

BASELINE RISK ASSESSMENT

RISK ASSESSMENT:	Baseline Risk Assessment	DATE:	05/11/2021				
CLIENT:	KwaZulu Natal Province- Agriculture and Rural Development Republic of South Africa	PROJECT LOCATION:	MAKHATHINI IRRIGATION SCHEME, BLOCK 6 AT UMKHANYAKUDE DISTRICT				
ENGINEERS:							
HEALTH & SAFETY:		EST START DATE:					
CONTRACT NUMBER:		EST COMPLETION DATE:					
BRIEF DESCRIPTION OF UNSTALLATION OF SUB-SURFACE DRAINAGE AT MAKHATHINI IRRIGATION SCHEME, BLOCK 6 AT UMKHANYAKUDE DISTRICT							
	KWAZULU	-NATAL	PROVINCE				

RISK ASSESSMENT T	EAM:		APPROVALS:					
INITIALS & SURNAME	DESIGNATIONS	SIGNATURE	INITIALS & SURNAME	DESIGNATIONS	SIGNATURE			
	CONSTRUCTION HEALTH AND SAFETY MANAGER	BLIC OF S	SE Ndlela	CLIENT REPRESENTATIVE				
			Tahir Jasat	PROJECT ENGINEER				

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REQUIRED AND EXISTING CONTROL MEASURES: (SUBMIT AND ATTACH TO RISK ASSESSMENT)

	AVAILABLE		ADEC	UATE	REMARKS		
	Yes	No	Yes	No			
Scope of Work (logical steps on how task will be performed)	X						
Procedures: (WI / SOP / Vendor Spec)							
Training (induction) / Competency certificates? Specific training identified / other (instructions)							
Special permits required (specify)							
Equipment / Tool Registers / Others (specify)							
Code of Practice:	IA	71			TAL DDAVINGE		
Other:	A	4	1	UINA	IALFRUVINCE		

FREQUENCY SC	ALE		SEVERITY SCALE	PROBABILITY SCALE		
Frequent occurrence / daily It has happened / monthly	(3) (2)	Catastrophic Disaster	(Many fatalities / > 10 Million damage) (Fatal injury / > 1 Million damage)	(8) (7)	Has happened before Quite possible	(3) (2)
Could occur / yearly	(1)	Very Serious	(Reportable Accident / > R100,000 damage)	(6) (5)	Unusual but possible	(1)
		Serious Important	(Disability Injury (LTI) / > R100,000 damage) (Non-disabling Injury / > R1,000 damage)	(5) (4)		
		Of Concern	(Minor injury / > R100 damage)	(3)		

RISK RANKING / PRIO	RITY FACTOR	
If score is 61 to 72	AA	Potentially Catastrophic - action needed immediately.
If score is 49 to 60	Α	Potentially Major – action to be taken within 24 hours.
If score is 37 to 48	В	Potentially Serious – action to be taken within 48 hours.
If score is 01 to 36	С	Potentially Minor – action to be taken within 7 days.

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No	LIST ITEMS/TASKS WITH ALL TASK STEPS (WHO WILL DO WHAT, WHERE AND WHEN)	POTENTIAL AND EXISTING HAZARDS SAFETY HEALTH ENVIRONMENT	RISK (CONSEQUENCE OF THE HAZARDS) DEATH LOSS DAMAGED EQUIP SPILLAGE, ETC	PROB OF OCCU R 1/2/3	SEV OF OCCU R 3/4/5 /6/7/ 8	FREQ OF OCC UR 1/2/3	SCOR E TOTA L PXSX F	RISK RANK / PRIO RITY FACT OR	PREVENTATIVE MEASURES AND CONTROLS • ELIMINATE RISK • CONTROL AT SOURCE • PUT/FOLLOW PROCEDURE • PROVIDE PPE
1.	Human contact	Corona virus	• Fever	3	8	3	72	AA	Don't shake hands or hug one another.
)		- Epidemic	• cough						Keep social distancing 1.5 m apart
3	三人 人	- Pandemic	breathing and water or alcohol conte	Wash your hands every 20 min with soap and water or with hands sanitiser with 70% alcohol content.					
0	ALAM A		sore throatDeath						•Stay at home when you dint feel well
7	THE Y	N.S. I	• Dealin	U	Ľ	<i>)</i> -	N	A	Report to the supervisor if you have symptoms.
1	1/	1 000							Eat healthy and improve hygiene practises
7	No 1 No	/ //							There is no cure to this disease so far
T	Sharing of tools	Transportation of the virus from one tool to	Fevercough	UF	RΕ	A١	۱D	RL	Sanitise tools with sanitiser with 70% alcohol content.
		the next by human contact.	difficulty breathing	OF	S	0	TH	A	Wash your hands every after work and during the breaks and after sharing tools with soap and water or with hands sanitiser with 70% alcohol content.
			sore throatDeath						samuser with 70% alcohol content.
	Working in the same offices	Transportation of the virus from one surface to the next by human contact	 Death Fever cough difficulty breathing sore throat Death 						Clean all office surfaces, door handles and any other equipment frequently used (phone, printer, copying machine) Wash your hands every 20 min with soap and water or with hands sanitiser with 70% alcohol content.

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2.	Driving to and from site.	 Driving on dangerous steep road. Dirt Roads. Pot Holes/ road High speeds/ Driving Recklessly. Fatigue. Other vehicles driving unsafely. Exposure to Dust. Slow moving plant obstructing traffic movement/flow Animals on the road 	Severe Injuries (broken bones, lacerations, etc) Death. Dust being inhaled/getting in eyes. Dust obscuring the drivers view while driving. Damage to Vehicles, Equipment/Property. Vehicle Collision & Damage Hydrocarbon Spills cause ground water, rivers and water way contamination. Hydrocarbon Spills Creating Slippery road surfaces. Motorist collisions with slow moving plant. Motor colliding with animals on the road.	UP OF	» E S	J- AN	48	A'RL	 All Drivers to have in possession a valid Licences in order to drive any vehicle. All drives are to be warned about the road conditions. All passengers are to remain seated at all times with seatbelts fastened. At no time will passengers be allowed to ride on the back of an open van, truck or trailer. Riding on Plant will not be permitted. Drivers are to be wide awake and should not be allowed to drive if they are feeling tired or sleepy. Regular breaks at least 2 hourly. Recommended to have an alternative driver available to share driving time (where required on long commutes). Do Not exceed Speed Limits, and ensure speeds are kept to a safe limit giving the driver enough time to make an emergency stop (i.e. drive to the conditions, not to the speed limit of the road, and keep your distance from the vehicle in front of you using the 2-3 second rule). Keep to safe speed limit of 15km/h when driving on site. Drivers are to drive a safe distance away from the roads edge to avoid the vehicle losing control (Includes no Yellow Line Driving).

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3. Site Establishment: - Collect & Deliver materials and equipment. - Loading & Officading by Hand of Loading & Officading by Ease & Wasps. - Shakes. - Bust being inhaled/ getting in eyes. - Dust being inhaled/ getting in eyes. - Dust being inhaled/ getting in eyes. - Shakes. - Bees & Wasps. - Cattle (on site accessing though gaps in fence) - Moving vehicles. - Moving vehicles. - Diriving on dangerous and undulating terrain. - Dirit Roads on site. - Pot Holes. - Pot Holes. - Pot Holes. - Pother vehicles driving unsafely. - Other vehicles driving unsafely. - Movement of Mchamat aids including mobile cranes and plant. - Colletion for many and plant. - Amanual Handling of getting in eyes. - Dust being inhaled/ getting in eyes. - Dust was all and inhaling in eyes. - Dust being inhaled/ getting in eyes. - Doubled with bead and inhaling	No	LIST ITEMS/TASKS WITH ALL TASK STEPS (WHO WILL DO WHAT, WHERE AND WHEN)	POTENTIAL AND EXISTING HAZARDS SAFETY HEALTH ENVIRONMENT	RISK (CONSEQUENCE OF THE HAZARDS) DEATH LOSS DAMAGED EQUIP SPILLAGE, ETC	PROB OF OCCU R 1/2/3	SEV OF OCCU R 3/4/5 /6/7/ 8	FREQ OF OCC UR 1/2/3	SCOR E TOTA L PXSX F	RISK RANK / PRIO RITY FACT OR	PREVENTATIVE MEASURES AND CONTROLS • ELIMINATE RISK • CONTROL AT SOURCE • PUT/FOLLOW PROCEDURE • PROVIDE PPE	SITE SPECIFIC PHOTOGRAPHS RELATING TO ITEMS
	3.	- Collect & Deliver materials and equipment Loading & Offloading by Hand - Loading & Offloading using Mechanical Aids Building offices and workshops: using hand tools, ladders, portable electric drill, electrician to install temporary electrical	equipment and materials. Dust. Snakes. Bees & Wasps. Ticks: -Cattle (on site accessing though gaps in fence) Moving vehicles. Materials/Objects in the walkways. Uneven surfaces between vehicle and lay down area. Driving on dangerous and undulating terrain. Dirt Roads on site. Pot Holes. Excessive speeds/Driving Recklessly. Fatigue. Other vehicles driving unsafely. Movement of Mechanical aids including mobile cranes	injuries. Dust being inhaled/getting in eyes. Snake Bites (Common venomous Kwa-Zulu Natal Snakes: Black mamba, Puff Adder, Boomslang, Rinkhals, Green Mamba, Forest/Black Cobra, Night Adder, etc). Bee & Wasp Stings causing Anaphylaxis (allergic reaction) Tick Bites causing tick bit fever/ Lyme disease. Vehicle Collision & Damage. Collisions with Pedestrians. Material Damage. Equipment Damage. Collision/impacts of mobile lifting equipment, loads and dropped loads	UFOF	RES	J- AN OU	N ID	A'RL A	Instructions are given on Manual handling using Safe Work Procedure (SWP) for Manual Handling: Where load is lifted, bending at the knees, not the back. Don't twist body with load in hands, always carry load close to the body, adhere to the recommended weight limit (RWL = 1/3 body weight or 25kg). • Contractor to conduct DSTI's (Daily Safety Task Instruction) to be conducted and communicated at the beginning of the shift on a daily basis. DSTI close out to be conducted and attendance registered signed by all staff. • Ensure Off-loading area is clear, level, secure and free from slip trip and falling hazards. • Stacking & Storage Supervisor to be appointed to control lay down areas. • All workers to have valid medicals with annexure 3 documents signed and stamped by Occupational Medical Practitioner. • Stacking and Storing to only be in designated areas and Contractor to develop and implement Stacking & Storing Guidelines to cove items such as Ventilation, Lighting, Manoeuvring Space, Stacking Requirements, Emergency Exits,	NCE

