sport, arts, culture & recreation
Department of
Sport, Arts, Culture and Recreation
FREE STATE PROVINCE

SMITHFIELD MULTI-PURPOSE INDOOR SPORT CENTRE

OCCUPATIONAL HEALTH & SAFETY SPECIFICATION

Quantum
BUILT & ENVIRONMENT CONSULTANTS (PTY) LTD

TENDER DOCUMENT

Baseline Risk Assessment

Document Number
Smithfiled Sport Centre BRA
Revision
1
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19-Jan-24

Project name:	**Construction of Proposed New Mulitipurpose Indoor Sports Centre in Smithfield**	**Review date:**	**19-Jan-24**
Date:	**19-Jan-24**	**Prepared by:**	**Ayanda Blose**

Task/ Activity	Hazard(See Hazard List)	Undesirable Event(Provide description)	Cause(Unsafe Act or Condition)	Consequences (Injury, Property Damage etc.)	S H E	NORMAL	ABNORMAL	EMERGENCY	Inherent Risk			Critical Control Measures (for threats)	Responsible Person
									Probability	Severity	Risk Rating		
Site Establishment	Ergonomics	work resulting in repetitive motion	Unsafe condition	Injury	S	X			P1	I3	L3	Ergonomics procedure Training, communication and awareness Job breaks Job rotation	Principal Contractor
	Traffic	Employees being struck by moving vehicles	Unsafe condition	Injury	S	X			P1	I3	L3	Sufficient barricading of area using safety net and corns Signs and notices for motorists Flagmen Supervision Safe working procedure - Traffic management Training, communication and awareness	Principal Contractor
	Sharp edges	Employees coming in contact with sharp edged tools	Unsafe condition	Injury	S	X			P1	I3	L3	Safe work procedure Posting of signage Housekeeping	Principal Contractor
	Dust	Inhalation of hazardous	Unsafe	Illness	S	X			P1	I3	L3	Dust Mitigation Procedure Posting of signage Isolation of none working personnel Work area ventilation	Principal Contractor

	Dust	substances	condition	illness	S	X			P1	I3	L3	Use of PPE - Dust Mask (FPP1 -FPP2) 	Principal Contractor
	Noise	Noise induced hearing loss	Unsafe condition	Injury	S	X			P1	I3	L3	Isolation of none working personnel Supervision Ear protection - Ear plugs/Ear muffs 	Principal Contractor

	Mobile plant	Defective plant may result in accidents	Unsafe Condition	Injury	S	X			P3	I3	L2		Principal Contractor
		Other vehicles in blind spot may lead to accidents	Unsafe Condition	Injury	S	X			P3	I3	L2		Principal Contractor
		Site workers in blind spot may lead to accidents	Unsafe Condition	Injury	S	X			P3	I3	L2		Principal Contractor

Clearing of land- Using Earth Moving Equipmer

Fumes/smoke	Inhalation	Unsafe Condition	Illness	S	X			P3	I3	L2		Principal Contractor
Noise	Noise induced hearing loss	Unsafe Condition	Illness	S	X			P3	I3	L2		Principal Contractor
Ergonomics	Still and repeated postures may result in body parts sprains	Unsafe Condition	Injury	S	X			P3	I3	L2		Principal Contractor
Adjucent structures	Striking of structured	Unsafe Condition	Property damage	S	X			P3	I3	L2		Principal Contractor

	Uneven ground	Overturning	Unsafe Condition	Injury	S	X			P3	I3	L2		Principal Contractor
	Felling Equipment(chainsaw)	Defective plant may result in accidents	Unsafe Condition	Injury	S	X			P3	I3	L2		Principal Contractor
	Fumes/smoke	Inhalation	Unsafe Condition	Illness	S	X			P3	I3	L2		Principal Contractor

Tree Felling	Noise	Noise induced hearing loss	Unsafe Condition	Illness	S	X			P3	I3	L2		Principal Contractor
	Ergonomics	Still and repeated postures may result in body parts sprains	Unsafe Condition	Injury	S	X			P3	I3	L2		Principal Contractor
	Adjucent structures	Striking of structured when Tree Falls	Unsafe Condition	Property damage	S	X			P3	I3	L2		Principal Contractor

ties	Unsecured load	Load falls while moving	Unsafe condition	Injury	S	X			P1	I3	L3	Training, communication Task Planning - rigging study Competent work Verification Validity of Test certificates Isolation of none working personnel Demarcation and or Barricading PPE - Gloves, 	Principal Contractor
				Property damage	S	X			P1	I3	L3	Training, communication Task Planning - rigging study Competent work Verification Validity of Test certificates Isolation of none working personnel Demarcation and or Barricading PPE - Gloves, 	Principal Contractor

Rigging and slinging activi	Adverse weather conditions	Being faced with hail/rain storms, fog	Unsafe condition	Injury	S	X			P1	I3	L3	Pre- Task planning - Weather focus Rescheduling of work Safe work procedure - Rigging and sligging	Principal Contractor
				Property damage	S	X			P1	I3	L3	Pre- Task planning - Weather focus Rescheduling of work Safe work procedure - Rigging and sligging Use of certified slings to control load and rigger High visibility clothing	Principal Contractor
	Swinging loads	Load can bump into other structures	Unsafe condition	Property damage	S	X			P1	I3	L3	Task Planning Use of a spotter or flagman and rigger Reverse hooter and strobe light PPE - Gloves Boots	Principal Contractor

