alien invasive plant management plan needs to be compiled and implemented during construction to prevent the growth of invasive species on cleared areas.
- Implement training to ensure that all staff are aware of faunal sensitivity. Put protocols in place to deal with fauna that are encountered.
- Training of employees on the value of biodiversity.
- Limit site clearance to what is absolutely necessary.
- Ensure necessary setback distances from watercourses and wetlands.
- Zero tolerance for harming and harvesting fauna and flora.
- Effective waste management and pollution prevention.
- Monitor pollutants of concern and implement additional mitigation as required.
- Provide noise berms where possible between activities and receptors.
- Conduct noise monitoring in response to noise complaints.
- Limit emissions (dust, light, noise).
- Supress dust effectively.

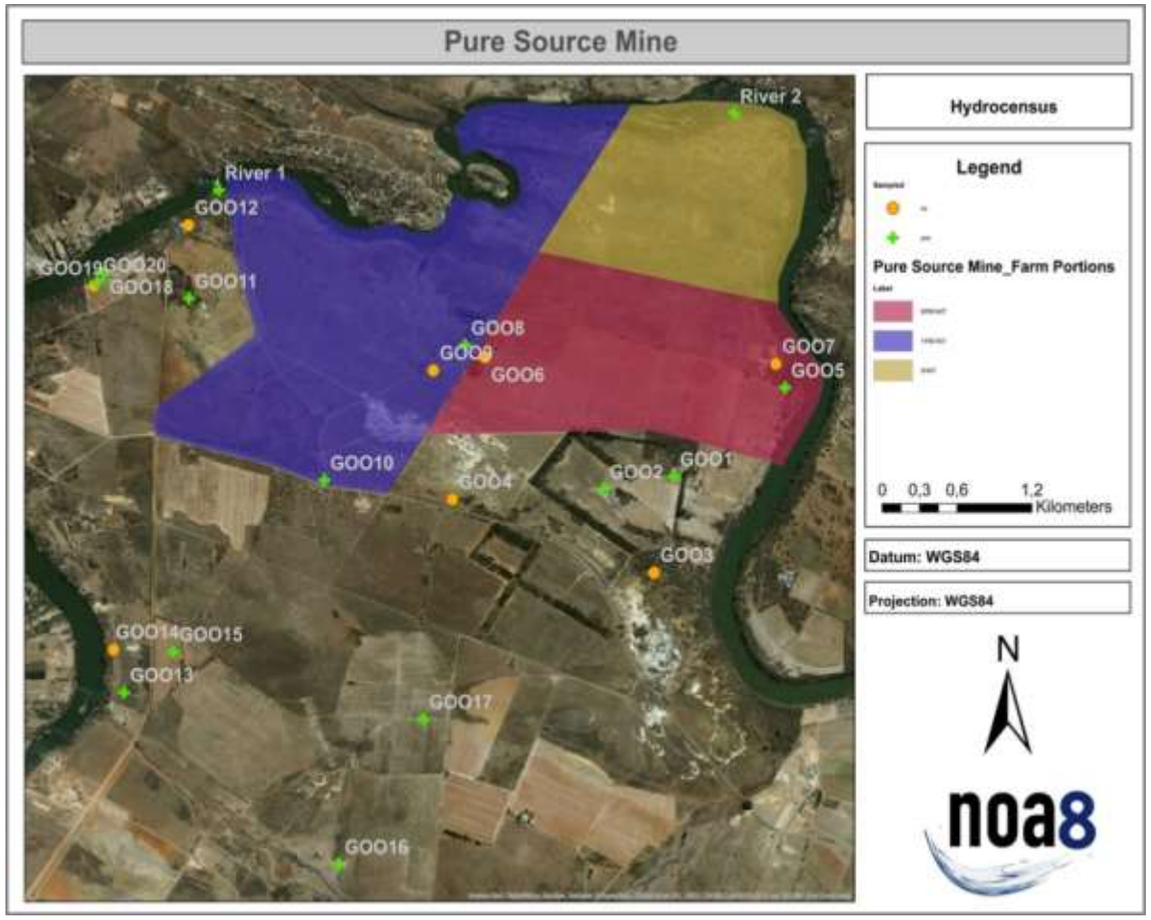
Biodiversity Baseline Information

Proposed Mitigation measures

- Effective rehabilitation to achieve post closure land use.
- Design and implement contamination containment measures.
- Mine infrastructure will be constructed and operated so as to comply with the National Water Act No. 36 of 1998 and Regulation 704 (4 June 1999):
  - Clean and dirty water system will be separate.
  - Clean run-off will be diverted away from the site.
  - Dirty water will be contained.
- Apply and operate in line with a water use license.
- Conduct surface water monitoring and implement remedial actions as required.
- Conduct groundwater monitoring and implement remedial actions where required. This includes compensation for mine related loss of third party water supply. This monitoring programme should include third party boreholes.
- Develop and implement a stormwater management plan to minimise containment areas and divert clean water away from the site.
- Minimise water usage and optimise water recycling and treatment of dewatering water.
- Effective equipment and vehicle maintenance.
- Fast and effective clean-up of spills.
- Enforce strict vehicle speeds.
- Mined out areas should be vegetated with indigenous species as soon as possible. This will to a degree, mitigate the visual intrusion of these areas on surround visual receptors.

