Aspect No	Activity of concern	Aspect (Hazard)	Potential Impact	Legal Reference	Extent / Resource Type	Frequency / Depletion Rate	Intensity	Significance (Risk)	Mitigation measures	Rating	Significance (Risk)	Responsible Designation	Training Gap	Status	Responsible Person	Proof	Date of last Review	Objective №	Objectives	Targets	Action Plan and Target Date	Responsible persons	Unit of Measure
	Genreal office activities																						
1	Use of office amenities	Generation of waste water	Potential ground and surface water pollution	NEMA S2, NWA S19, DWAF min reg	0	5	1	6	Use of closed plumbing system linked to septic tanks, tanks serviced as required, daily visual inspection of tanks, if spills occur it is cleaned and remediated as soon as practical	0.75	5.25	Management		Active	L.Maluleke J.J.v. Rensburg	Disposal slips							
2	Water consumption (potable & housekeeping)	use of water	Depleting natural resource	NEMA S2, NWA	0	5	1	6	Visually inspect for leaks (taps, toilets), create awareness of resource management	0.5	5.5	Management		Active	L.Maluleke J.J.v. Rensburg								
	Site establishment																						
3	Site selection	Vegetation clearing / top soil stripping	Los of vegetation and topsoil	NEMA S2, NEM BA S7	1	1	5	7	1) Area cleared for construction camp should be located within the project footprint 2) Topsoil to be stripped and stockpiled adequately 3) Choose area that does not present a threat to sensitive species.	0.75	6.25	Management		Active	L.Maluleke J.J.v. Rensburg								
4	Establishment of temporary camps	Vegetation clearing / top soil stripping	Los of vegetation and topsoil	CARA, NEM BA S7	1	1	5	7	1) Area to be assessed with respect to ecological sensitivity before clearing commence 2) Topsoil to be adequately managed 3) Area will be reinstated after decommissioning	0.75	6.25	Management		Active	L.Maluleke J.J.v. Rensburg								
5	Fuel storage	Possible spill	Ground and water pollution	NEMA S2, NWA S19, DWAF min reg	1	3	4	8	1) Location of refuelling area should be selected with regards to sensitive areas, ease of access (for refuelling and fuel delivery). 2) Fuel cell will be bunded to a min of 110% of stored capacity 3) Access will be controlled 4) A dedicated trained person will assigned with refuelling tasks 5) Spill kits will be available	1.25	6.75	Management		Active	L.Maluleke J.J.v. Rensburg								
6	Fuel and other hazardous substance delivery	Possible spill	Ground and water pollution	NEMA S2, NWA S19, DWAF min reg	0	3	5	8	1) MSDS for all substances to be kept onsite 2) Delivery will be supervised by a competent person 3) Spill kits will be available	0.75	7.25	Management		Active	L.Maluleke J.J.v. Rensburg	Spill register	06/06/2012	3	Minimize number of spill and clean all spill as to decrease negative impacts	Less that 15 minor spills per month.		EO	Litre
7	Plant/ Equipment maintenance	Use of and draining of, diesel and oils onsite	Ground and surface water pollution	NEMA S2, NWA S19, DWAF min reg	0	3	1	4	1) Vehicles will be serviced in dedicated service/ workshop areas 2) Areas will be bunded and have a impervious surface 3) Services will only be conducted by designated people 4) spill kits will be available 5) Equipment will be inspected daily by the operator 6) Drip trays will be used if equipment is leaking (awaiting prepare).	1.5	2.5	Management		Active	L.Maluleke J.J.v. Rensburg								
8	Storm water management	Storm water runoff as result of construction	Siltation of streams/ erosion	NEMA S2, NWA S19, DWAF min reg	2	4	1	7	1) Flow of water will be assessed, and appropriate storm water and silt management structures will be put in place 2) structures will be maintained regularly and inspected after rain events	0.5	6.5	Management		Active	L.Maluleke J.J.v. Rensburg								

	Soil management & hauling																						
9	Site clearing	Removal of vegetation	Vegetation loss	NEMA S2, NEMA BA	1	2	5	8	1) Identify, locate and map all plants and natural features to be protected during construction. 2) Barricade off identified sensitive areas. Maintain demarcations in position until the cessation of construction works. 3) Do not disturb, deface, destroy or remove plants or natural features unnecessary, whether fenced or not, for the duration of the Contractor's presence on site. 4) Limit impact of construction to the EIA approved footprint. 5) Identify areas within the property boundary that does not fall under any construction footprint, and keep areas natural. 6) replant trees as part of site reinstatement. 7) Maximize reinstated surface area	1.75	6.25	Management		Active	L.Maluleke J.J.v. Rensburg								