Working at heights	Elevated positions	Slip, trip and fall to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Rescue Communication and training Use of Fall Arrest System Use of Fall prevention - Life line, guard rails Barricading and demarcation	Principal Contractor
		Tools and equipment falling to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Pre-inspection Isolation of none working personnel Posting of signage Barricading of work area	Principal Contractor
	Ladders	Falling from heights while working on a ladder		Injury	S	X			P3	I3	L2	Pre inspection of ladders before use 3 point contact when climbing the ladder Safe working procedure Training, communication and awareness Barricading PPE	P2
	Suspended Platforms	Falling from heights while working on suspended platforms		Injury	S	X			P3	I3	L2	Supervison of Competent person Operational Compliance plan Certificate of system design Adequate outriggers with stop dvices Inspections of all equipment(As required by legislation) Training, communication and awareness PPE	P2

Working with hand tools	Pinch points	Employees hands/fingers getting trapped between an object and a surface	Unsafe Condition	Injury	S	X			P1	I3	L3	Safe work procedure Use of cut resistant safety gloves Training, communication and awareness	Principal Contractor
	Defective tools	Malfunction of components leading to an accident	Unsafe Condition	Injury	S	X			P1	I3	L3	Pre-use inspection Planned maintenance Safe work procedure - Use of hand tools Training, communication and awareness	Principal Contractor
	Wrong tools	Excessive force applied	Unsafe Condition	Injury	S	X			P1	I3	L3	Pre-task assessment Safe work procedure - Use of hand tools Training, communication and awareness	Principal Contractor
	Sharp edges	Employees coming in contact with sharp edged tools	Unsafe condition	Injury	S	X			P1	I3	L3	Inspections Safe working procedure - Use of hand tools Training, communication and awareness	Principal Contractor

Crane operations	Overloading	Loads falling to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Safe work load Isolation of none working personnel Posting signage Supervision Test certificates Competent work Use of outriggers	Principal Contractor
	Swinging loads	Loads bumping other structures	Unsafe condition	Property damage	S	X			P1	I3	L3	Task Planning Use of a spotter or flagman and rigger Reverse hooter and strobe light PPE - Gloves Boots	Principal Contractor
	Adverse weather conditions	Being faced with hail/rain storms, fog	Unsafe Condition	Injury	S	X			P1	I3	L3	Pre- Task planning - Weather focus Rescheduling of work Safe work procedure - Crane operations Use of certified slings to control load and rigger High visibility clothing	Principal Contractor

Working with power tools	Electricity	Electrocution	Unsafe Condition	Injury	S	X			P1	I3	L3	Planned Preventative Maintenance(Schedules) Pre Start up checklist(inspections) Safe Working Procedure - Use of power tools Lock Out- Tag out procedure Training, Communication & Awareness Job Observation	Principal Contractor
	Trailing cables	Trip and fall to the ground	Unsafe Condition	Injury	S	X			P1	I3	L3	Work area inspection Adequate housekeeping Posting of signage Supervision	Principal Contractor
	Sharp edges	Employees coming in contact with sharp edged equipment	Unsafe condition	Injury	S	X			P1	I3	L3	Inspections Safe working procedure - Use of power tools Training, communication and awareness Supervision	Principal Contractor
	Sparks	Body burns	Unsafe condition	Injury	S	X			P1	I3	L3	Demarcate Welding/grinding bays with screens Planned Preventative Maintenance(Schedules) Pre Start up checklist(inspections) Safe Working Procedure Training, Communication & Awareness Job Observation Emergency preparedness plan PPE	Principal Contractor
		Fire outbreak	Unsafe condition	Injury	S	X			P1	I3	L3	Demarcate Welding/grinding bays with screens Planned Preventative Maintenance(Schedules) Pre Start up checklist(inspections) Safe Working Procedure Training, Communication & Awareness Job Observation Emergency preparedness plan	Principal Contractor

												PPE - Aprons, Spats, Googles, Gloves, Dust Masks	

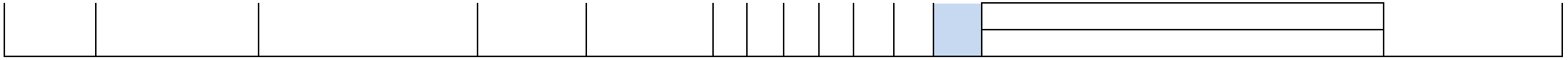
Working with power tools	Flying particles	Eye contact with flying debris	Unsafe condition	Injury	S	X			P1	I3	L3	Machine guards Supervision Job Observation PPE - Dust masks, googles and gloves	Principal Contractor
	Dust	Inhalation of hazardous substances	Unsafe condition	Illness	S	X			P1	I3	L3	Dust Mitigation Procedure Posting of signage Isolation of none working personnel Work area ventilation Use of PPE - Dust Mask (FPP1 -FPP2)	Principal Contractor
	Noise	Noise induced hearing loss	Unsafe condition	Injury	S	X			P1	I3	L3	Isolation of none working personnel Supervision Ear protection - Ear plugs/Ear muffs Noise survey	Principal Contractor
	Rotating and moving equipment	Hand or finger caught in between moving parts	Unsafe condition	Injury	S	X			P1	I3	L3	Safe operating procedure Training, communication and awareness Competent work Pre - Inspection PPE	

s(Jack Hammer/ Compactor)

Sharp edges	Employees coming in contact with sharp edged equipment	Unsafe condition	Injury	S	X			P1	I3	L3	Inspections Safe working procedure - Use of power tools Training, communication and awareness Supervision	Principal Contractor
Sharp edges	Employees coming in contact with sharp edged equipment	Unsafe condition	Injury	S	X			P1	I3	L3	Inspections Safe working procedure - Use of power tools Training, communication and awareness Supervision	Principal Contractor
Flying particles	Eye contact with flying debris	Unsafe condition	Injury	S	X			P1	I3	L3	Machine guards Supervision Job Observation PPE - Dust masks, googles and gloves	Principal Contractor