Geohydrology and Waste Classification Baseline Information

- A hydrocensus was conducted across the application area during August 2018. The survey included the proposed mining footprint areas and adjacent properties and concentrated on identifying existing boreholes to enhance the knowledge of the groundwater systems and current groundwater use. During the 2018 hydrocensus, 20 groundwater sites (boreholes) were identified. Groundwater level measurements were possible from 12 boreholes (pumping equipment blocked the rest) and 11 groundwater samples were collected for water quality analysis.



Ground water levels

- The groundwater levels varied from 2.5 m to 7 m across the proposed mining area, to a maximum depth of 20.5 Meters Below Ground Level along the tar road. To the south of the big hill (south of the tar road and proposed mining area) the average water table depth is 10 m below surface. The general groundwater flow direction is in a northerly direction towards the Vaal River. There is a strong possibility of good surface water-groundwater interaction based on the shallow groundwater levels in the proposed mining area and the proximity of the Vaal River. The shallow groundwater table in the proposed mining area also indicates the possibility of groundwater inflow into the sand and aggregate excavations.

Geohydrology and Waste Classification Baseline Information

Water Quality

Eleven (11) groundwater samples were collected during the 2018 hydrocensus (Table 11). The water samples were analysed for basic inorganic parameters and the results were compared against the SANS 241:2015 Drinking Water Standards. Samples were collected from boreholes across the project area to ensure a good illustration of current groundwater qualities.

	pH – Value at 25°C	Electrical Conductivity in mS/m at 25°C	Total Dissolved Solids (mS/mx6.7)	Chloride as Cl	Sulphate as SO_4	Fluoride as F	Nitrate as N	Ortho Phosphate as P	E. coli / 100 mℓ	Free & Saline Ammonia as N	Na (mg/L)	Ca (mg/L)	K (mg/L)
SANS241 Standard Limits	≥5 - ≤9.7	Aesthetic ≤170	Aesthetic ≤1200	Aesthetic ≤300	Aesthetic ≤250					Aesthetic ≤1.5	Aesthetic ≤200		
					Acute health ≤500	Chronic health ≤1.5	Acute health ≤11		Acute health - Not detected				
DWS Drinking Standards												No health. Scaling intensifies from 32mg/L	No aesthetic or health effects below 50mg/L
River 1	7.7	78.1	523	49	172	0.2	4.7	0.4	2	1.0	60	57	10,4
River 3	7.7	78.4	525	53	177	0.3	4.0	0.4	0	1.9	61	59	10,5
G001	7.7	19.1	128	2	7	--	3.0	--	0	0.1	4	19	0,8
G002	8.1	26.2	175	3	3	--	4.3	--	0	0.1	4	29	1,6
G005	7.3	99.8	669	48	235	--	0.7	--	0	0.1	43	97	0,7
G008	7.6	22.0	147	8	--	--	0.7	--	0	0.2	5	21	0,7
G010	7.2	17.2	115	2	--	--	4.4	--	0	0.2	5	15	3,3
G011	8.6	12.1	81	2	--	--	1.5	--	0	--	2	15	0,9
G017	6.8	15.7	105	5	2	--	5.4	--	0	--	9	12	3,2
G018	7.8	30.4	204	14	27	--	3.6	--	0	--	6	31	1,0
G020	8.5	11.9	80	2	5	--	1.8	--	0	--	3	15	0,8

Based on the water quality results, the following conclusions were drawn:

- Groundwater quality in an area can be defined by the groundwater flow rate (residence time), the geological formations, the redox potential and human activities. Good quality groundwater can be expected in the proposed Mining Right area due to the sandy aquifers, dolomite, rainfall, and active groundwater flow. Stagnant groundwater zones are not expected in the area.
- The sampled groundwater is currently not showing any negative impacts associated with the historical mining activities on the application area or at the neighbouring sand mine operations.
- Based on the SANS241 drinking water guideline and on the sampled borehole water results, the groundwater sampled from 9 boreholes are fit for human consumption (treatment still recommended). Most of the salts and metals were present in concentrations below the SANS241 guideline limits. Most of the elevated concentrations are only elevated at one or two sampling points, mostly in the Vaal River and boreholes close to the river.

Economic Baseline Information

- The following issues and impacts were identified as relevant for assessment:
  - Compatibility with planning guidance.
  - Financial viability and associated risks.
  - Impacts associated with project expenditure.
  - Impacts from tax, royalties and regulatory fee payments.
  - Impacts in terms of economic development contributions.
  - Impacts on property values.
  - Impacts on tourism.
- Assessment at scoping phase is highly preliminary and based on desktop work only.

Property values

- Property values capture the physical characteristics and productive potential of properties as well as the environmental and social characteristics of their surroundings.
- In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered.
- Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects.

