


Contingency Plan

For the

Application to mine sand over an approximate 4,12ha section of the Umkomaas River on the KwaZulu-Natal South Coast in the eThekweni Metropolitan Municipality.



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July 2021

Contents Page

A. Introduction.....	3
B. General measures.....	3
C. Chemical, petrochemical and other hazardous materials management measures.....	3
D. Machine and vehicle maintenance.....	3
E. Vehicle movement and access.....	4
F. Stormwater management.....	4
G. Erosion control and soil management.....	4
H. Procedures to follow in the event of a spill.....	5
I. Further spilltech measures to be implemented.....	5

This Contingency Plan has been formulated by the Environmental Assessment Practitioner (EAP) for the proposed Ramphal Sand Mine with the assistance of the Specialist Team.

A. Introduction

This Contingency Plan has been formulated to provide procedures and detailed measures to be undertaken in the unlikely event of a pollution spill for the proposed Ramphal Sand Mine development located in the southern portion of the eThekweni Metropolitan Municipality.

B. General measures

- The sand mining activity must take consideration of any area where the mining occurs within the 1:100 year flood line. In addition, areas with high inundation near to the mining footprint will have a much higher risk of damage, under-cutting and erosion. As such, the access points into the River must have sufficient bank support. Excavation activities must be done as quickly as possible in the unlikely event of such a flood occurring during this time. Appropriate erosion and protection barriers/structures must be considered for stockpile and movement areas.
- The risk of flooding near the mining area is lower than further upstream. The risk would be water damage from the presence of water rather than damage from the velocity of water. Any equipment within the channel is at risk of velocity damage. As the development involves human operation, extra precaution must be taken in this regards where possible.
- It is recommended that erosion control measures are considered to support the inner banks from undercutting and any debris be cleared away from the banks.
- Only the toilets at the Applicants Workshop (opposite the stockpiling area) must be utilized.

C. Chemical, petrochemical and other hazardous materials management measures

- Provide the ECO with a list of all fuels and harmful chemicals on site, together with the storage, handling and disposal procedures for these materials.
- All chemicals on site are recorded in the inventory of hazardous substances.
- All fuel and harmful chemicals must be stored and secured off site. These substances and materials must only be bought to the mining site when required.
- All fuel and harmful chemicals must be securely stored at least 50m away from the surrounding watercourses when bought to site for usage.
- Fuels and chemicals must not be stored under trees when bought to the mining site.
- Staff dealing with harmful chemicals must be aware of their potential impacts and follow the appropriate safety measures.
- A chemical spill kit must be available if harmful chemicals are to be used on site.
- Bio-remediation and rehabilitation must take place after any accidental spills. The relevant authorities must be notified. This includes DEFE, EDTEA, DWS and the local Municipality.
- Polluted soils, material and hazardous waste must be disposed of at an approved landfill facility. A third party can be used for removal and disposal of hazardous waste. A receipt or certificate of safe disposal must be kept by the mine manager or ECO in the on-site environmental file.

D. Machine and vehicle maintenance

- Machine and equipment maintenance must as far as possible be undertaken off site. If maintenance does

occur on site due to breakdown, all steps must be undertaken to avoid hydrocarbon spills/leakages. Drip trays must be utilised at all fuel dispensing areas.

- Minimise petrol, diesel, and oil leaks by allocating a loading zone, which is protected against such leaks. Drip trays must be utilised at all fuel dispensing areas.
- Inspect all storage facilities, machinery and vehicles daily for the early detection of deterioration or leaks.
- Refueling of vehicles must take place offsite. If this is not possible, refueling must only take place outside of no-go areas and drip trays must be utilised at fuel dispensing areas.
- Servicing and cleaning of vehicles and machinery must take place offsite.
- Dispose of used oils and other pollutants at an appropriate licensed landfill site.
- Clean up any spillages immediately with the use of a chemical spill kit and dispose of contaminated material at an appropriately registered facility.