Working with pnematic tool	Dust	Inhalation of hazardous substances	Unsafe condition	Illness	S	X			P1	I3	L3	Dust Mitigation Procedure Posting of signage Isolation of none working personnel Work area ventilation Use of PPE - Dust Mask (FPP1 -FPP2)	Principal Contractor
	Noise	Noise induced hearing loss	Unsafe condition	Injury	S	X			P1	I3	L3	Isolation of none working personnel Supervision Ear protection - Ear plugs/Ear muffs Noise survey	Principal Contractor
	Rotating and moving equipment	Hand or finger caught in between moving parts	Unsafe condition	Injury	S	X			P1	I3	L3	Safe operating procedure Training, communication and awareness Competent work Pre - Inspection PPE	

Welding operations	Electricity	Electrocution	Unsafe Condition	Injury	S	X			P1	I3	L3	Pre Start up checklist(inspections) Lock Out- Tag out procedure Emergency preparedness plan PPE - Rubber gloves	Principal Contractor
	Gas fumes	Inhalation of hazardous substances	Unsafe condition	Illness	S	X			P1	I3	L3	Isolation of none working personnel Work area ventilation Notices and signage PPE - Dust masks, respirator,	Principal Contractor
	Smoke Fumes	Employees coming in contact with burning substances	Unsafe Condition	Injury	S	X			P1	I3	L3	Notices and signage Supervision PPE - Leather gloves, fire retardant overalls	Principal Contractor
		Fire outbreak	Unsafe Condition	Property damage	S	X			P1	I3	L3	Planned Preventative Maintenance(Schedules) Pre Start up checklist(inspections) Safe Working Procedure - Welding operations Training, Communication & Awareness Job Observation Emergency preparedness plan PPE - Aprons, Spats, Googles, Gloves, Dust Masks	Principal Contractor
	Trailing cables	Trip and fall to the ground	Unsafe Condition	Injury	S	X			P1	I3	L3	Adequate housekeeping Supervision Communication and awareness	Principal Contractor



Transportation of material and equipment	Motor vehicle	Collision due to defective motor vehicle	Unsafe Condition	Injury	S	X			P1	I3	L3	Operator to have a valid drivers licence Operator to be medically fit for the job Pre- inspection of the vehicle Safe work procedure Adhere to road traffic rules and regulations	Principal Contractor
	Public	Theft/hijacking	Unsafe condition	Property loss	S	X			P1	I3	L3	Paying attention to media for areas with riots Communication media to contact emergency services Emergency preparedness plan	Principal Contractor
	Public traffic	Over speeding and colliding with other motor vehicles on the roads	Unsafe condition	Injury	S	X			P1	I3	L3	Adhere to road traffic rules and regulations	Principal Contractor
	Road surface	Tyre damages due to road potholes	Unsafe condition	Property loss	S	X			P1	I3	L3	Paying attention to media for areas with riots Communication media to contact emergency services Emergency preparedness plan	Principal Contractor

Assembly and erection of steel	Falling objects	Objects falling groom heights to the ground and hitting employees	Unsafe Condition	Injury	S	X			P1	I3	L3	Pre-use inspections Safe work procedure Barricading, Safety distance signage PPE - Hard hat	Principal Contractor
	Ergonomics	Lifting of heavy materials	Unsafe Condition	Injury	S	X			P1	I3	L3	Job rotation Ergonomics procedure Job breaks Correct lifting techniques-bend knees not back per minute between 1 and 2 hours with recovery time ≥ 0.3 X	Principal Contractor
	Pinch points	Hands or body parts coming in contact with the load and surface	Unsafe Condition	Injury	S	X			P1	I3	L3	Use of cut resistant safety gloves Training, communication and awareness	Principal Contractor

Formwork	Elevated platforms	Falling from heights	Unsafe condition	Injury	S	X			P1	I3	L3	Tie up the Scaffold on a structure Buddy system 3 point contact when climbing the ladder Pre-use inspections Safe work procedure - Working at heights Barricading signage PPE- Safety Harness	Principal Contractor
	Pinch points	Hands or body parts coming in contact with the load and surface	Unsafe Condition	Injury	S	X			P1	I3	L3	 Use of cut resistant safety gloves Training, communication and awareness 	Principal Contractor
	Sharp edges	Employees coming in contact with sharp edged equipment	Unsafe condition	Injury	S	X			P1	I3	L3	 Inspections Training, communication and awareness Supervision PPE - Cut resistant safety gloves 	Principal Contractor
	Heavy objects	Lifting of heavy materials causing back injuries	Unsafe condition	Injury	S	X			P1	I3	L3	Job rotation Job breaks Correct lifting techniques-bend knees not back per minute between 1 and 2 hours with recovery time ≥ 0.3 X 	Principal Contractor

	Defective Scaffold	Malfunction of components leading to falling		Injury	S	X			P3	I3	L2	Pre-use inspection Planned maintenance Safe work procedure	P2
	Incorrect Scaffold	Falling objects which may land on an employee's head or feet	Unsafe condition	Injury	S	X			P3	I3	L2	Pre-task assessment by a competent person Safe work procedure	P2

Use of Scaffolds	Uneven ground	May cause the Scaffold to be unstable which may result in falls	Unsafe condition	Injury	S	X			P3	I3	L2	Ground assessment Scaffold to be placed on solid and level ground Competent scaffold erectors Competent scaffold inspector Safe work procedure	P2
	Unsecured Scaffold	May cause the Scaffold to be unstable which may result in falls	Unsafe condition	Injury	S	X			P3	I3	L2	Tie up the Scaffold on a structure Buddy system Pre-use inspections Safe work procedure	P2