Economic Baseline Information

The surrounding property context

- Vaal Oewer is located directly across the Vaal River to the north, north-west.
- Lindequesdrif is a collection of mostly residential small holdings situated along the Vaal River, starting directly across the river from the western border of the project site and running downstream for about 8 km.
- Surrounding farm residences - the value of agricultural land in the wider study area is primarily driven by its productive potential. Farm values are also driven by other lifestyle factors.
- The Vaal Barage is comprised of smaller suburbs such as Windsor on Vaal, Ebner on Vaal, Lochvaal and Miravaal.

Impacts on property values

- The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts.
- The emergence of negative social impacts also presents a risk such as those associated with a potential influx of job seekers, as well as impacts resulting from an altered sense of place.

Proposed mitigation measures

- The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.

Economic Baseline Information

Tourism

- In order to assess tourism impacts, information on the current tourism context was gathered.
- Visual, air quality, noise and water quality impacts combined with a loss of biodiversity are likely to be the key concerns for tourism.
- Sources of positive impacts would stem from increased potential for business-related visitors.

The tourism context

- Tourism plays an important role in the area immediately surrounding the project site. Many of the riverside properties adjacent to the site have been developed into tourism establishments.
- Desktop research revealed that there are at least 18 tourism establishments situated within 2 km of the site.
- Parys and the surrounding area has a broad range of attractions.
- The Vredefort Dome is a UNESCO World Heritage Site – edge of the crater is ~8 km to the south-west of the site.

Impacts on tourism

- Residences along the Vaal River are particularly sensitive.
- Air quality impacts have the potential to impact on the experience of tourists. Air quality specialist indicated there would be an increase in particulate matter and other forms of pollution.
- The noise specialist study identifies a number of sensitive receptors particularly nearby residences along the Vaal River that include tourism establishments.

Economic Baseline Information

Impacts on tourism

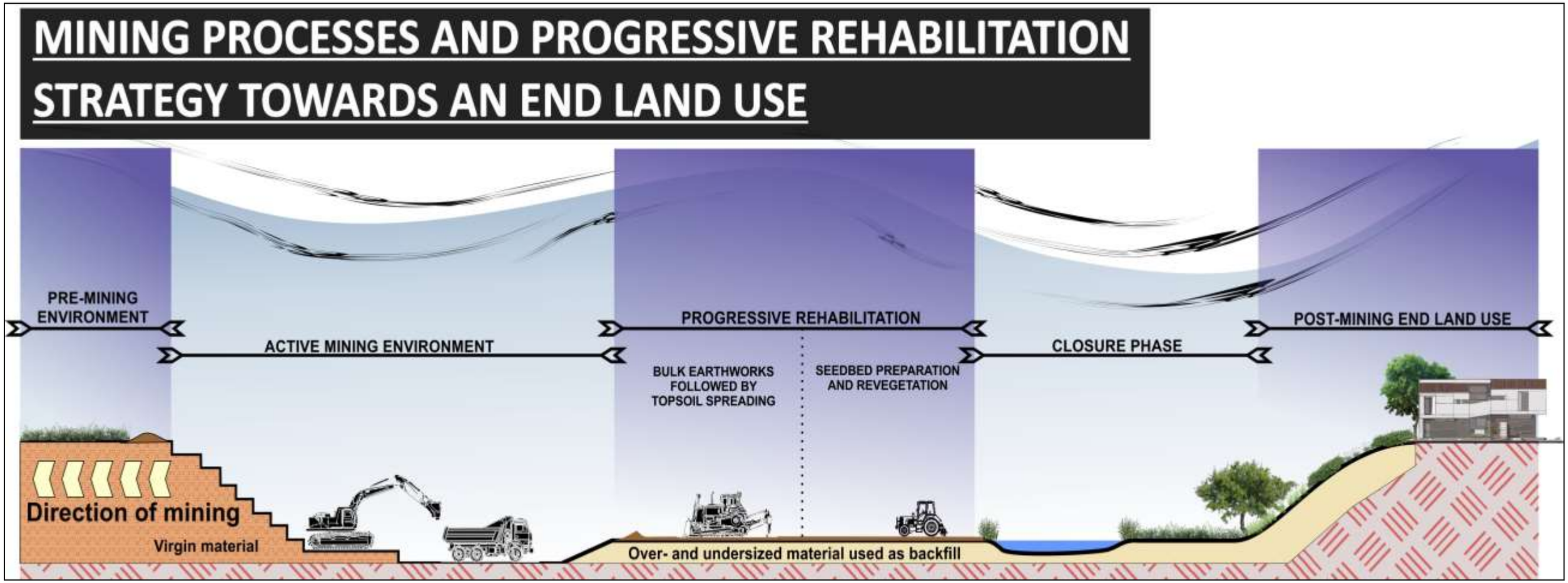
- Negative impacts on the freshwater environment have the potential to impact on the experience of tourists. Riverine ecology scoping report found that overall freshwater impacts would be low with mitigation.
- Biodiversity loss has the potential to impact negatively on tourism. Biodiversity specialist has given impacts on biodiversity preliminary ratings of moderate to high significance with mitigation.
- The project has some potential to result in increased business tourism anticipated to be of a relatively minor significance.