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site. Old equip left on sit Movement and from Property proximity Fuel (Pet Noise. Cement. Working From a F Position. Tempora Feeds. Inclement	cables and people. Mechanical Aids Overturning causing death, injury or damage to equipment/ materials. Cuts, lacerations and eye injuries from broken glass. Slips, trips and falls from uneven surfaces, piles of rubble and soft sand. Injury and possible vehicle collisions between site camp operations and residents living in house near in site camp area.	ULU-NA TURE AND F OF SOUTH	 Keep to safe speed limit 15km/h when driving on site. Supervisors to brief staff on snake awareness and First Aid Officers must be familiar with contractor's snake bite procedures. Supervisors to brief staff on bee and wasp awareness and First Aid Officers must be familiar with contractor's bee and wasp sting procedures. Supervisors to brief staff on tick bite awareness and First Aid Officers must be familiar with contractor's tick bite procedures (i.e. If ticks are found, be patient when removing a tick from your skin, follow these steps: 1. Use Tweezers to grab the tick close to your skin, 2. Gently pull back, making sure the tick's head is not left in your skin. 3. Don't Squeeze the ticks body, if you do the bacteria may enter your skin. 4. After removing the tick, wash the bite with soap and water. See a Doctor right away if you notice any symptoms of Tick Bite Fever or Lymes Disease). Supervisors to be training in capturing and releasing snakes (snakes must not be killed). Flag man to be provided to ensure vehicles are guided onto site. All Drivers Licences must be valid in order to drive any vehicle. Only Licensed and Appointed Mechanical Aids Operators (i.e. Crane Operators, TLB operators, Bobcat Operators, etc) to operate plant on site. as far as is reasonably practicable, ensure that machinery, plant or work systems 	NCE
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	Worker falling from heights/ Fall risk positions causing death or serious injury. Possible Electrocution for working/installing temporary electrical feed. Lightning Strike causing death, or severe burns/injuries. Rain causing slippery conditions. Heat stroke from being exposed to the sun for too long and sun burn. Bush Fires caused by cigarettes/open fires causing smoke inhalation, possible death, burns, and damage to property. HAVs (Hand Arm Vibration: permanent damage to dexterity of fingers, finger blanching) and WBV (Whole Body Vibration: back pain, long term can cause lumbar spinal damage also including the neck and shoulder region, musculoskeletal	LU-N RE AND SOUTH	optimise human well-being and overall system performance; • as far as is reasonably practicable, supply machinery, plant or work systems that can be transported, received, stored and handled in a manner that optimises human well-being and overall system performance; • provide information, instruction and training as deemed necessary to allow potential users to achieve optimal human well-being and overall system performance during use of machinery, plant or work systems; • Inspection & Maintenance records must be maintained for all mechanical aids on site. • Mechanical Aids must be operated in accordance with the operators training and manufacturers guidelines (e.g.: outriggers must be fully extended, Safe Work Loads (SWL) must be observed, work area below lifts must be clear and nobody is to walk under load or load be lifted over people, etc). • Suitably qualified and competent riggers must be appointed. Riggers certificates must indicate level of rigging competency and must be an accredited course. • Rigging study (where required) must be in place and signed off by the rigging team. • All drives are to be warned about the road conditions. • All passengers are to remain seated at all times with seatbelts fastened. • At no time will passengers be allowed to ride on the back of an open van, truck or trailer. • Riding on Plant will not be permitted.	NCE
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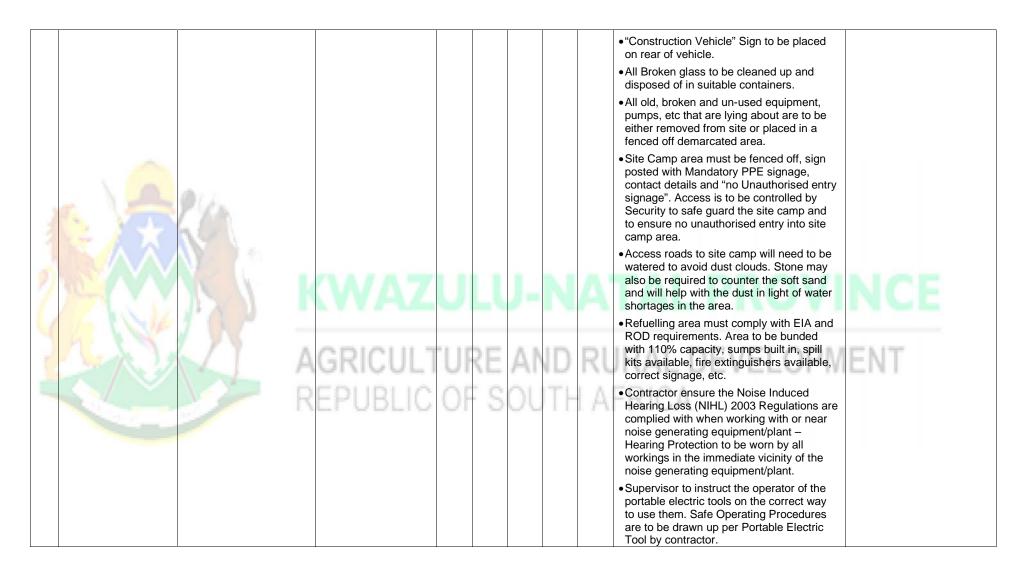


KW	cultive And	Drivers are to be wide awake and should not be allowed to drive if they are feeling tired or sleepy. Regular breaks at least 2 hourly. Recommended to have an alternative driver available to share driving time (where required on long commutes). Do Not exceed Speed Limits, and ensure speeds are kept to a safe limit giving the driver enough time to make an emergency stop (i.e. drive to the conditions, not to the speed limit of the road, and keep your distance from the vehicle in front of you using the 2-3 second rule). Drivers are to drive a safe distance away from the roads edge to avoid the vehicle losing control (Includes no Yellow Line Driving). If visibility is impaired your headlights must be on to see and to be seen. Vehicles must have Warning Triangles and reflective vests in the event of a breakdown. All Vehicles and Plant must be regularly serviced and in good working order. Inspection Records must be kept for all vehicles and plant. Drivers and Operator must have a valid Medical Certificate of Fitness as conducted by an occupational medical practitioner (including a completed and Annexure 3 form). No drivers/Operators to be under the influence of alcohol or drugs of any kind. Rotating Orange Flashing Light to be on	
		all vehicles and must be in good working order.	

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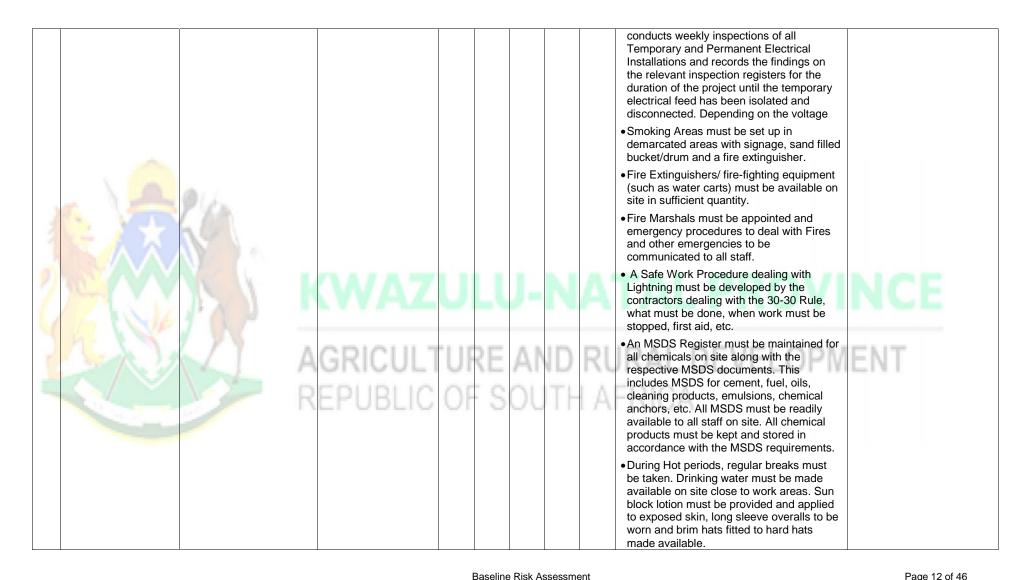