Slippery Scaffold	An employee can slip and fall due to oily Scaffold steps or worn out foot grip	Unsafe condition	Injury	S	X			P3	I3	L2	Pre-use inspection Continuous inspection of foot grips Rubber footwear	P2
Pinch point	Employees fingers getting pinched between	Unsafe condition	Injury	S	X			P3	I3	L2	Safe work procedure Use of cut resistant safety gloves	P2
Heavy objects	Body sprains caused by lifting of heavy objects	Unsafe condition	Injury	S	X			P3	I3	L2	Correct lifting techniques-bend knees not back Lifting aids Buddy system for heavy objects Safe work procedure	P2

Manual handling of material	Ergonomics	Lifting of heavy materials	Unsafe Condition	Injury	S	X			P1	I3	L3	Job rotation Job breaks Ergonomics procedure	Principal Contractor
	Sharp edges	Employees coming in contact with sharp edged equipment	Unsafe condition	Injury	S	X			P1	I3	L3	Inspections Safe working procedure - Ergonomics procedure Training, communication and awareness Supervision PPE - Cut resistant safety gloves	Principal Contractor
	Heavy objects	Body part sprains	Unsafe condition	injury/illness	S	X			P1	I3	L3	Lifting aids Buddy system for loads above 22kgs Safe working procedure - Ergonomics procedure	
	Uneven ground	Falling and tipping over	Unsafe condition	injury	S	X			P1	I3	L3	Pathway assessment Examine site layout Housekeeping	

Handling of hazardous and flammable liquids and chemicals	Chemical liquid	Fire outbreak	Unsafe Condition	Injury	S	X			P1	I3	L3	MSDS Isolation of none working personnel Work area ventilation Remove combustible material from work area Placement of fire extinguishers Safe Working Procedure - Use of HCS Training, Communication & Awareness	Principal Contractor
			Unsafe Condition	Property damage	S	X			P1	I3	L3	MSDS Work area ventilation Notices and signage Remove combustible material from work area Placement of fire extinguishers Safe Working Procedure - Use of HCS Training, Communication & Awareness Job Observation	Principal Contractor
		Skin irritation	Unsafe condition	Injury	S	X			P1	I3	L3	MSDS Isolation of none working personnel Work area ventilation Notices and signage and safety gloves	Principal Contractor
	Fumes	Inhalation of hazardous substances	Unsafe condition	Illness	S	X			P1	I3	L3	MSDS Safe working procedure -HCS Training, communication and awareness Isolation of none working personnel Work area ventilation Notices and signage PPE - Dust masks, respirator,	Principal Contractor

Working in extreme temperature environment	Heat	Heat burns	Unsafe condition	Injury	S	X			P1	I3	L3	Job breaks Job rotation Supervision PPE - Overalls,	Principal Contractor
	Cold weather	Frost bites	Unsafe Condition	Injury	S	X			P1	I3	L3	Paying attention to media for weather reports Operations to be stopped in the event of bad weather Safe work Procedure - Working in extreme Wearing warm clothing	Principal Contractor
	Thunder and lightning	Being struck by lightning	Unsafe Condition	Property damage	S	X			P1	I3	L3	Paying attention to media for weather reports Operations to be stopped in the event of bad weather	Principal Contractor
			Unsafe Condition	Injury	S	X			P1	I3	L3	Paying attention to media for weather reports Operations to be stopped in the event of bad weather Wearing warm clothing	Principal Contractor

d excavation	Flying debris	Being struck by flying debris	Unsafe condition	Injury	S	X			P1	I3	L3	Supervision Job Observation PPE - Dust masks, googles, gloves and overalls	Principal Contractor
	Existing services	Damages to underground buried services	Unsafe condition	Property damage	S	X			P1	I3	L3	Site-layout inspection Training and awareness Supervision Job Observation	Principal Contractor
	Dust	Inhalation of hazardous substances	Unsafe condition	Illness	S	X			P1	I3	L3	Dust Mitigation Procedure Posting of signage Isolation of none working personnel Work area ventilation Use of PPE - Dust Mask (FPP1 -FPP2)	Principal Contractor

Trenching an	Noise	Noise induced hearing loss	Unsafe condition	Injury	S	X			P1	I3	L3	Isolation of none working personnel Supervision Ear protection - Ear plugs/Ear muffs	Principal Contractor
	Excavation edges	Trip and fall into open excavations	Unsafe condition	Injury	S	X			P1	I3	L3	Safe working procedure - Trenching and excavation Training, communication and awareness Barricading - Safety distance Visible warning signs PPE	Principal Contractor
	Excavation - Working in trenches	Fall of ground- Sidewall collapse	Unsafe condition	Injury	S	X			P1	I3	L3	Shoring of walls Safe working procedure - Trenching and excavation Training, communication and awareness Barricading - Safety distance Visible warning signs PPE	Principal Contractor

Operations	Electricity	Electrocution	Unsafe Condition	Injury	S	X			P1	I3	L3	Planned Preventative Maintenance(Schedules) Pre Start up checklist(inspections) Safe Working Procedure - Use of power tools Lock Out- Tag out procedure Training, Communication & Awareness Job Observation	Principal Contractor
	Rotating and moving equipment(Mechanical Energy)	Hand or finger caught in between moving parts	Unsafe condition	Injury	S	X			P1	I3	L3	Safe operating procedure Training, communication and awareness Competent work Pre - Inspection PPE	
	Elevated positions	Slip, trip and fall to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Rescue Communication and training Use of Fall Arrest System Use of Fall prevention - Life line, guard rails Barricading and demarcation	Principal Contractor
		Tools and equipment falling to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Pre-inspection Isolation of none working personnel Posting of signage Barricading of work area	Principal Contractor