Proposed mitigation measures

- The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism.
- Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks.
- Much will depend not only on how the applicant's EMPR is conceived and how it is implemented in partnership with the relevant authorities and other stakeholders.

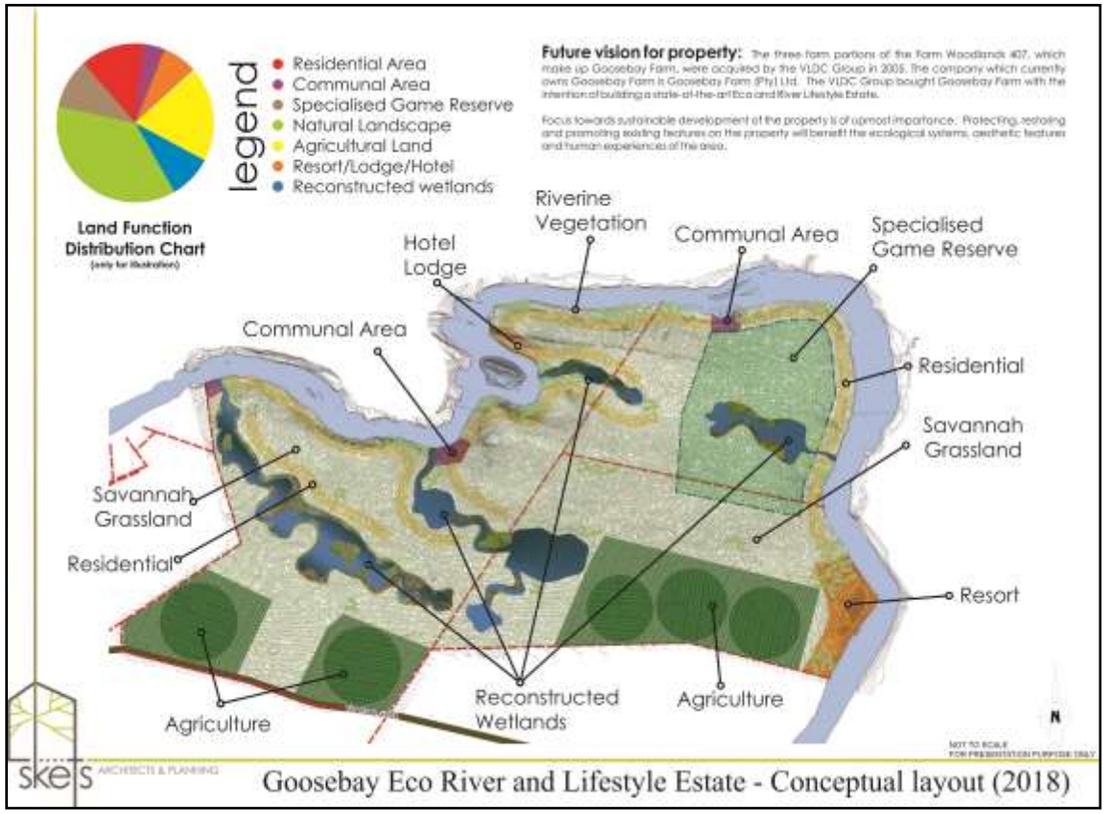
Rehabilitation and Envisaged End Land Use