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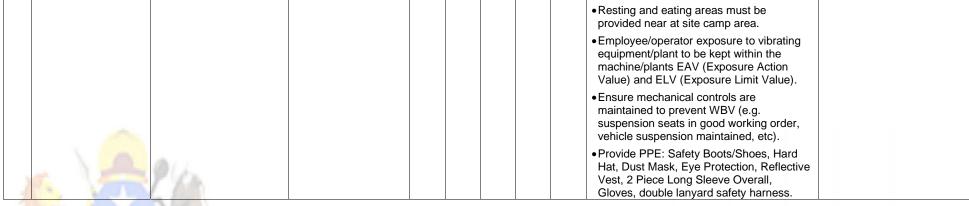






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4.	Site Fencing: - Clearing bush using bush knives Digging Holes using pick and spades Concreting fence poles Mounting fencing using hand tools & portable electric drill and ladders (where required).	 Manual Handling of materials. Dust. Snakes. Bees & Wasps. Ticks. Moving vehicles. Movement of Mechanical aids including mobile cranes and plant. Movement of public to and from a Residential Property in close proximity to site area. Cement. Noise Working at heights: Ladder work. Underground services. Inclement Weather. Smoking/ Open Fires Sun 	Manual handling injuries. Dust being inhaled/ getting in eyes. Snake Bites (Common venomous Kwa-Zulu Natal Snakes: Black mamba, Puff Adder, Boomslang, Rinkhals, Green Mamba, Forest/Black Cobra, Night Adder, etc). Bee & Wasp Stings causing Anaphylaxis (allergic reaction) Tick Bites causing tick bit fever/ Lyme disease. Vehicle Collision & Damage. Collisions with Pedestrians. Ergonomics issues Material Damage. Equipment Damage. Cuts, lacerations and eye injuries from	UF OF		J- AN	36 ID Th	RL A	 Responsible Supervisor to ensure Instructions are given on Manual handling using Safe Work Procedure (SWP) for Manual Handling: Where load is lifted, bending at the knees, not the back. Don't twist body with load in hands, always carry load close to the body, adhere to the recommended weight limit (RWL = 1/3 body weight or 25kg). Contractor to conduct DSTI's (Daily Safety Task Instruction) to be conducted and communicated at the beginning of the shift on a daily basis. DSTI close out to be conducted and attendance registered signed by all staff. Ensure Off-loading area is clear, level, secure and free from slip trip and falling hazards. All workers to have valid medicals with annexure 3 documents signed and stamped by Occupational Medical Practitioner. Stacking and Storing to only be in designated areas and Contractor to develop and implement Stacking & Storing Guidelines to cove items such as Ventilation, Lighting, Manoeuvring Space, Stacking Requirements, Emergency Exits, Access & egress, etc. Keep to safe speed limit 15km/h when driving on site.

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	clearing bush and placing fencing. Slips, trips and falls from causing sprains and minor injuries. Chemical burns/ contact dermatitis from cement and eye injuries from cement splashes. Noise Induced hearing loss. Falls from ladders causing death or serious bodily injury Possible electrocution from existing underground services. Damage to underground services. Lightning Strike causing death, or severe burns/injuries. Rain causing slippery conditions. Heat stroke from being exposed to the sun for too long and sun burn. Bush Fires caused by cigarettes/open fires causing smoke inhalation, possible	JLU-N URE AND OF SOUTH	A'RU	 as far as is reasonably practicable, ensure that machinery, plant or work systems optimise human well-being and overall system performance; (b) as far as is reasonably practicable, supply machinery, plant or work systems that can be transported, received, stored and handled in a manner that optimises human well-being and overall system performance; (c) provide information, instruction and training as deemed necessary to allow potential users to achieve optimal human well-being and overall system performance during use of machinery, plant or work systems; Supervisors to brief staff on snake awareness and First Aid Officers must be familiar with contractor's snake bite procedures. Supervisors to be training in capturing and releasing snakes (snakes must not be killed). Supervisors to brief staff on bee and wasp awareness and First Aid Officers must be familiar with contractor's bee and wasp sting procedures. Supervisors to brief staff on tick bite awareness and First Aid Officers must be familiar with contractor's tick bite procedures (i.e. If ticks are found, be patient when removing a tick from your skin, follow these steps: 1. Use Tweezers to grab the tick close to your skin, 2. Gently pull back, making sure the tick's head is not left in your skin. 3. Don't Squeeze the ticks body, if you do the bacteria may enter your skin. 4. After 	NCE
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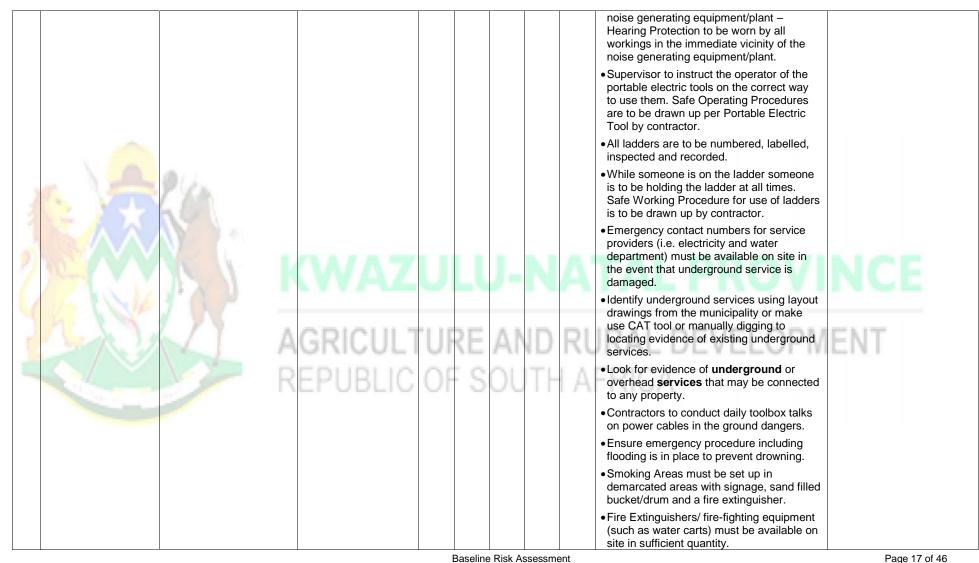


	death, burns, and damage to property.	removing the tick, wash the bite with soap and water. See a Doctor right away if you notice any symptoms of Tick Bite Fever or Lymes Disease). • Flag man to be provided to ensure vehicles are guided onto site. • All Drivers Licences must be valid in order to drive any vehicle. • All passengers are to remain seated at all times with seatbelts fastened. • At no time will passengers be allowed to ride on the back of an open van, truck or trailer. • Riding on Plant will not be permitted. • All Vehicles and Plant must be regularly serviced and in good working order. • Inspection Records must be kept for all vehicles and plant. • Drivers and Operator must have a valid Medical Certificate of Fitness as conducted by an occupational medical practitioner (including a completed and Annexure 3 form). • No drivers/Operators to be under the influence of alcohol or drugs of any kind. • Rotating Orange Flashing Light to be on all vehicles and must be in good working order. • "Construction Vehicle" Sign to be placed on rear of vehicle. • All hand tools are to be inspected prior to use and inspected at least once per month. Inspections must be recorded on tool inspection check sheets. • Contractor ensure the Noise Induced Hearing Loss (NIHL) 2003 Regulations are complied with when working with or near	
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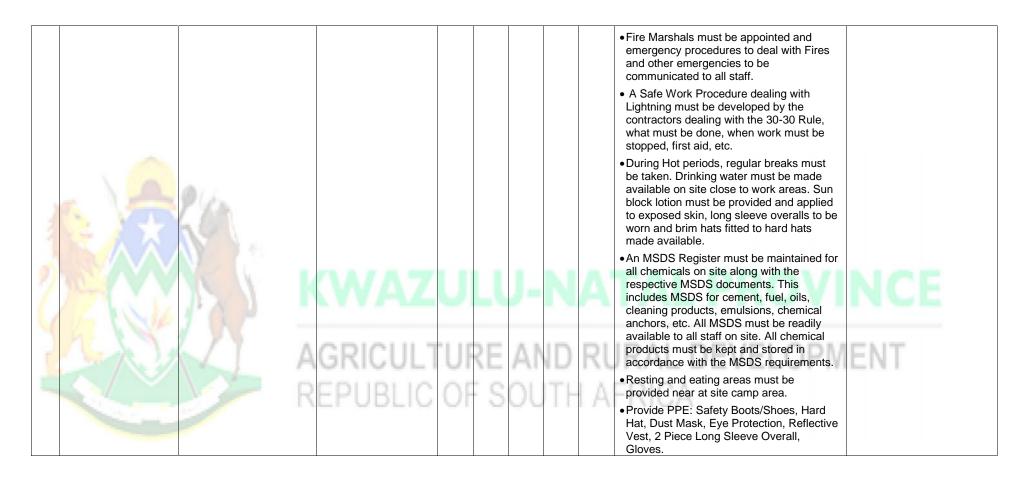
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5.	Site Access Road Construction: - Gravel service roads for use during construction.	 Manual Handling of equipment and materials. Dust. Snakes. Bees & Wasps. Ticks. Sun Moving vehicles. Movement of Mechanical aids including mobile cranes and plant. Noise. Underground services. Inclement Weather. Smoking/ Open Fires Vibration (rolling compactors) Uneven grounds Fall risks Trips and slips 	Manual handling injuries. Dust being inhaled/ getting in eyes. Snake Bites (Common venomous Kwa-Zulu Natal Snakes: Black mamba, Puff Adder, Boomslang, Rinkhals, Green Mamba, Forest/Black Cobra, Night Adder, etc). Bee & Wasp Stings causing Anaphylaxis (allergic reaction) Tick Bites causing tick bit fever/ Lyme disease. Ergonomics issues Vehicle Collision & Damage. Collisions with Pedestrians. Material Damage. Equipment Damage. Mechanical Aids Overturning causing death, injury or	UF OF	RES	J- AN	42	A RL	 Responsible Supervisor to ensure Instructions are given on Manual handling using Safe Work Procedure (SWP) for Manual Handling: Where load is lifted, bending at the knees, not the back. Don't twist body with load in hands, always carry load close to the body, adhere to the recommended weight limit (RWL = 1/3 body weight or 25kg). Contractor to conduct DSTI's (Daily Safety Task Instruction) to be conducted and communicated at the beginning of the shift on a daily basis. DSTI close out to be conducted and attendance registered signed by all staff. Supervisor to control the delivery of aggregate to site, ensuring the delivery is placed in the predetermined demarcated area. Aggregate stock piles must not be higher than 2m. Stacking and Storing to only be in designated areas and Contractor to develop and implement Stacking & Storing Guidelines to cove items such as Ventilation, Lighting, Manoeuvring Space, Stacking Requirements, Emergency Exits, Access & egress, etc. All workers to have valid medicals with annexure 3 documents signed and stamped by Occupational Medical Practitioner.