Batch Plant

Ergonomics	work resulting in repetitive motion	Unsafe condition	Injury	S	X			P1	I3	L3	Ergonomics procedure Training, communication and awareness Job breaks Job rotation	Principal Contractor
Flying particles	Eye contact with flying debris	Unsafe condition	Injury	S	X			P1	I3	L3	Machine guards Supervision Job Observation PPE - Dust masks, googles and gloves	Principal Contractor
Cement Dust	Inhalation of hazardous substances	Unsafe condition	Illness	S	X			P1	I3	L3	Dust Mitigation Procedure Posting of signage Isolation of none working personnel Work area ventilation Use of PPE - Dust Mask (FPP1 -FPP2)	Principal Contractor
Noise	Noise induced hearing loss	Unsafe condition	Injury	S	X			P1	I3	L3	Isolation of none working personnel Supervision Ear protection - Ear plugs/Ear muffs Noise survey	Principal Contractor

Construction Work

Elevated positions	Slip, trip and fall to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Rescue Communication and training Use of Fall Arrest System Use of Fall prevention - Life line, guard rails Barricading and demarcation	Principal Contractor
	Tools and equipment falling to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Pre-inspection Isolation of none working personnel Posting of signage Barricading of work area	Principal Contractor
Ergonomics	work resulting in repetitive motion	Unsafe condition	Injury	S	X			P1	I3	L3	Ergonomics procedure Training, communication and awareness Job breaks Job rotation	Principal Contractor
Flying particles	Eye contact with flying debris	Unsafe condition	Injury	S	X			P1	I3	L3	Machine guards Supervision Job Observation PPE - Dust masks, googles and gloves	Principal Contractor
Dust	Inhalation of hazardous substances	Unsafe condition	Illness	S	X			P1	I3	L3	Dust Mitigation Procedure Posting of signage Isolation of none working personnel Work area ventilation Use of PPE - Dust Mask (FPP1 -FPP2)	Principal Contractor

Noise	Noise induced hearing loss	Unsafe condition	Injury	S	X			P1	I3	L3	Isolation of none working personnel Supervision Ear protection - Ear plugs/Ear muffs Noise survey	Principal Contractor

Manual handling of material	Ergonomics	Lifting of heavy materials	Unsafe Condition	Injury	S	X			P3	I3	L2	Job rotation Job breaks Ergonomics procedure	Principal Contractor
	Sharp edges	Employees coming in contact with sharp edged equipment	Unsafe condition	Injury	S	X			P3	I3	L2	Inspections Safe working procedure - Ergonomics procedure Training, communication and awareness Supervision PPE - Cut resistant safety gloves	Principal Contractor
	Heavy objects	Body part sprains	Unsafe condition	injury	S	X			P3	I3	L2	Lifting aids Buddy system for loads above 22kgs Safe working procedure - Ergonomics procedure	Principal Contractor
												Pathway assessment Examine site layout	

	Uneven ground	Falling and tipping over	Unsafe condition	injury	S	X			P3	I3	L2	Housekeeping	Principal Contractor

Walkways	Tripping and falling due to limited walkways	injury	injury	S	X			P3	I3	L2	Pre work inspection Planned job observations Training, communication and awareness Housekeeping PPE	Principal Contractor
	Inadequate illumination leads to poor vison of working area	injury	injury	S	X			P3	I3	L2	Pre work inspection Planned job observations Training, communication and awareness Use of lighting aids Openings to allow natural lighting Housekeeping	Principal Contractor
Heat	Excess exposure to heat	Illness	Illness	H	X			P3	I3	L2	Job rotation Job breaks 5min breaks after every hour of working Training, communication and awareness	Principal Contractor

d Space

Confine

Ergonomics	Repetitive motion, limited space for movement.	injury	injury	S	X	X		P3	I3	L2	Job rotation Job breaks 5min breaks after every hour of working Provision of clean drinking water	Principal Contractor
Gases	Employees exposed to hazardous gases while working in confined space	injury	injury	S	X			P3	I3	L2	Conduct a gas test Ventilation aids if necessary Job breaks 5min breaks after every hour of working Create openings for air	Principal Contractor
	Exposure to the lower limitsof oxygen while working in confined space	injury	injury	S	X			P3	I3	L2	Ensure a watcher is always present for rescue Provision of fall rescue equipment Provision of clear communication First aid box provision	Principal Contractor

Working with Electricity (Electrical Environment)	Electricity	Electrocution	Unsafe Condition	Injury	S	X			P3	I3	L2	Planned Preventative Maintenance(Schedules) Pre Start up checklist(inspections) Safe Working Procedure - Use of power tools Lock Out- Tag out procedure Training, Communication & Awareness	Principal Contractor
		Electromagnetic Radiation	Unsafe Condition	Injury	S	X			P3	I3	L2	Reduction of output power on device Safe Working Procedure Training, Communication & Awareness	Principal Contractor
	Overhead Electrical Lines	Electrocution	Unsafe Condition	Injury	S	X			P3	I3	L2	Overhead Power line identification plan Permit to work Barricading and Signage Competent Workers Inspections	Principal Contractor
		High Voltage Substation	Unsafe Condition	Injury	S	X			P3	I3	L2	Isoloation and LOTO Permit to work Barricading and Signage Competent Workers Inspections	Principal Contractor

Working Near Public roads	Moving Vehicles	Moving vehicles make contact with site workers	Unsafe Condition	Injury	S	X			P3	I3	L2	Relevant Traffic Accomodation Barricading and signage Safe Working Procedure Training, Communication & Awareness Communication with local traffic department	Principal Contractor
		Moving vehicles make contact with site euiqpment	Unsafe Condition	Injury	S	X			P3	I3	L2	Relevant Traffic Accomodation Barricading and signage Safe Working Procedure Training, Communication & Awareness Communication with local traffic department	Principal Contractor

olition Work	Building Structure(Roof, Ceilings, Walls, etc.)	Uncontrolled collapse of struture	Unsafe condition	Injury	S	X			P1	I3	L3	Appointed Competent Person Method Satement aligned to detailed structural engineer survey Shoring if Required Signage and Barricading Catch Platforms if required Access and Egress Plan Utility layout plan Site inspection as required	Principal Contractor
		Tools and equipment falling to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Appointed Competent Person Method Statement aligned to detailed structural engineer survey Catch Platforms if required Signage and Barricading Site inspection as required	Principal Contractor
		Damage to Utilities during demolition	Unsafe condition	Injury	S	X			P1	I3	L3	Appointed Competent Person Method Statement aligned to detailed structural engineer survey Signage and Barricading Access and Egress Plan Utility layout plan Site inspection as required	Principal Contractor
	Explosives	Incorrect use of explosives	Unsafe condition	Injury	S	X			P1	I3	L3	Appointed Competent Person Detailed Explosives plan Signage and Barricading Access and Egress Plan Utility layout plan Site inspection as required	Principal Contractor