10	Site clearing	Erosion / siltation	Impacting on surface water quality	WMA S19, DWAF min req	0	3	1	4	1) Erosion and silt control measures to be implemented to minimise the possibility of impacting on areas outside the construction area. 2) Earthwork planned for the site (levelling) also contributes to the control of erosion.	0.5	3.5	Management		Active	L.Maluleke J.J.v. Rensburg								
11	Topsoil stripping	Removal of topsoil (TM2)	Loss of topsoil	CARA, NWA	1	3	10	14	1) Identify areas where topsoil is to be stripped 2) Strip topsoil to a minimum of 150 mm (more if possible 3) Stockpile topsoil separately form other excavated material 4) re-use where possible/ donate the topsoil to a third party if topsoil is to be used in reinstatement (resurve the soil 5) protect topsoil stockpiles against erosion/ weed infestation	1.25	12.75	Management		Not Active	L.Maluleke J.J.v. Rensburg		08/10/2012	1	Preserve as much as possible, donate soil to mine for future use.	80% of topsoil stripped onsite donated to the mine.		EM	cubic meter
12	Excavating material	Creating overburden	Depleting dumping space in local landfill sites	NEMA S2, S28 NWA S19, S 22(2)(d)	0	3	5	8	1) Use access material as backfill material 2) Re-use good quality access material in final landscaping as part of reinstatement	1.25	6.75	Management		Active	L.Maluleke J.J.v. Rensburg								
13	Excavating material	Destabilizing soil	Geology disruption Groundwater contamination	NEMA S2, NWA S19,	1	5	1	7	Execute bulk (shaping) and fine (trimming) earthworks according to design (aimed at the prevention of soil erosion, of efficient storm water control, of the eventual reestablishment of vegetation and of ultimately achieving aesthetically acceptable landscapes). Retain natural trees, shrubbery and grass species wherever possible.	1.25	5.75	Management		Active	L.Maluleke J.J.v. Rensburg	appointment letter	01/09/2012	4	To minimize the risk of soil erosion and groundwater pollution through the removal of soil whilst excavating material	To reduce the incidences of excessive run off from site by 50% by conservative dust suppression and correct hydro engineering constructions. July 2011		Environmental Officer	
14	Hauling material	Noise emissions from vehicles	Noise pollution	ECA S25, ECA Reg R154, Noise Control Regulations, 1999	1	5	1	7	Limit work hours to 07h00 to 17h00, Mondays to Fridays, Saturdays till 14h00. . Notify adjacent landowners of after-hours construction Work and of any other activity that could cause a nuisance. Service vehicles regularly	1.25	5.75	Management		active	L.Maluleke J.J.v. Rensburg	Noise monitoring registers	20/05/2012	5	To minimize the noise pollution given off on site	To have no public complaints with regards to noise. July 2011		Environmental Officer	db
15	Hauling material	Potential minor Oil spillages	Soil and Ground water pollution	NEMA S2, NWA S19, DWAF min reg	1	4	1	6	Immediately clean any accidental oil or fuel spills or leakages. Do not hose oil or fuel spills into a storm water drain or sewer, or into the surrounding natural environment. Clean small oil or fuel spills with an approved absorbent material, such as 'Absorbit' or 'Spill-sorb'. Contain oil or fuel spills in water using an approved oil absorbent fiber. Remove the contaminated soil to the depth of the contamination, and regenerate using approved bio-remediation methods.	1.25	4.75	Management		Active	L.Maluleke J.J.v. Rensburg	Spill register	01/09/2012	6	To have minimised the risk of soil and ground water pollution through oil spillages whilst hauling material	To reduce the instances of reported spill from these vehicles by 70% by proper vehicles maintence and inspections.july 2011		Environmental Officer	liter
16	Hauling material	Potential major Oil spills	Soil and Ground water pollution	NEMA S2, NWA S19, DWAF min reg	1	1	5	7	1) Training and implementing an emergancy spill response procedure 2) In the case of an incedent a full investigation will be conducted and preventitive measures will be updated 3) Spill will be cleaned and all areas affected will be reinstated. 4) Spill prevention measures are implemented 5) Training is given to personel conducting work with a high potential for a spill	1	6	Management	toolbox	Active	L.Maluleke J.J.v. Rensburg	Spill register							