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	damage to equipment/ materials. Slips, trips and falls from uneven surfaces and soft sand. Vehicles getting stuck in access roads and site areas causing delays and potential accidents. NIHR (Noise Induced Hearing Loss). Possible electrocution from existing underground services. Damage to underground services. Lightning Strike causing death, or severe burns/injuries. Rain causing slippery conditions. Heat stroke from being exposed to the sun for too long and sun burn. Bush Fires caused by cigarettes/open fires causing smoke inhalation, possible	LU-N RE AND SOUTH	 Keep to safe speed limit 15km/h when driving on site. Supervisors to brief staff on snake awareness and First Aid Officers must be familiar with contractor's snake bite procedures. Supervisors to be training in capturing and releasing snakes (snakes must not be killed). Supervisors to brief staff on bee and wasp awareness and First Aid Officers must be familiar with contractor's bee and wasp sting procedures. Supervisors to brief staff on tick bite awareness and First Aid Officers must be familiar with contractor's tick bite procedures (i.e. If ticks are found, be patient when removing a tick from your skin, follow these steps: 1. Use Tweezers to grab the tick close to your skin, 2. Gently pull back, making sure the tick's head is not left in your skin. 3. Don't Squeeze the ticks body, if you do the bacteria may enter your skin. 4. After removing the tick, wash the bite with soap and water. See a Doctor right away if you notice any symptoms of Tick Bite Fever or Lymes Disease). Flag man to be provided to ensure vehicles are guided onto site. All Drivers Licences must be valid in order to drive any vehicle. Only Licensed and Appointed Mechanical Aids Operators (i.e. TLB operators, Bobcat Operators, etc) to operate plant on site. as far as is reasonably practicable, ensure that machinery, plant or work systems 	NCE
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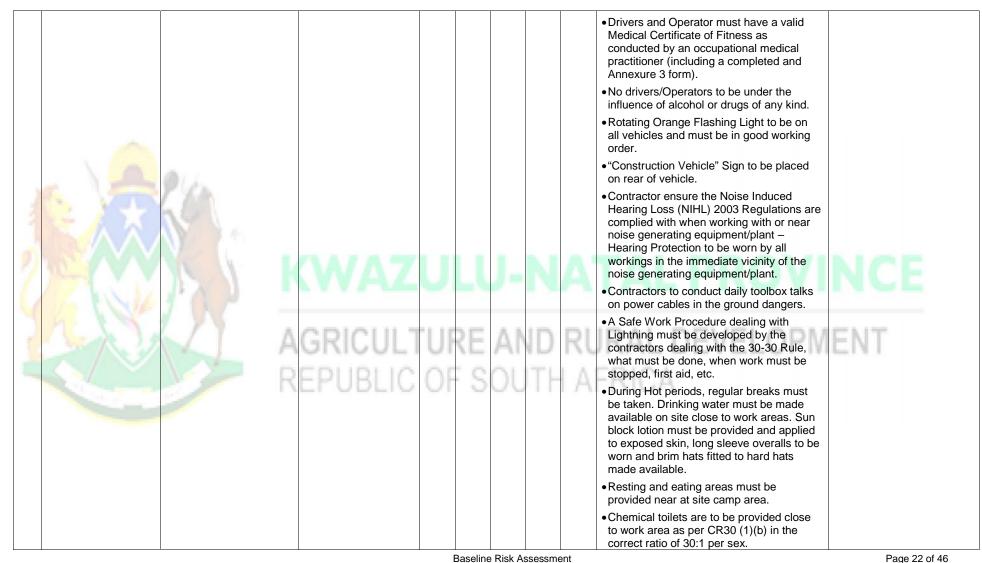


	death, burns, and damage to property. HAVs (Hand Arm Vibration: permanent damage to dexterity of fingers, finger blanching) and WBV (Whole Body Vibration: back pain, long term can cause lumbar spinal damage also including the neck and shoulder region, musculoskeletal disorders, and motion sickness). Multiple fatality Multiple injuries due to person falling Disablement Property damage	LU-N RE AND SOUTH	optimise human well-being and overall system performance; (b) as far as is reasonably practicable, supply machinery, plant or work systems that can be transported, received, stored and handled in a manner that optimises human well-being and overall system performance; • (c) provide information, instruction and training as deemed necessary to allow potential users to achieve optimal human well-being and overall system performance during use of machinery, plant or work systems; • Inspection & Maintenance records must be maintained for all mechanical aids on site. • Mechanical Aids must be operated in accordance with the operators training and manufacturers guidelines (e.g.: outriggers must be fully extended, Safe Work Loads (SWL) must be observed, work area below lifts must be clear and nobody is to walk under load or load be lifted over people, etc). • All passengers are to remain seated at all times with seatbelts fastened. • At no time will passengers be allowed to ride on the back of an open van, truck or trailer. • Riding on Plant will not be permitted. • If visibility is impaired your headlights must be on to see and to be seen. • All Vehicles and Plant must be regularly serviced and in good working order. • Inspection Records must be kept for all vehicles and plant.	
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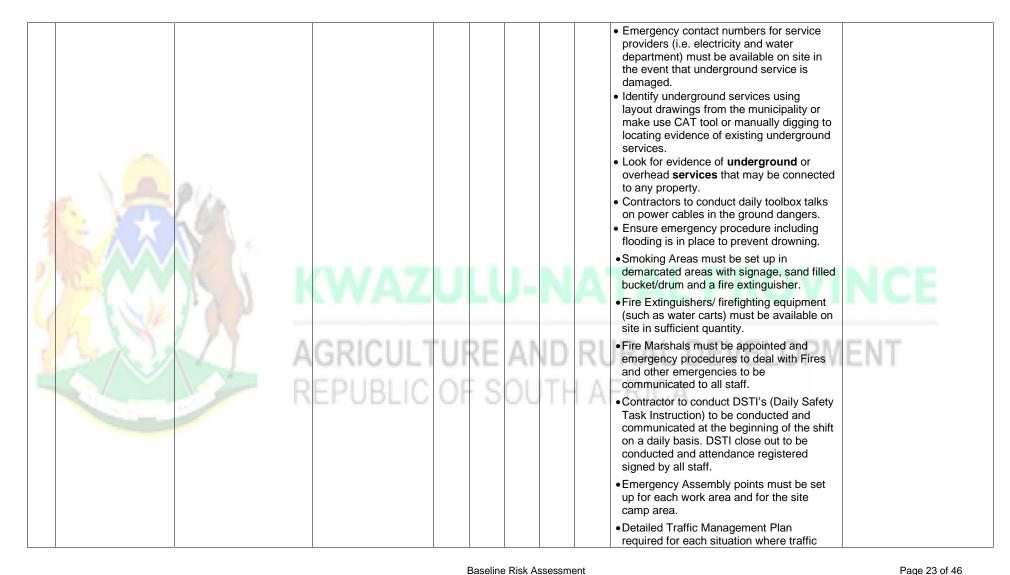
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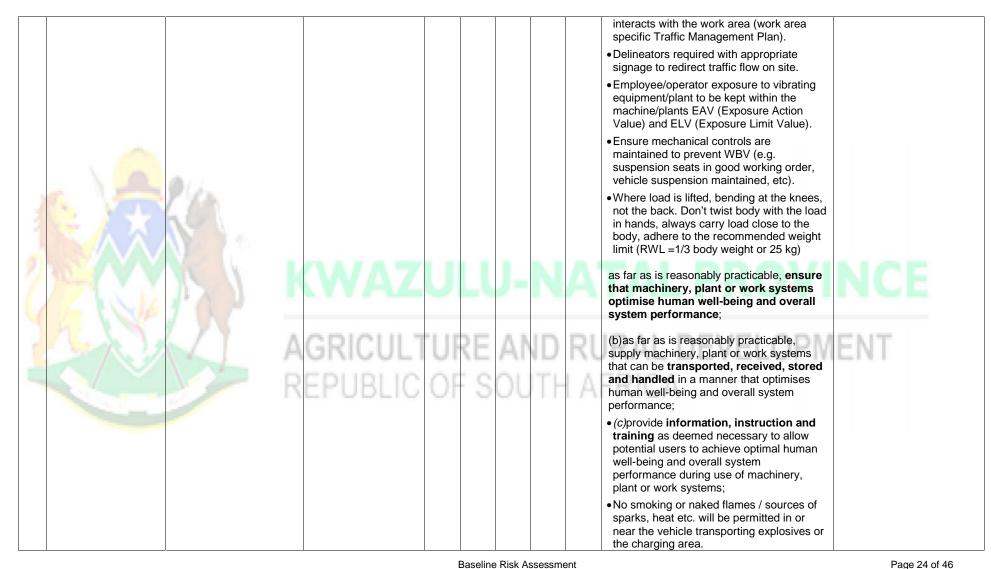