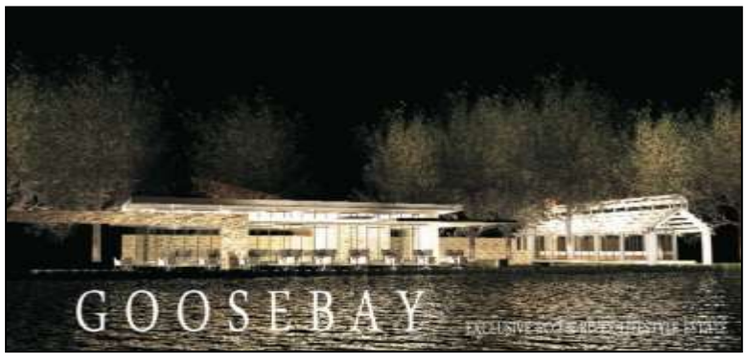
Rehabilitation



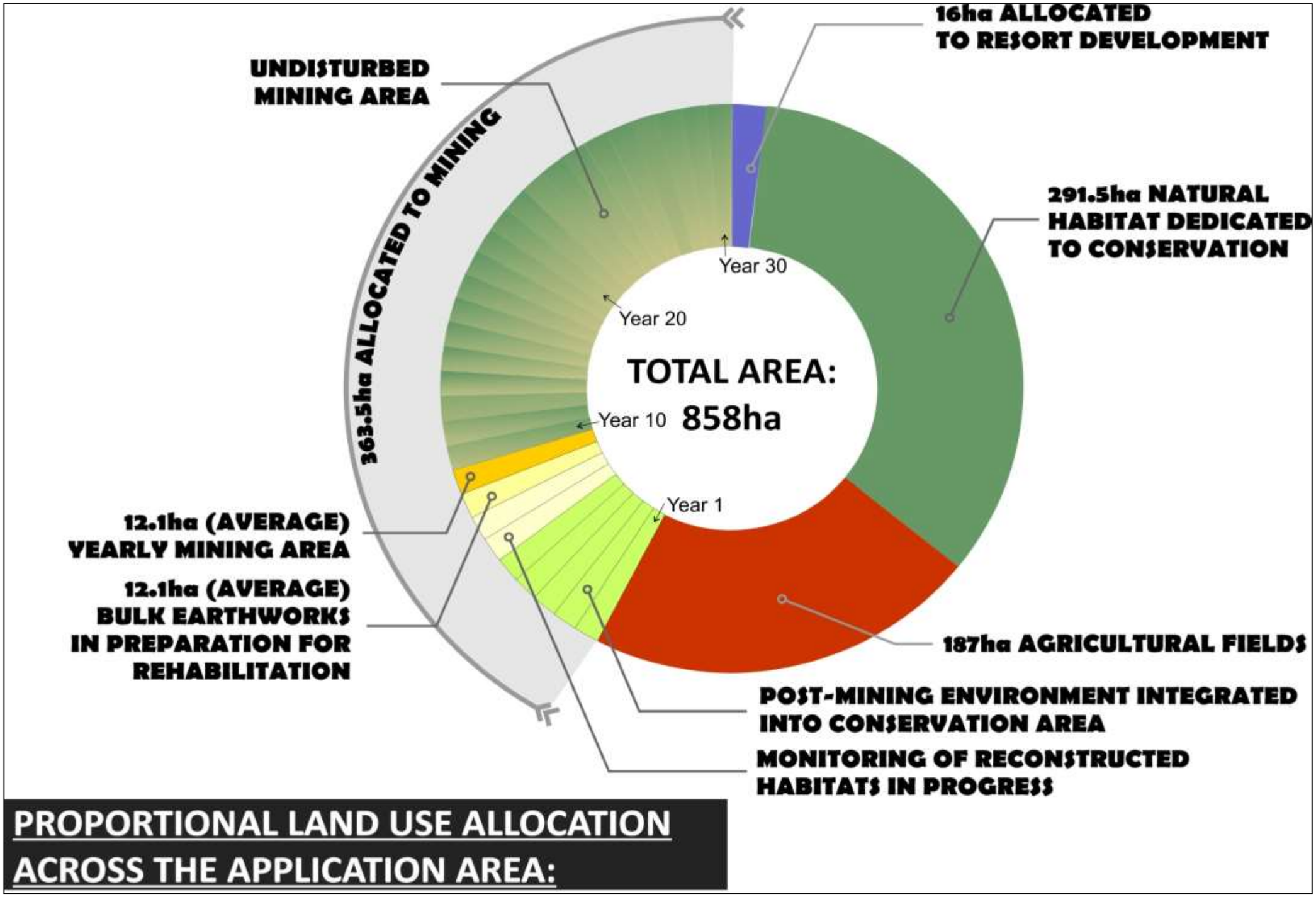
Envisaged End Land Use

- The closure objective is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River.
- The process to obtain the necessary Environmental Authorisation was initiated more than a decade ago (thus confirming the landowner's intentions in this regard). The environmental authorities were approached in terms of the relevant legislation. The Record of Decision (RoD) confirming the Environmental Authorisation (EMS 02/09/13), was accordingly issued on the 12 January 2011.
- The application area is currently utilised as a game farm and this will continue to remain the primary land use with other agricultural activities such as crop production.
- Mining is an interim land use and it will be conducted in a sensitive manner that will not have a negative impact on the wildlife.