17	Hauling material	Emissions of VOC's from vehicles	Air pollution	NEMA S2, APPA, NEM: AQA	2	5	1	8	1) Maintain vehicle through regular servicing 2) Conduct daily inspections of vehicles 3) Ensuring that truck are loaded to capacity to reduce number of trips (minimise half loads 4) Not to leave equipment running if not in use 5) Number of vehicles onsite is limited to construction vehicles and specially permitted vehicels, reducing the number of vehicles used	1.25	6.75	Management	toolbox	Active	L.Maluleke J.J.v. Rensburg	appointment letter	01/09/2012						
	Waste management																						
18	Eating facilities	Production of food waste	Pest attraction	NEM WMA S22	1	5	1	7	1) Bins will be provided across the site 2) Bins to be serviced regularly (inspected daily) 3) Centralized eating areas will be used 4) Toolbox talks will be conducted as part of the environmental awareness training with regards to general housekeeping and litter management. 5) Cleaning / Housekeeping crew will clean areas regularly	1.25	5.75	Management		Active	L.Maluleke J.J.v. Rensburg	Daily report							
19	Servicing of equipment	**Waste oily/ contaminated rags and components**	Contamination of ground and/or water	NEMA S2, WMA S19	0	4	1	5	1) Appropriate skips are provided at service areas and onsite 2) Training/ awarenss on the correct disposal of oily/ contaminated rags (filters, parts) will be conducted	0.5	4.5	Management		Active	L.Maluleke J.J.v. Rensburg	Daily report							
20	Servicing of spill prevention structures	**Cleaning of minor spills, servicing driptrays / bunds**	Contamination of ground and/or water	NEMA S2, WMA S19	0	4	1	5	1) Minor spill are checked for daily (aslo reported by site supervision 2) Spill cleanup, bund/drip tray servicing is only conducted by the dedicated environmental staff. 3) Spills are cleaned as it is reported, and bund drip trays are serviced as required, inspected regularly 4) All contaminated material is disposed off in the designated skips, and skips are serviced by a regestired desposal facility	1	4	Management		Active	L.Maluleke J.J.v. Rensburg	Daily report							

	CONCRETE WORKS																							
21	Backfill with mass concrete	Disturbance of soil	Soil contamination	NEMA S2, MWA S19	0	4	1	5	Ensure that there is an employee at hand to shovel spillt concrete into a wheel barrow. Concrete is cast into formwork structures (shuttering) and concrete is set before backfilling work is done.	0.25	4.75	Management		Active	L.Maluleke J.J.v. Rensburg	Spill register	01/09/2012						
22	Backfill with mass concrete	Generation of building rubble	Landfill space absorbed	NEMA S2, S28 NWA S19, S 22(2)(d)	1	4	1	6	Unless otherwise specified by the EO, remove stored domestic waste to the nearest registered solid waste disposal facility. Ensure that solid waste is transported properly, avoiding waste spills en-route. No solid waste disposal is to take place on site. No solid waste may be burned on site.	2	4	Management		Active	L.Maluleke J.J.v. Rensburg	Disposal slip	01/09/2012						
23	Concete delivery	Potential sillages and washing of chute	Soil Pollution	NEMA S2, DWAF min req	0	5	1	6	Ensure that there is an employee at hand to shovel spillt concrete into a wheel barrow. Chutes to be washed only in dedicated areas.	0.5	5.5	Management		Active	L.Maluleke J.J.v. Rensburg	appointment letter	01/09/2012						
	MASS EARTHWORKS																							
24	Excavations and Trenching	Removal of soil	Soil Erosion Geology disruption Groundwater contamination	NEMA S2, S28 NWA S19, S 22(2)(d),	0	3	5	8	Undertake excavations carefully, incorporating appropriate drainage. Excavations should preferably be opened and closed on the same day.	2	6	Resident Engineer	Awareness	active	L.Maluleke J.J.v. Rensburg	appointment letter	01/09/2012						
25	Movement of earthwork equipment	Dust generation	Air pollution	NEMA S2, APPA, NEM:AQA	1	4	5	10	Manage dust resultant from the Works and fugitive dust in an efficient and environmentally sensitive manner. . Limit the production of dust and damage caused by dust through regular watering of the work areas. Enforce speed limits at all times, both on public roads and on site roads. Unless otherwise specified by the EO, the speed limit on construction roads is 40km/h. Limit number of vehicles moving around on the site. Use of dust supressants.	2	8	Management		Active	L.Maluleke J.J.v. Rensburg	Daily reports	01/09/2012	2	To have minimised the risk of air pollution from dust generation during compaction	To have less that one dust nuisance observation made by the client	01/10/2012	Environmental Officer	Number of complaints