	Provide PPE: Safety Boots/Shoes, Hard Hat, Dust Mask, Eye Protection, Reflective Vest, 2 Piece Long Sleeve Overall, Rain Suits, Gloves.
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 6. Expose by digging test holes and ldentify Existing Pipeline: Hand tool excavation only. Demarcate and barricade once exposed route is identified (can be backfilled once exposed to allow pedestrians and light motor vehicles to cross over (note: no heavy vehicles/plant to cross over Expose by digging test holes and ldentify Existing fresh holes and ldentify Existing pipeline: Manual Handling. Dust. Dust. Dust. Dust. Dust. Dust. Dust. Dust. Dust being inhaled/ getting in eyes. Snakes. Bites (Common venomous Kwa-Zulu Natal Snakes: Black mamba, Puff Adder, Boomslang, Rinkhals, Green Mamba, Forest/Black Cobra, Night Adder, etc). Smoking/ Open Fires Sun Expose by digging test holes and ldentify Existing pipeline: Amount Handling. Dust. Dust. Snakes. Bees & Wasps. Ticks. Moving vehicles. Movement of Mechanical aids on site. Underground services. Inclement Weather. Smoking/ Open Fires Sun Excavations. Manual Handling. Dust being inhaled/ getting in eyes. Snakes Bites (Common venomous Kwa-Zulu Natal Snakes: Black mamba, et al. Puff Adder, Boomslang, Rinkhals, Green Mamba, Forest/Black Cobra, Night Adder, etc). Smoking/ Open Fires Sun Excavations. Manual Handling. Dust being inhaled/ getting in eyes. Snakes Bites (Common venomous Kwa-Zulu Natal Snakes: Black mamba, always carry load close to the body, adhere to the recommended weight limit (RWL = 1/3 body weight or 25kg). Contractor to conduct DSTI's (Daily Safety Task Instruction) to be conducted and communicated at the beginning of the shift on a daily basis. DSTI close out to be conducted and attendance registered signed by all staff. as far as is reasonably practicable	No	LIST ITEMS/TASKS WITH ALL TASK STEPS (WHO WILL DO WHAT, WHERE AND WHEN)	POTENTIAL AND EXISTING HAZARDS • SAFETY • HEALTH • ENVIRONMENT	RISK (CONSEQUENCE OF THE HAZARDS) DEATH LOSS DAMAGED EQUIP SPILLAGE, ETC	PROB OF OCCU R 1/2/3	SEV OF OCCU R 3/4/5 /6/7/ 8	FREQ OF OCC UR 1/2/3	SCOR E TOTA L PXSX F	RISK RANK / PRIO RITY FACT OR	PREVENTATIVE MEASURES AND CONTROLS • ELIMINATE RISK • CONTROL AT SOURCE • PUT/FOLLOW PROCEDURE • PROVIDE PPE	
pipeline). Tick Bites causing tick bit fever/ Lyme disease. Ergonomic issues/exposure Vehicle/ Plant Collisions with workers. Slips, trips and falls causing sprains and minor injuries. Possible electrocution from existing existing or work systems optimise human well being and overall system performance (b)as far as is reasonably practicable, supply machinery, plant or work systems that can be transported, received, stored and handled in a manner that optimises human wellbeing and overall system performance (c)provide information, instruction and training as deemed necessary to allow potential users to achieve optimal human well	6.	test holes and Identify Existing Pipeline: - Hand tool excavation only. - Demarcate and barricade once exposed route is identified (can be backfilled once exposed to allow pedestrians and light motor vehicles to cross over (note: no heavy vehicles/ plant to cross over	 Dust. Snakes. Bees & Wasps. Ticks. Moving vehicles. Movement of Mechanical aids on site. Underground services. Inclement Weather. Smoking/ Open Fires Sun 	injuries. Dust being inhaled/getting in eyes. Snake Bites (Common venomous Kwa-Zulu Natal Snakes: Black mamba, Puff Adder, Boomslang, Rinkhals, Green Mamba, Forest/Black Cobra, Night Adder, etc). Bee & Wasp Stings causing Anaphylaxis (allergic reaction) Tick Bites causing tick bit fever/ Lyme disease. Ergonomic issues/exposure Vehicle/ Plant Collisions with workers. Slips, trips and falls causing sprains and minor injuries. Possible electrocution from	UF OF	RES	J- AN OU	42	A RU	Instructions are given on Manual handling using Safe Work Procedure (SWP) for Manual Handling: Where load is lifted, bending at the knees, not the back. Don't twist body with load in hands, always carry load close to the body, adhere to the recommended weight limit (RWL = 1/3 body weight or 25kg). • Contractor to conduct DSTI's (Daily Safety Task Instruction) to be conducted and communicated at the beginning of the shift on a daily basis. DSTI close out to be conducted and attendance registered signed by all staff. • as far as is reasonably practicable, ensure that machinery, plant or work systems optimise human well being and overall system performance (b)as far as is reasonably practicable, supply machinery, plant or work systems that can be transported, received, stored and handled in a manner that optimises human wellbeing and overall system performance (c)provide information, instruction and training as deemed necessary to allow potential users to	NCE