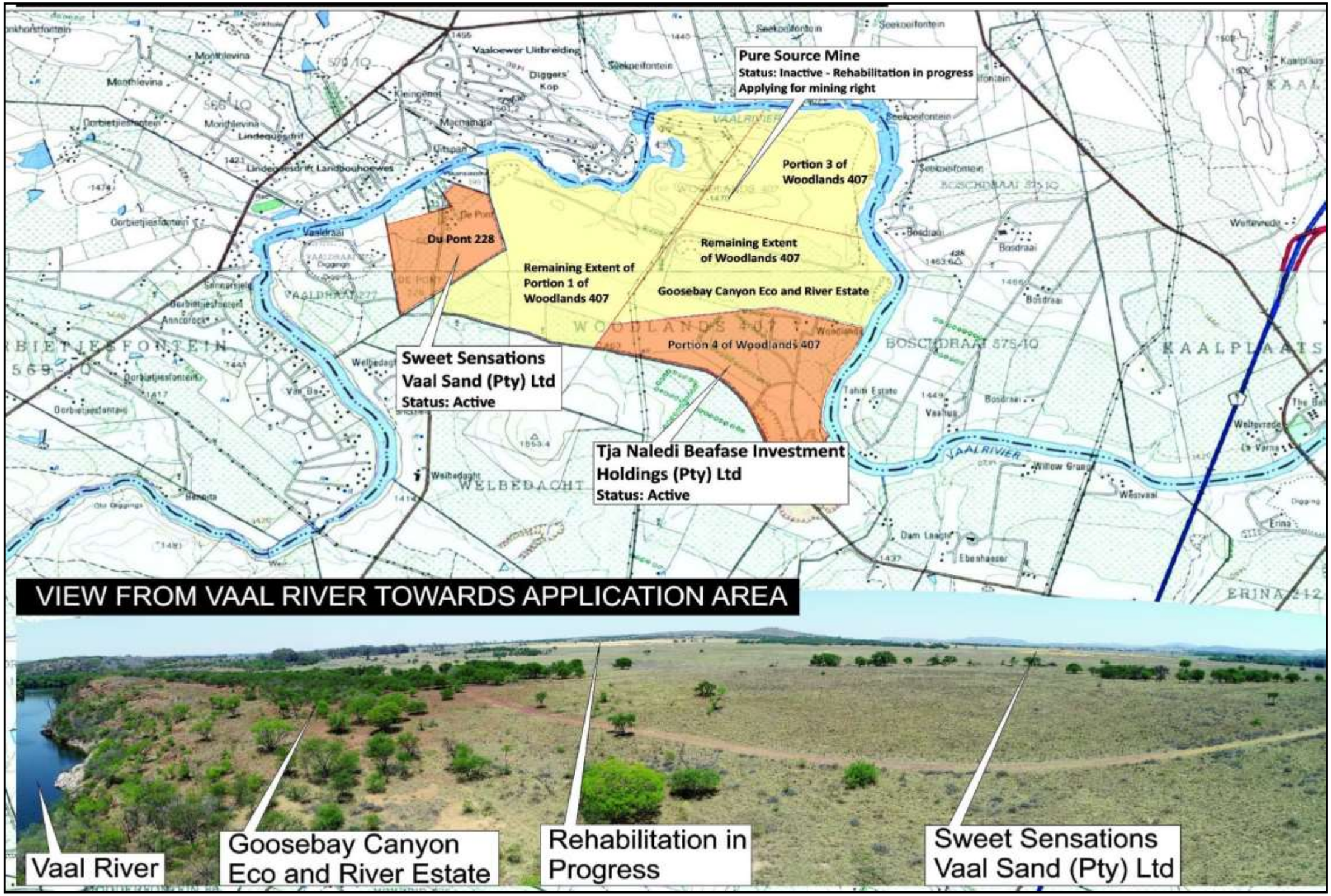
Proportional Land Use Allocation



PROPORTIONAL LAND USE ALLOCATION ACROSS THE APPLICATION AREA:

Existing Mining Activities Adjacent to Application Area

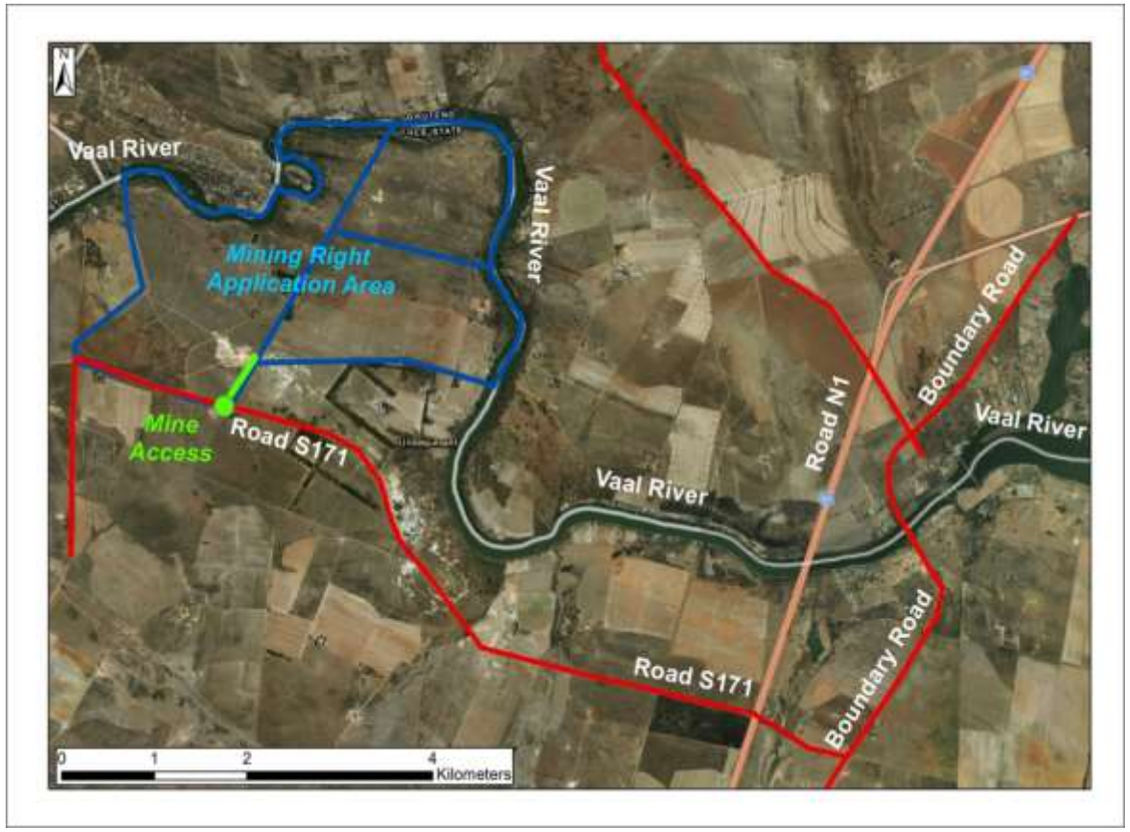
Existing Mining Activities Adjacent to Application Area