26	Compacting	Noise generation	Noise pollution	ECA S25, ECA Reg R154, Noise Control Regulations, 1999	1	5	1	7	Limit work hours to 07h00 to 17h00, Mondays to Fridays, reduced activities over weekends. No loud music is permitted on site or in the Camp. Noise monitoring will take place and the information evaluated for trends.	0.5	6.5	Management		Active	L.Maluleke J.J.v. Rensburg	Noise monitoring registers	20/06/2012						
27	Ripping	Dust generation	Air pollution	NEMA S2, APPA, NEM:AQA	0	3	5	8	Limit the production of dust and damage caused by dust through regular watering of the work areas. Enforce speed limits at all times, both on public roads and on site roads. Unless otherwise specified by the EO, the speed limit on construction roads is 40km/h.	1.75	6.25	Management		Active	L.Maluleke J.J.v. Rensburg	appointment letter	01/09/2012						
28	Ripping	Noise generation	Noise pollution	ECA S25, ECA Reg R154, Noise Control Regulations, 1999	0	3	5	8	Limit work hours to 07h00 to 17h00, Mondays to Fridays, Saturdays till 14h00. No loud music is permitted on site or in the Camp. Service vehicles regularly	1.25	6.75	Management		Active	L.Maluleke J.J.v. Rensburg	Noise monitoring registers	01/09/2012						

	STRUCTURES																							
29	Blinding, shuttering, reinforcing and casting	Oil spills from dressing shutters, concrete spills	Soil and Ground water pollution	NEMA S2, S28 NWA S19, S 22(2)(d)	0	5	1	6	Place a plastic or PVC liner when dressing shutters. Immediately clean any accidental oil or fuel spills or leakages. Do not hose oil or fuel spills into a storm water drain or sewer, or into the surrounding natural environment. Clean small oil or fuel spills with an approved absorbent material, such as 'Absorbit' or 'Spill-sorb'. Contain oil or fuel spills in water using an approved oil absorbent fibre. Remove the contaminated soil to the depth of the contamination, and regenerate using approved bio-remediation	1.5	4.5	Shutterhands	Awarenes ss	Active	L.Maluleke J.J.v. Rensburg	appoint ment letter	01-Sep-11						
	HOUSEKEEPING																							
30	Maintenance of Equipment	Hazardous waste generation	Soil and ground water pollution	NEMA S2, S28 NWA S19, S 22(2)(d)	0	3	5	8	Store hazardous waste as indicated on the approved Site Plan. Collect any hazardous waste in receptacles located on a drip tray on site pending disposal. Retain waste oils and batteries for recycling by the supplier wherever possible. Regularly dispose of all hazardous waste not earmarked for reuse, recycling or resale at a registered hazardous waste disposal site. Contain chemical spills, and arrange for cleanup / control by the supplier, or by professional pollution control personnel. Keep hazardous waste in a bunded area of 110% Label bins.	1.5	6.5	Site Agent	Awarenes ss	Active	L.Maluleke J.J.v. Rensburg	appoint ment letter	01-Sep-11						
31	Maintenance of Equipment	Emissions from unserviced vehicles/ equipment	Soil and ground water pollution	NEMA S2, S28 NWA S19, S 22(2)(d)	1	3	3	7	Vehicles to be serviced according to the manufacture's plan.use proper service areas, drip trays and duty of care to mitigate all spills to topsoil when	0.75	6.25	Management	Awarenes ss	Active	L.Maluleke J.J.v. Rensburg	appoint ment letter	01-Sep-11						
32	Washing bays	Water with detergent	Soil and ground water contamination	NEMA S2, S28 NWA S19, S 22(2)(d)	0	3	5	8	All vehicles are washed on a bunded impermeable surface and waste water stored in a sump for later disposal.	2	6	Management	Awarenes ss	Active	L.Maluleke J.J.v. Rensburg	appoint ment letter	17/08/2012						
33	Hazardous waste disposal	Hazardous waste generation	Soil and water pollution	NEMA S2, S28 NWA S19, S 22(2)(d)	0	3	5	8	Store hazardous waste as indicated on the approved Site Plan. Collect any hazardous waste in receptacles located on a drip tray on site pending disposal. Retain waste oils and batteries for recycling by the supplier wherever possible. Regularly dispose of all hazardous waste not earmarked for reuse, recycling or resale at a registered hazardous waste disposal site. Contain chemical spills, and arrange for cleanup / control by the supplier, or by professional pollution control personnel. Keep hazardous waste in a bunded area of 110% Label bins.	1.5	6.5	Contracted Waste collection company	Awarenes ss	Active	L.Maluleke J.J.v. Rensburg	Disposal slips	17/08/2012						