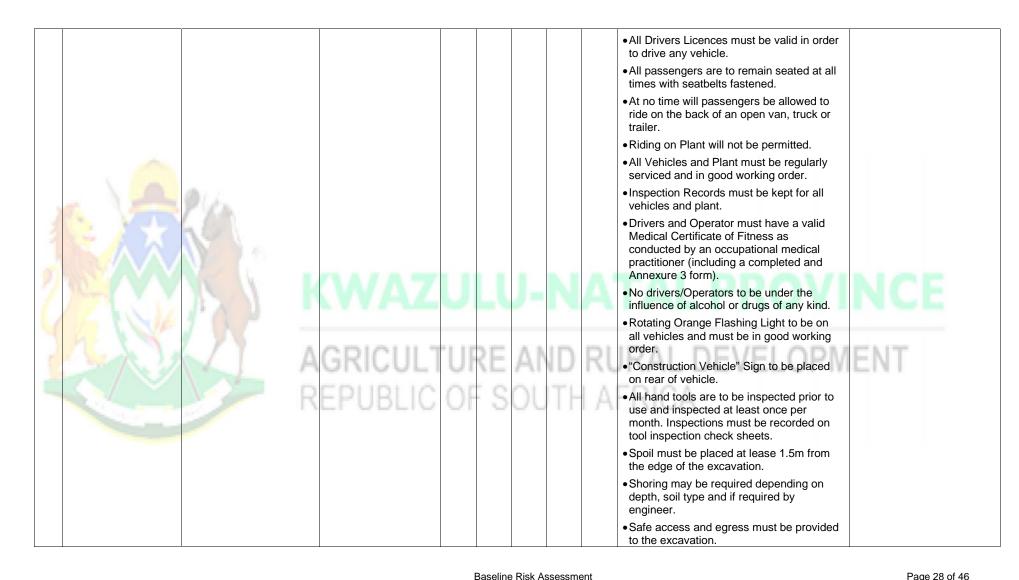
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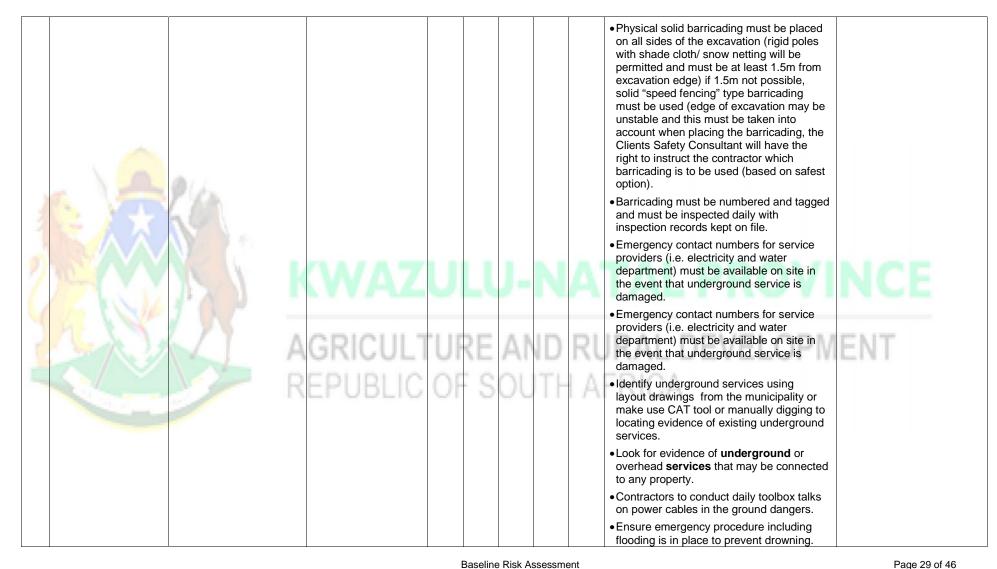
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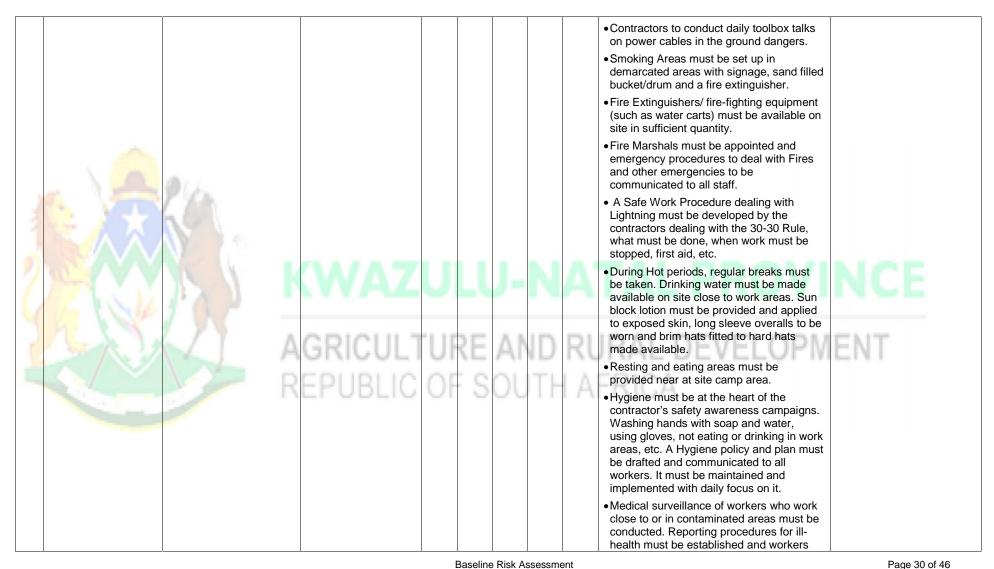


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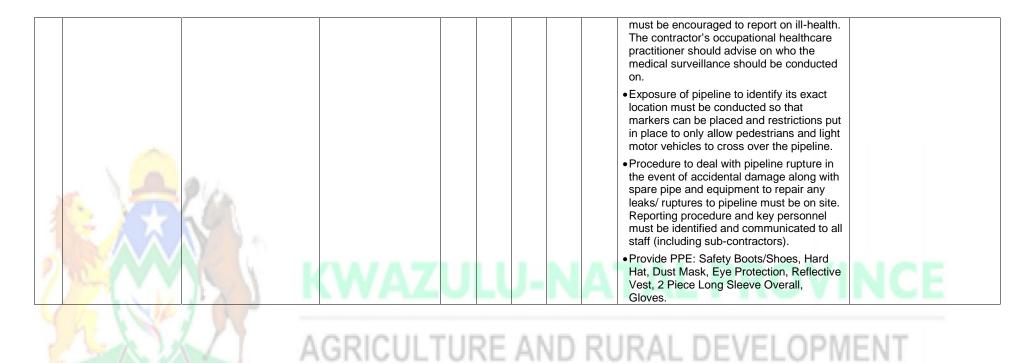












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No	LIST ITEMS/TASKS WITH ALL TASK STEPS (WHO WILL DO WHAT, WHERE AND WHEN)	POTENTIAL AND EXISTING HAZARDS • SAFETY • HEALTH • ENVIRONMENT	RISK (CONSEQUENCE OF THE HAZARDS) • DEATH • LOSS • DAMAGED EQUIP • SPILLAGE, ETC	PROB OF OCCU R 1/2/3	SEV OF OCCU R 3/4/5 /6/7/ 8	FREQ OF OCC UR 1/2/3	SCOR E TOTA L PXSX F	RISK RANK / PRIO RITY FACT OR	PREVENTATIVE MEASURES AND CONTROLS • ELIMINATE RISK • CONTROL AT SOURCE • PUT/FOLLOW PROCEDURE • PROVIDE PPE
7.	New Pipeline: - Pipeline excavations Placement of pipes using cranes Manhole constructionCompact ground using whackers/ rolling compactors, plate compactors, etc.	 Manual Handling. Dust. Snakes. Bees & Wasps. Ticks. Animals (dogs) Traffic/ Road crossing Pedestrians/ Public Movement of Mechanical aids on site. Underground services. Inclement Weather. Smoking/ Open Fires Sun. Excavations. Live Overhead Power lines. Noise. Cement. Confined Spaces. Vibration (compacting earth). 	Manual handling injuries. Dust being inhaled/ getting in eyes. Snake Bites (Common venomous Kwa-Zulu Natal Snakes: Black mamba, Puff Adder, Boomslang, Rinkhals, Green Mamba, Forest/Black Cobra, Night Adder, etc.). Bee & Wasp Stings causing Anaphylaxis (allergic reaction) Tick Bites causing tick bit fever/ Lyme disease. Vehicle/ Plant Collisions with workers/ public/animals. Slips, trips and falls causing sprains and minor injuries. Possible damage existing underground services causing	U UF OF	RES	J- AN	63	RI I A	Responsible Supervisor to ensure Instructions are given on Manual handling using Safe Work Procedure (SWP) for Manual Handling: Where load is lifted, bending at the knees, not the back. Don't twist body with load in hands, always carry load close to the body, adhere to the recommended weight limit (RWL = 1/3 body weight or 25kg). Contractor to conduct DSTI's (Daily Safety Task Instruction) to be conducted and communicated at the beginning of the shift on a daily basis. DSTI close out to be conducted and attendance registered signed by all staff. All workers to have valid medicals with annexure 3 documents signed and stamped by Occupational Medical Practitioner. Contractor ensure the Noise Induced Hearing Loss (NIHL) 2003 Regulations are complied with when working with or near noise generating equipment/plant — Hearing Protection to be worn by all workings in the immediate vicinity of the noise generating equipment/plant. Supervisors to brief staff on snake awareness and First Aid Officers must be familiar with contractor's snake bite procedures.

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electrocution (death or serious injury). Damage to underground services. Slipping and falling of plant and employees causing damage to property and injuries to employees. NIHR (Noise Induced Hearing Loss). Lightning Strike causing death, or severe burns/injuries. Rain causing slippery conditions. Heat stroke from being exposed to the sun for too long and sun burn. Bush Fires caused by cigarettes/open fires causing smoke inhalation, possible death, burns, and damage to property. Vehicle Collision & Damage. Material Damage. Equipment Damage. Collision/impacts of mobile lifting equipment, loads	ULU-N URE AND OF SOUTH	Supervisors to be training in capturing and releasing snakes (snakes must not be killed). Supervisors to brief staff on bee and wasp awareness and First Aid Officers must be familiar with contractor's bee and wasp sting procedures. Supervisors to brief staff on tick bite awareness and First Aid Officers must be familiar with contractor's tick bite procedures (i.e. If ticks are found, be patient when removing a tick from your skin, follow these steps: 1. Use Tweezers to grab the tick close to your skin, 2. Gently pull back, making sure the tick's head is not left in your skin. 3. Don't Squeeze the tick's body, if you do the bacteria may enter your skin. 4. After removing the tick, wash the bite with soap and water. See a Doctor right away if you notice any symptoms of Tick Bite Fever or Lymes Disease). All hand tools are to be inspected prior to use and inspected at least once per month. Inspections must be recorded on tool inspection check sheets. Spoil must be placed at lease 1.5m from the edge of the excavation. Shoring may be required depending on depth, soil type and if required by engineer. Safe access and egress must be provided to the excavation. Physical solid barricading must be placed on all sides of the excavation (rigid poles with shade cloth/ snow netting will be permitted and must be at least 1.5m from excavation edge) if 1.5m not possible,