E. Vehicle movement and access

- Vehicle routes must be clearly marked and defined before mining activities commence.
- Vehicle access must be strictly contained onsite. Vehicles must only use designated roads/tracks and access points as determined by the ECO and Mine Manager before operations commence.
- The access road/track condition must be regularly monitored and repaired when the condition deteriorates due to mining related activities.
- Roads/tracks or access points that are not needed for closure and post-closure uses at the site will be closed and rehabilitated.

F. Stormwater management

- Mining must be halted during adverse weather conditions such as storms, heavy rains etc.
- The Applicant must take consideration of any area where dirty water flows through the site. These areas must be considered as critical areas.
- Vehicles and equipment must be kept outside of watercourse buffers and flood lines when not required.
- Place silt fences / traps strategically on the periphery of the access road and/or where required in order to trap sediment carried by stormwater runoff before it is conveyed into the river channel.
- The appointed ECO must monitor sediment fences / traps on a monthly basis / after every heavy rainfall event and any sediment which has accumulated must be removed by hand.
- Ensure silt fences / traps are adequately maintained.
- Where required, divert stormwater away from areas susceptible to erosion with the use of berms, sandbags etc. The ECO must be consulted in this regard.

G. Erosion control and soil management

Furthermore, as guided by the DWS, the following soil erosion measures must be put into place –

- Staff/workers on-site must be educated on identifying potential erosion areas and best practice guidelines.
- On any areas where the risk of erosion is evident, special measures need to be implemented to prevent erosion. These may include, but not be restricted to:

- Stabilising steep/unstable/erosion prone areas with 'soft' stabilization techniques (e.g. geotextiles, fibre mats / nets / blankets / bags, brush mattresses, sandbags, live staking etc.)
- Filling of erosion gullies and rills and the stabilization of gullies.
- Utilising sandbags in order to support riverbanks and prevent bank slump.
- Regularly monitor and maintain all erosion control measures.
- Extraction of sand from the riverbanks must be strictly prohibited and extraction must not take place within 10m of the riverbanks.
- Top- and subsoil stockpiles (used for road levelling and bank lifting) must not be stockpiled within the buffers/demarcated 'no go' areas or within the 1:100 year floodplain of a water course.
- The topsoil must not be rendered in any other way inappropriate for rehabilitation use.
- Topsoil stripping (in widening and realignment areas) must not occur in wet weather and during stripping and stockpiling, the topsoil must not be subject to a compaction force greater than 1 500kg/m² and must not be pushed for more than 50m.
- Topsoil must also only be handled twice, once to strip and stockpile, and secondly to replace, level, shape and scarify if necessary.

H. Procedures to follow in the event of a spill

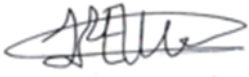
In the unlikely event of a spill of fuel, chemicals or any other hazardous substances immediate action must be undertaken to prevent damage to the surrounding environment and pollution of both surface and ground water resources. The following procedures must be followed:

1. Locate the source of the spill;
2. Stop the spill and prevent further spreading;
3. The appropriate oil sponge, absorbent or spill kit (e.g. DriZit) can then be used to clean and remove the spilled substance(s);
4. Spills from trucks/tractors must be contained within a concreted site area and prevented from spreading;
5. Spilled petrochemicals can then be cleaned up and removed using the appropriate oil sponge, absorbent or spill kit (e.g. DriZit);
6. Remove the spilled product for treatment or disposal at an authorized waste facility;
7. The spill must be reported to the Mine Manager / Supervisor and ECO;
8. Depending on the significance of the spill, the incident may also need to be reported to the DEDTEA, DWS and the Municipality; and
9. Rehabilitation must be undertaken and suitably qualified Specialists appointed depending on the nature of the spill.

I. Further spilltech measures to be implemented

In order to reduce the potential impact of spills on site the following must be adhered to:

- Emergency numbers are provided on site – e.g. Spilltech, fire department, ambulance, etc.;
- Spill cleaning kits such as a Drizit kit are available on site; and
- All chemicals on site are recorded in the inventory of hazardous substances.



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