34	General waste disposal	Generation of solid waste	Landfill space absorbed	NEMA S2, S28 NWA S19, S 22(2)(d)	1	4	3	8	Where feasible, collect waste paper, glass and metal waste separately and arrange for collection by recycling contractors. Ensure that personnel make use of the litter bins provided. Keep all Work Sites and at the Contractors camp tidy and litter free at all times. Empty litter bins weekly (or as required before they reach capacity). Unless otherwise specified by the EO, remove stored domestic waste to the nearest registered solid waste disposal facility. Ensure that solid waste is transported properly, avoiding waste spills en-route. No solid waste disposal is to take place on site. No solid waste may be burned on site.	2	6	The hole crew	Training on waste Segregation from the source	Active	L.Maluleke J.J.v. Rensburg	appointment letter	17/08/2012						
35	Building rubble disposal	Building rubble generation	Landfill space absorbed	NEMA S2, S28 NWA S19, S 22(2)(d)	0	3	4	7	Where feasible, collect waste paper, glass and metal waste separately and arrange for collection by recycling contractors. Ensure that personnel make use of the litter bins provided. Keep all Work Sites and at the Contractors camp tidy and litter free at all times. Empty litter bins weekly (or as required before they reach capacity). Unless otherwise specified by the EO, remove stored domestic waste to the nearest registered solid waste disposal facility. Ensure that solid waste is transported properly, avoiding waste spills en-route. No solid waste disposal is to take place on site. No solid waste may be burned on site.	2	5	Contracted Waste Collection Company	Awareness	Active	L.Maluleke J.J.v. Rensburg	appointment letter	17/08/2012						
	STRUCTURES																							
36	Steel reinforcement	Generation of solid waste	Soil contamination	NEMA S2, DWAF min req	0	4	3	7	Where feasible, collect waste paper, glass and metal waste separately and arrange for collection by recycling contractors. Ensure that personnel make use of the litter bins provided. Keep all Work Sites and at the Contractors camp tidy and litter free at all times. Empty litter bins weekly (or as required before they reach capacity). Unless otherwise specified by the EO, remove stored domestic waste to the nearest registered solid waste disposal facility. Ensure that solid waste is transported properly, avoiding waste spills en-route. No solid waste disposal is to take place on site. No solid waste may be burned on site.	2	5	site supervison		Active	L.Maluleke J.J.v. Rensburg	Scrap recycle C&W	17/08/2012						
37	Placing and Fixing	Noise emissions from placing shutters	Noise pollution	ECA S25, ECA Reg R154, Noise Control Regulations, 1999	1	3	3	7	Limit work hours to 07h00 to 17h00, Mondays to Fridays, Saturdays till 14h00. No loud music is permitted on site or in the Camp. Notify adjacent landowners of after-hours construction Work and of any other activity that could cause a nuisance. Continuous monitoring of noise levels will take place.	1.25	5.75	site supervison		Active	L.Maluleke J.J.v. Rensburg	appointment letter	01-Sep-11						
38	Curing and Protecting	Releases to water: Spills of curing compound on the ground	Water contamination	NEMA S2, S28 NWA S19, S 22(2)(d).	0	4	3	7	Do not hose oil or fuel spills into a storm water drain or sewer, or into the surrounding natural environment. Clean small oil or fuel spills with an approved absorbent material, such as 'Absorbit' or 'Spill-sorb'. Contain oil or fuel spills in water using an approved oil absorbent fibre. Remove the contaminated soil to the depth of the contamination, and regenerate using approved bio-remediation methods.All drums of curing compound will be treated with due care and placed in drip trays and stored in the Haz material area.	1	6	site supervison		Active	L.Maluleke J.J.v. Rensburg	Spill register	01-Sep-11						
	Fire hazard							0		0	0													
39	fire from natural vegation on or around site	the spread of fires from or to site	Property distruction/vegation loss	NEMA S2, V&FFA S12	1	1	1	3	Clear a 5 meter area around the site boundry to act as a fire break. Keep smoking areas well away from the site boundry. Keep fire extingishers close to all areas of work.	0.75	2.25	all responsible on site.		active	L.Maluleke J.J.v. Rensburg	appointment letter	01-Sep-11						
40	chemical fire on site.	the instance of a chemical fire on site at any of the chemical stores or work areas.	Property distruction/vegation loss	NEMA S2, V&FFA S12	1	1	2	4	Appropriatly store chemicals,Keep smoking areas well away from the site boundry. Keep fire extingishers close to all areas of work.	0.75	3.25	all responsible on site.		active	L.Maluleke J.J.v. Rensburg	appointment letter	01-Sep-11						