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people. • Mechanical Aids Overturning causing death, injury or damage to equipment' materials. • Loads falling on top of people causing death or serious injury. • Loads falling causing damage to plant, material & equipment. • Mechanical Aids/ Plant coming into contact with Overhead Power lines causing death, serious injury or damage. • Ergonomics issues/exposure. • Excavation collapse causing death or serious injury or demage. • Falls into excavations causing death or serious injury. • Chemical burns/ contact dermattis from coment and
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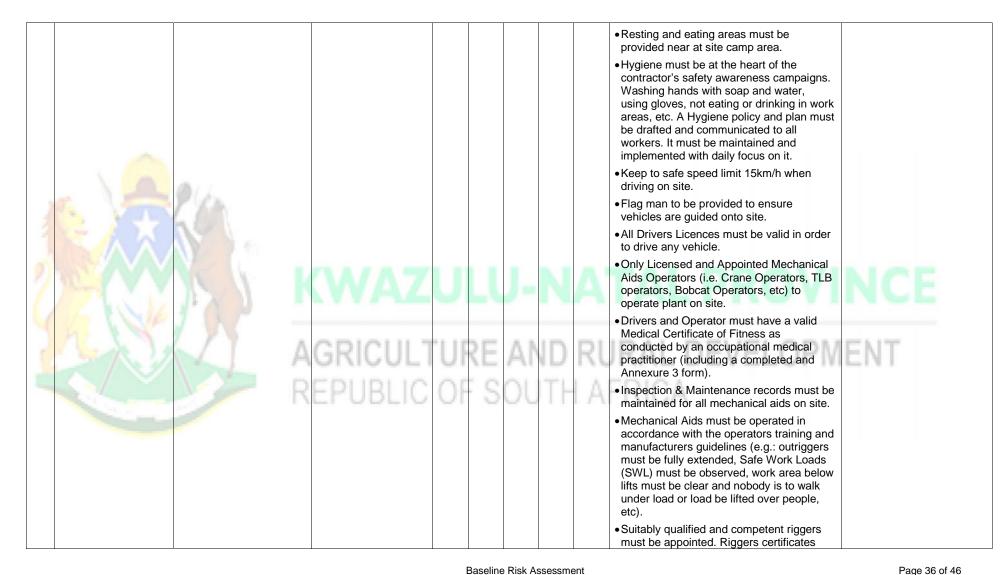


cement splashes and other chemical products such as chemical anchors, etc. Death or serious injury from confined space entries: Reduced oxygen levels. Increased levels of Carbon Monoxide and possible traces of other gasses (process dependant). HAVs (Hand Arm Vibration: permanent damage to dexterity of fingers, finger blanching) and WBV (Whole Body Vibration: beak pain. long term can cause lumbar spinal damage also including the neck and shoulder region, musculoskeletal disorders, and motion sickness). Increased levels of Carbon Monoxide and possible traces of other gasses (process dependant). HAVs (Hand Arm Vibration: permanent damage to dexterity of fingers, finger blanching) and WBV (Whole Body Vibration: back pain. long term can cause lumbar spinal damage also including the neck and shoulder region, musculoskeletal disorders, and motion sickness).	
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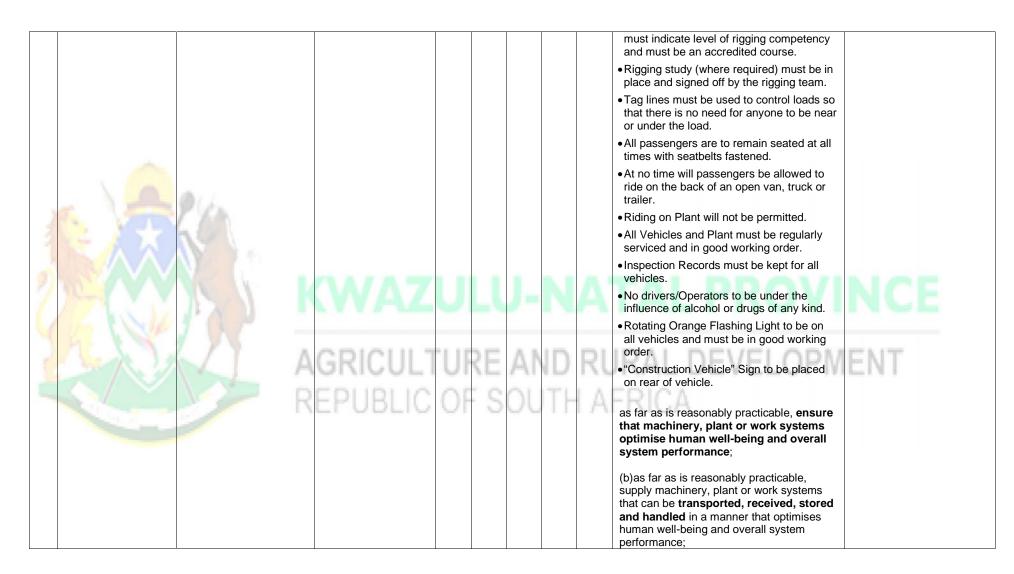
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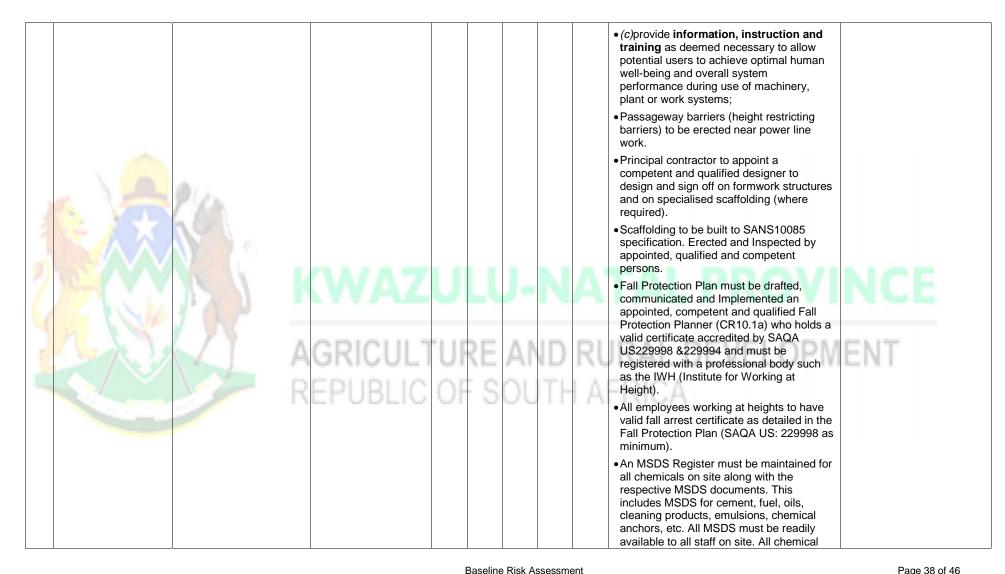