Traffic Impact Assessment

Access Roads

- Vehicle access from and to the proposed mining development is suggested from Road S171 by means of an existing farm access road. Upgrading of the existing fam access road will be considered to accommodate the proposed development.



Road S171

- A visual investigation of the relevant section of the Road S171 was conducted. It was noted that the road surface is in a poor condition with multiple potholes and it is possibly deteriorating.

Proposed action plan

- It is recommended that a Roads Maintenance Plan be prepared, in collaboration with other landowners, developments and relevant roads authority, to ensure the availability of a road network to transport workers and mined product.
- A pavement design specialist should be commissioned to investigate the roadway layers in order to identify any collapsing and deterioration of the roadway layers.

Questions from I&APs

Application Process

NEMA Application Process

1. Application:

- Simultaneous submission of Mining Right (MR) and Environmental Authorisation (EA) Application.

2. Scoping Phase:

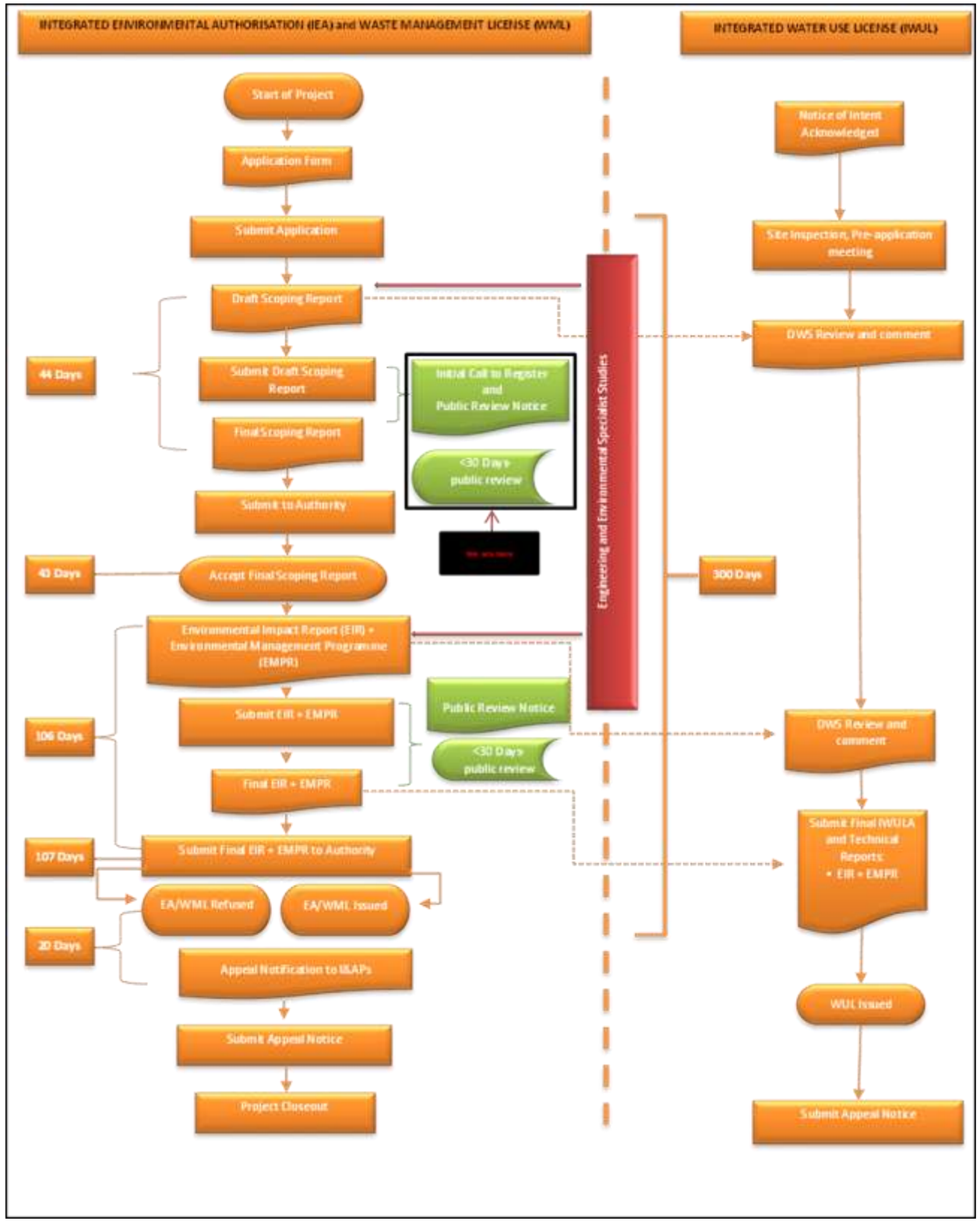
- Baseline (mainly desktop) information about the receiving environment.
- Identification of potential fatal flaws to minimise project risks.
- Assessment of impacts and recommendation of appropriate mitigation measures.
- Undertake a Public Participation Process.
- Compile a Plan of study for the Environmental Impact Assessment (EIA) phase.