Dem													
	Ergonomics	Work resulting in repetitive motion	Unsafe condition	Injury	S	X			P1	I3	L3	Ergonomics procedure Training, communication and awareness Job breaks Job rotation	Principal Contractor
	Flying particles	Eye contact with flying debris	Unsafe condition	Injury	S	X			P1	I3	L3	Machine guards Supervision Job Observation PPE - Dust masks, googles and gloves	Principal Contractor
	Dust	Inhalation of hazardous substances	Unsafe condition	Illness	S	X			P1	I3	L3	Dust Mitigation Procedure Posting of signage Isolation of none working personnel Work area ventilation Use of PPE - Dust Mask (FPP1 -FPP2)	Principal Contractor
	Noise	Noise induced hearing loss	Unsafe condition	Injury	S	X			P1	I3	L3	Isolation of none working personnel Supervision Ear protection - Ear plugs/Ear muffs Noise survey	Principal Contractor

Structural Steel work	Bulding Structure	Uncontrolled collapse of struture due to inadequate steel	Unsafe condition	Injury	S	X			P1	I3	L3	Design Review Design Specs to be followed Inspections Quality Control	Principal Contractor
	See working at Heights												
	See Working with Electrical Equipment												
	See Excavation												
	See Ergonomics												
	See Scaffolding												
	See Use of Hand Tools												
	See Rigging and Use of Crane												
	See Manual Handling												

	Bulding Structure	Uncontrolled collapse of struture due to inadequate steel	Unsafe condition	Injury	S	X			P1	I3	L3	Design Review Design Specs to be followed Inspections Adequate Setting Time Quality Control	Principal Contractor
	Brick And Motar	Human interaction with bricks, sand and mortar results in skin diseases	Unsafe condition	Health	H	X			P1	I3	L3	PPE Medical Surveillance	Principal Contractor
itioning	Dust	Inhalation of hazardous substances	Unsafe condition	Illness	S	X			P1	I3	L3	Dust Mitigation Procedure Posting of signage Isolation of none working personnel Work area ventilation Use of PPE - Dust Mask (FPP1 -FPP2)	Principal Contractor

Brickwork,Plastering, Part	Sharp edges	Employees coming in contact with sharp edged equipment	Unsafe condition	Injury	S	X			P3	I3	L2	Inspections Safe working procedure - Ergonomics procedure Training, communication and awareness Supervision PPE - Cut resistant safety gloves	Principal Contractor
	Ergonomics	Lifting of heavy materials	Unsafe Condition	Injury	S	X			P3	I3	L2	Job rotation Job breaks Ergonomics procedure	Principal Contractor
	See Working at Heights												
	See Working with Electrical Equipment												
	See Excavation												
	See Scaffolding												
	See Use of Angle Grinder												
	See Use of Hand Tools												
	See Manual Handling												

	Elevated positions	Slip, trip and fall to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Rescue Communication and training Use of Fall Arrest System Use of Fall prevention - Life line, guard rails Barricading and demarcation	Principal Contractor
		Tools and equipment falling to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Suitable Tool Belts Isolation of none working personnel Posting of signage Barricading of work area	Principal Contractor
	Ladders	Falling from heights while working on a ladder		Injury	S	X			P3	I3	L2	Pre inspection of ladders before use 3 point contact when climbing the ladder Safe working procedure Training, communication and awareness Barricading PPE	P2
	Heat	Heat burns	Unsafe condition	Injury	S	X			P3	I3	L2	Job breaks Job rotation Supervision PPE - Overalls,	Principal Contractor

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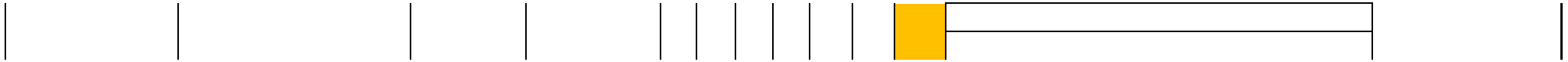
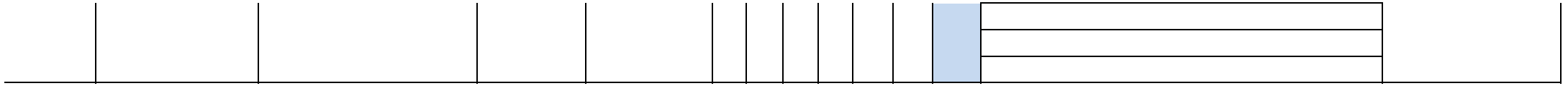
Roof Work(Ex	Cold weather	Frost bites	Unsafe Condition	Injury	S	X			P3	I3	L2	Paying attention to media for weather reports Operations to be stopped in the event of bad weather Safe work Procedure - Working in extreme temperatures Wearing warm clothing	Principal Contractor
	Thunder and lightning	Being struck by lightning	Unsafe Condition	Property damage	S	X			P3	I3	L2	Paying attention to media for weather reports Operations to be stopped in the event of bad weather	Principal Contractor
			Unsafe Condition	Injury	S	X			P3	I3	L2	Paying attention to media for weather reports Operations to be stopped in the event of bad weather Wearing warm clothing	Principal Contractor
	Weak Strutural areas(Fibre Glass/Canvas/Mesh etc.)	Fall to the ground whle working on roof	Unsafe Condition	Injury	S	X			P3	I3	L2	Siganage and Demaration of weak zones Communication and Awareness Safe work Procedure - Working in extreme Wearing warm clothing	Principal Contractor