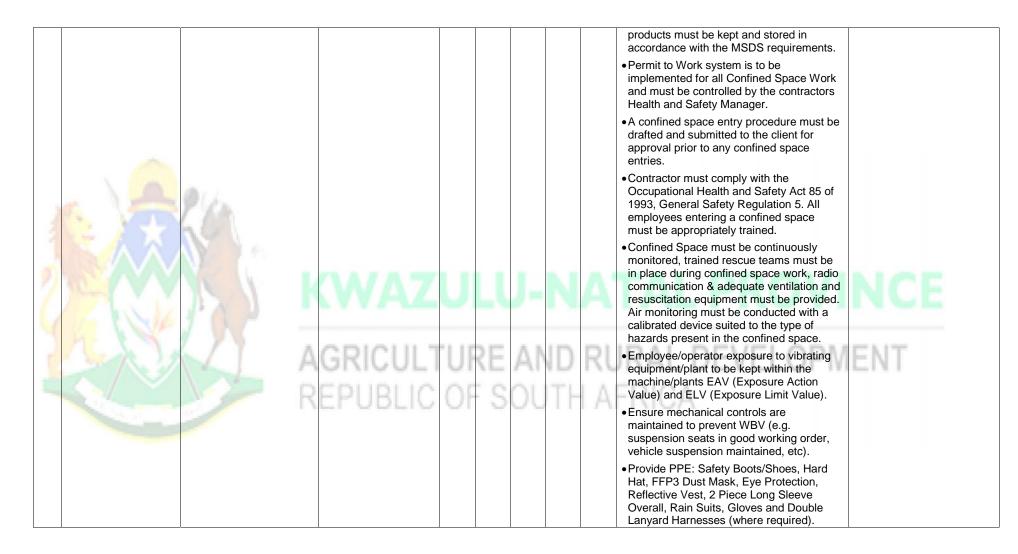
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No	LIST ITEMS/TASKS WITH ALL TASK STEPS (WHO WILL DO WHAT, WHERE AND WHEN)	POTENTIAL AND EXISTING HAZARDS • SAFETY • HEALTH • ENVIRONMENT	RISK (CONSEQUENCE OF THE HAZARDS) DEATH LOSS DAMAGED EQUIP SPILLAGE, ETC	PROB OF OCCU R 1/2/3	SEV OF OCCU R 3/4/5 /6/7/ 8	FREQ OF OCC UR 1/2/3	SCOR E TOTA L PxSx F	RISK RANK / PRIO RITY FACT OR	PREVENTATIVE MEASURES AND CONTROLS • ELIMINATE RISK • CONTROL AT SOURCE • PUT/FOLLOW PROCEDURE • PROVIDE PPE	
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8. Site Close Out: - Removing Materials and Equipment Loading by Hand - Loading using Mechanical Aids Rehabilitating Site Camp back to original state.	 Manual Handling of equipment and materials. Dust. Snakes. Bees & Wasps. Ticks. Moving vehicles. Materials/Objects in the walkways. Uneven surfaces between vehicle and lay down area. Excessive speeds/ Driving Recklessly. Fatigue. Other vehicles driving unsafely. Movement of Mechanical aids including mobile cranes and plant. Fuel (Petrol & Diesel) Inclement Weather. Smoking/ Open Fires Sun 	 Manual handling injuries. Dust being inhaled/ getting in eyes. Snake Bites (Common venomous Kwa-Zulu Natal Snakes: Black mamba, Puff Adder, Boomslang, Rinkhals, Green Mamba, Forest/Black Cobra, Night Adder, etc). Bee & Wasp Stings causing Anaphylaxis (allergic reaction) Tick Bites causing tick bit fever/Lymes disease. Vehicle Collision & Damage. Ergonomics exposure/issues Collisions with Pedestrians. Material Damage. Equipment Damage. Equipment Damage. Collision/impacts of mobile lifting equipment, loads and dropped loads with process plant, pipe work, electrical cables and people. Mechanical Aids Overturning causing 	RES		18	A'RU	 Responsible Supervisor to ensure Instructions are given on Manual handling using Safe Work Procedure (SWP) for Manual Handling: Where load is lifted, bending at the knees, not the back. Don't twist body with load in hands, always carry load close to the body, adhere to the recommended weight limit (RWL = 1/3 body weight or 25kg). Contractor to conduct DSTI's (Daily Safety Task Instruction) to be conducted and communicated at the beginning of the shift on a daily basis. DSTI close out to be conducted and attendance registered signed by all staff. Ensure Off-loading area is clear, level, secure and free from slip trip and falling hazards. Stacking & Storage Supervisor to be appointed to control lay down areas. All workers to have valid medicals with annexure 3 documents signed and stamped by Occupational Medical Practitioner. Stacking and Storing to only be in designated areas and Contractor to develop and implement Stacking & Storing Guidelines to cove items such as Ventilation, Lighting, Manoeuvring Space, Stacking Requirements, Emergency Exits, Access & egress, etc. Keep to safe speed limit 15km/h when driving on site. Supervisors to brief staff on snake awareness and First Aid Officers must be familiar with contractor's snake bite procedures. 	
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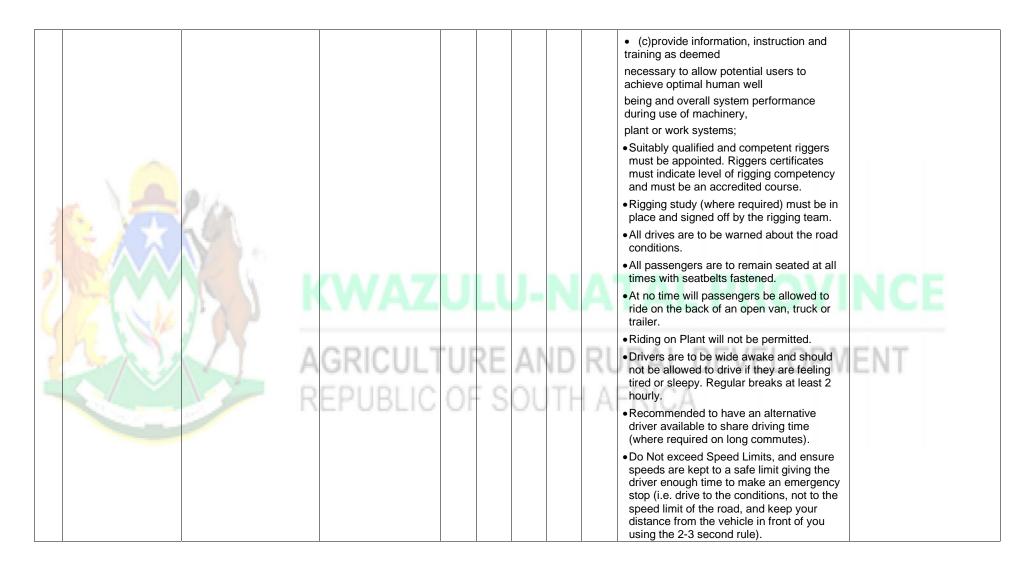


from une surfaces rubble a sand. Hydroca from refi & or veh leaks. Lightning causing severe burns/inj Rain cau slippery Heat strobeing ex sun for t sun burn Bush Fir by cigard fires cau inhalatio death, b	to ont/ as and falls ven piles of d soft bon spills elling area cle/plant Strike death, or uries. sing conditions. ke from cosed to the too long and	 Supervisors to brief staff on bee and wasp awareness and First Aid Officers must be familiar with contractor's bee and wasp sting procedures. Supervisors to brief staff on tick bite awareness and First Aid Officers must be familiar with contractor's tick bite procedures. Flag man to be provided to ensure vehicles are guided onto site. All Drivers Licences must be valid in order to drive any vehicle. Only Licensed and Appointed Mechanical Aids Operators (i.e. Crane Operators, TLB operators, Bobcat Operators, etc) to operate plant on site. Inspection & Maintenance records must be maintained for all mechanical aids on site. Mechanical Aids must be operated in accordance with the operators training and manufacturers guidelines (e.g.: outriggers must be fully extended, Safe Work Loads (SWL) must be observed, work area below lifts must be clear and nobody is to walk under load or load be lifted over people, etc). as far as is reasonably practicable, ensure that machinery, plant or work systems optimise human well being and overall system performance (b) as far as is reasonably practicable, supply machinery, plant or work systems that can be transported, received, stored and handled in a manner that optimises human well being and overall system performance 	NCE
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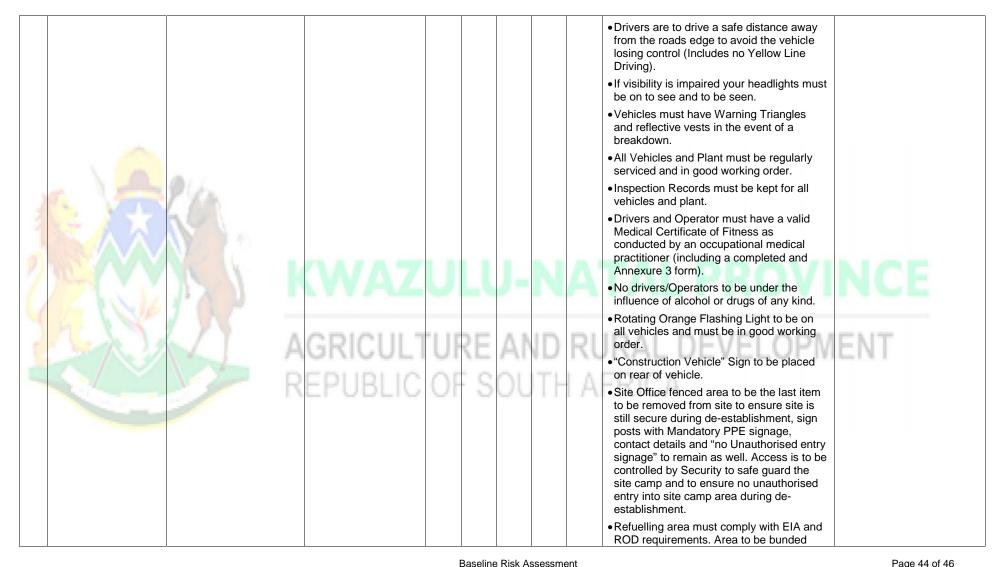
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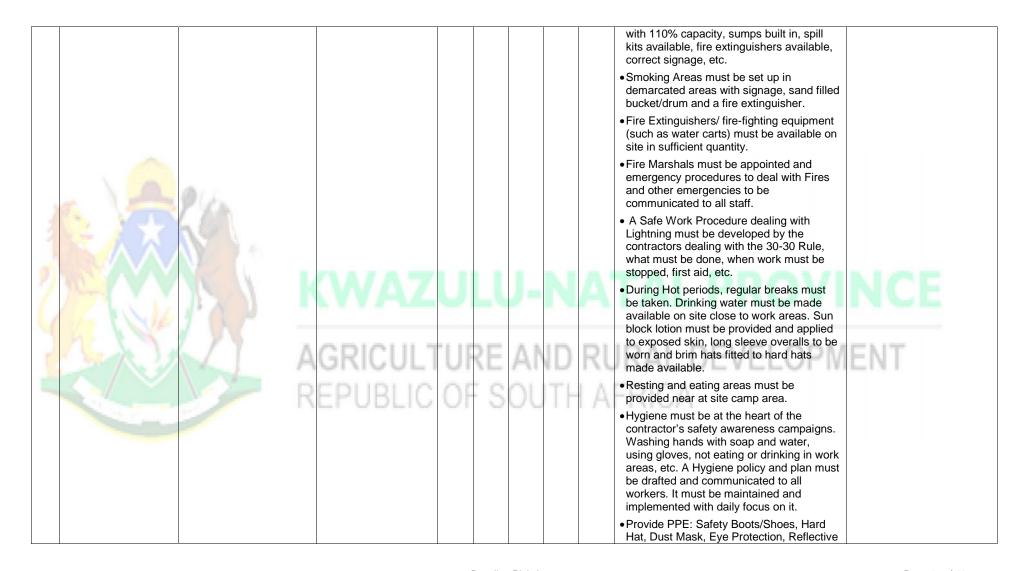
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