3. EIA Phase:

- Detailed specialist studies (incl. a site visit and consultation with community members).
- Compilation EIR and EMPR (legally binding document).
- Public Consultation Process.

4. Record of Decision:

- Based on the review of the EIR and EMPR, DMR makes a decision to grant or reject the MR and EA Application.



Way Forward

- Incorporation of written and oral comments from I&APs (including comments from authorities) into the Final Scoping Report.
- Submission of Final Scoping Report to the Department of Mineral Resources on the 14 December 2018.
- The DMR will make a decision on the Scoping phase. I&APs will be notified of the DMR decision.
- If the Scoping phase is accepted, the EAP will commence with the EIA phase of the process, which will entail the following:
  - Compilation of the Environmental Impact Report.
  - EIA specialist studies (incl. site visits and public consultation).
  - Development of the Environmental Management Programme.
  - Development of the Integrated Water and Wastewater Management Plan in support of the Integrated Water Use License Application.

Thank you!

APPENDIX 2: Copy of the Attendance Register

ATTENDANCE REGISTER

Description	Scoping Phase Additional Public Consultation		
Project	Pure Source Mine (DMR references: FS 30/5/1/2/2/10048 MR and FS 30/5/1/2/3/2/1/10048 EM)		
Location	Laerskool Vaalrivier Hall 85 Nanescol Lochvaal Vanderbijlpark 1911 GPS Co-ordinates: Latitude: -26.719424 Longitude: 27.752087	**Date**	10th November 2018
		Time	10H00 to 12H00

Name and Surname	Company	Telephone	Email and/or Postal Address	Signature

ATTENDANCE REGISTER

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Shango Solutions

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ATTENDANCE REGISTER

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Shango Solutions

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ATTENDANCE REGISTER

Description	Scoping Phase Additional Public Consultation		
Project	Pure Source Mine (DMR references: FS 30/5/1/2/2/10048 MR and FS 30/5/1/2/3/2/1/10048 EM)		
Location	Laerskool Vaalrivier Hall 85 Nanescol Lochvaal Vanderbijlpark 1911 GPS Co-ordinates: Latitude: -26.719424 Longitude: 27.752087	**Date**	10th November 2018
		Time	10H00 to 12H00

Shango Solutions

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ATTENDANCE REGISTER

Description	Scoping Phase Additional Public Consultation		
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		Time	10H00 to 12H00

Shango Solutions

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ATTENDANCE REGISTER

Description	Scoping Phase Additional Public Consultation		
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		Time	10H00 to 12H00

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Description	Scoping Phase Additional Public Consultation
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Description	Scoping Phase Additional Public Consultation		
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Shango Solutions

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Shango Solutions

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ATTENDANCE REGISTER

Description	Scoping Phase Additional Public Consultation		
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ATTENDANCE REGISTER

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ATTENDANCE REGISTER

Description	Scoping Phase Additional Public Consultation		
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Location	Laerskool Vaalrivier Hall 85 Nanescol Lochvaal Vanderbijlpark 1911 GPS Co-ordinates: Latitude: -26.719424 Longitude: 27.752087	**Date** **Time**	10[th] November 2018 10H00 to 12H00

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Description	Scoping Phase Additional Public Consultation
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ATTENDANCE REGISTER

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Description	Scoping Phase Additional Public Consultation
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Time	10H00 to 12H00

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Description	Scoping Phase Additional Public Consultation		
Project	Pure Source Mine (DMR references: FS 30/5/1/2/2/10048 MR and FS 30/5/1/2/3/2/1/10048 EM)		
Location	Laerskool Vaalrivier Hall 85 Nanescol Lochvaal Vanderbijlpark 1911 GPS Co-ordinates: Latitude: -26.719424 Longitude: 27.752087	**Date**	10th November 2018
		Time	10H00 to 12H00

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