Working In Ceiling	Elevated positions	Slip, trip and fall to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Rescue Communication and training Use of Fall Arrest System Use of Fall prevention - Life line, guard rails Barricading and demarcation	Principal Contractor
		Tools and equipment falling to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Suitable Tool Belts Isolation of none working personnel Posting of signage Barricading of work area	Principal Contractor
	Ladders	Falling from heights while working on a ladder		Injury	S	X			P3	I3	L2	Pre inspection of ladders before use 3 point contact when climbing the ladder Safe working procedure Training, communication and awareness Barricading PPE	P2
	Heat	Heat burns	Unsafe condition	Injury	S	X			P3	I3	L2	Job breaks Job rotation Supervision PPE - Overalls,	Principal Contractor
	Weak Strutural areas	Fall to the ground whle working in Ceiling	Unsafe Condition	Injury	S	X			P3	I3	L2	Siganage and Demaration of weak zones Communication and Awareness Safe work Procedure - Working in extreme Wearing warm clothing	Principal Contractor



Plumbing & Drainage Operations	Electricity	Electrocution	Unsafe Condition	Injury	S	X			P1	I3	L3	Pre Start up checklist(inspections) Lock Out- Tag out procedure Emergency preparedness plan PPE - Rubber gloves	Principal Contractor
	Gas fumes from Plumbing Soldering	Inhalation of hazardous substances	Unsafe condition	Illness	S	X			P1	I3	L3	Pre Start up checklist(inspections) Isolation of none working personnel Work area ventilation Notices and signage PPE - Dust masks, respirator,	Principal Contractor
	Biological Agents	Contact made with Bilogical agents in water systems	Unsafe Condition	Illness	S	X			P1	I3	L3	Medical Surveillance PPE Safe Working Procedure - Welding operations Training, Communication & Awareness	Principal Contractor
	See Scaffolding												
	See Use of Angle Grinder												
	See Use of Hand Tools												
	See Manual Handling												

Tower Crane operations	Overloading	Loads falling to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Safe work load Isolation of none working personnel Posting signage Supervision Test certificates Competent work Use of outriggers	Principal Contractor
	Swinging loads	Loads bumping other structures	Unsafe condition	Property damage	S	X			P1	I3	L3	Task Planning Use of a spotter or flagman Communication and coordination between Operator and rigger Reverse hooter and strobe light PPE - Gloves Boots	Principal Contractor
	Adverse weather conditions	Being faced with hail/rain storms, fog	Unsafe Condition	Injury	S	X			P1	I3	L3	Pre- Task planning - Weather focus Rescheduling of work Safe work procedure - Crane operations Use of certified slings to control load and rigger High visibility clothing	Principal Contractor
	Tower crane Failure	Loads and crane falling to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	staff calibration) Base to rail mounted for firm and level footing AIA inspection 6 monthly inpsection(competent person) Load Indicator and load limiting device(> 500kg) Catches on all hooks	Principal Contractor
	Elevated loads	Loads falling to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Safe work load Catches on all hooks Load Indicator and load limiting device(>500kg)	Principal Contractor



Construction Vehicles	Motor vehicle	Collision due to defective motor vehicle	Unsafe Condition	Injury	S	X			P1	I3	L3	Operator to have a valid drivers licence Operator to be medically fit for the job Pre- inspection of the vehicle Safe work procedure Adhere to road traffic rules and regulations	Principal Contractor
	Public	Theft/hijacking	Unsafe condition	Property loss	S	X			P1	I3	L3	Paying attention to media for areas with riots Communication media to contact emergency services Emergency preparedness plan	Principal Contractor
	Public traffic	Over speeding and colliding with other motor vehicles on the roads	Unsafe condition	Injury	S	X			P1	I3	L3	Adhere to road traffic rules and regulations	Principal Contractor
	Road surface	Tyre damages due to road potholes	Unsafe condition	Property loss	S	X			P1	I3	L3	Paying attention to media for areas with riots Communication media to contact emergency services Emergency preparedness plan	Principal Contractor

Suspended Platforms	Elevated positions	Slip, trip and fall to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Rescue Communication and training Use of Fall Arrest System Use of Fall prevention - Life line, guard rails Barricading and demarcation	Principal Contractor
		Tools and equipment falling to the ground	Unsafe condition	Injury	S	X			P1	I3	L3	Pre-inspection Isolation of none working personnel Posting of signage Barricading of work area	Principal Contractor
	Ladders	Falling from heights while working on a ladder		Injury	S	X			P3	I3	L2	Pre inspection of ladders before use 3 point contact when climbing the ladder Safe working procedure Training, communication and awareness Barricading PPE	P2

sport, arts, culture & recreation

Department of
Sport, Arts, Culture and Recreation
FREE STATE PROVINCE

SITE SPECIFIC CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

CONSTRUCTION OF PROPOSED NEW MULTIPURPOSE INDOOR CENTRE, SMITHFIELD

19 JANUARY 2024

CONSTRUCTION OF PROPOSED NEW MULTI-PURPOSE INDOOR SPORTS CENTRE

Draft Construction Health and Safety Site Specification

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Revision	Revision Date	Revision Comments	Originator	Reviewed By
01	19/01/2024	Initial draft for review	Ayanda Blose	Asanda Nogqala

Signing of the original document

Original	Prepared by	Reviewed by	Approved by
Date: 24/01/2024	Name: **Ayanda Blose Pr. CHSA *(CHSA/119/2022)*** **Asanda Nogqala** **Tswakae Sefuli**	Name: **Ayanda Blose Pr. CHSA** ***(CHSA/119/2022)***	Name: **Ayanda Blose Pr. CHSA** ***(CHSA/119/2022)***
Version 01	Signature: 	Signature: 	Signature: 

CONTENTS

1. DOCUMENT PURPOSE AND INTENT

In terms of the Construction Regulation 5(1)(b), **Department of Sports, Arts, Culture & Recreation in the Free State**, hereafter referred to as the Client, is required to compile a Project Specific Health & Safety Specification (hereafter referred to as the specification) for any intended project and provide such specification to any prospective Principal Contractor (hereafter referred to as the Contractor) and or a subcontractor who, on appointment shall submit a Project Specific Health and Safety Plan which shall address the requirements of this specification. This specification is applicable to the Project known as **Construction of Proposed New Multipurpose Indoor Sports Centre in Smithfiled.**

Take note of the following specific requirements and statements:

- The Principal Contractor must, after award, immediately appoint a competent Construction Manager (as defined in Act 48 of 2000) and as prescribed in Construction Regulation 2014, Sub-regulation 8(1). The qualifications (B Degree or Diploma in Built Environment Field), experience and registration details must be included into the Project Health and Safety Plan. This person, in terms of these specifications, is the person accountable to ensure the agreed Project Health and Safety Plan is executed and controlled. The Construction Manager must be based full time on site.
- Compliance to the Occupational Health and Safety Act (Act 85 of 1993) and the linked Regulations are not limited to the specifications and definitions contained in this document but, additionally, all new health and safety risks that get identified during the project lifetime must be adequately controlled as well.
- A comprehensive and documented Health and Safety Plan must be drawn up by the Principal Contractor, as a duty imposed on the Principal Contractor's Construction Manager. The plan must be based on the results of Health and Safety Risk Assessments conducted by the Client. This Plan must be submitted to the Construction Health and Safety (CHS) Agent for approval prior to commencement of work. This plan will transform into the Project Health and Safety File, as and when project Health and Safety Records are added to it.
- Monitoring of compliance of Health and safety on site shall be to the requirements of the OHS Act and Regulations as well as the contents of the Health and Safety Plan(s) of the Principal Contractor and Sub- Contractors, and. ensuring compliance to these is the duty of the appointed Construction Manager of the Principal Contractor.

The Client's Construction Health and Safety Agent is duty bound under CR 5(7) to manage the Principal Contractor's (hereafter referred to as the Contractor) compliance to the agreed Project Health and Safety Plan, and as such has unrestricted access to site for the duration of the project to execute this duty.

2. PURPOSE

The purpose of this specification is to provide the Contractor with any information other than the standard conditions pertaining to construction sites which might affect the health and safety of persons at work and of persons in connection with the use of plant and machinery. It further aims to protect persons other than its employees against any potential hazards to their health and safety arising out of

or in connection with the activities of persons at work during the construction work for the project.

The purpose of this specification is further:

2.1 To brief the Principal Contractor/Contractor on the significant health and safety requirements and aspects of the project. This shall include the provision of the following information and requirements namely:

a) safety considerations affecting the site of the project and its environment;
b) health and safety aspects of the associated structures and equipment;
c) required submissions on health and safety matters required from the Contractor and subcontractors;

2.2 To serve to ensure that the Contractor and Subcontractors are fully aware of what is expected from them with regards to the Occupational Health and Safety Act, 85 of 1993 and the Regulations made there- under including the applicable safety standards, and in particular in terms of Section 8 of the Act.

2.3 To ensure that a Contractor and Subcontractors entering into a contract with the Client achieve an acceptable level of Occupational Health & Safety performance. This specification forms an integral part of the contract agreement. The Principal Contractor and its Contractors **MUST** make it part of any Contract that they may have with their Contractors and/or Suppliers.

3. DEFINITIONS

The most important definitions in the Act and Regulations pertaining to this specification document are tabulated below.

Act	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).
Agent	A competent person who acts as a representative for a client.
Client	Any person for whom construction work is performed.
Construction Manager	A competent person responsible for the management of the physical construction processes and the coordination, administration and management of resources on a construction site.
Construction site	A workplace where construction work is being performed.
Construction Supervisor	A competent person responsible for supervising construction activities on a construction site.
Construction work	any work in connection with - • the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or • the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the

	making of excavation, piling, or any similar civil engineering structure or type of work;
Contractor	An employer who performs construction work.
Designer	a competent person who- • prepares a design; • checks and approves a design; • arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or • designs temporary work, including its components; a) an architect or engineer contributing to, or having overall responsibility for a design; b) a building services engineer designing details for fixed plant; c) a surveyor specifying articles or drawing up specifications; d) a contractor carrying out design work as part of a design and building project; or an interior designer, shop-fitter or landscape architect;
Excavation work	The making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping.
Fall protection plan	A documented plan, which includes and provides for— • all risks relating to working from a fall risk position, considering the nature of work undertaken; • the procedures and methods to be applied in order to eliminate the risk of falling; and • a rescue plan and procedures.
Health and Safety File	A file, or other record containing the information in writing required by the Construction Regulations.
Health and Safety Plan	A site, activity or project specific documented plan in accordance with the client's health and safety specification.
Health and Safety Specification	A site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work.
Method Statement	A document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment.
Principal contractor	An employer appointed by the client to perform construction work.
Risk Assessment	A program to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard.

4. ORGANIZATIONAL STRUCTURE OF HEALTH AND SAFETY RESPONSIBILITIES

All responsibilities fall under the legal requirement of legal appointment letters – each responsible person must have an appointment letter. The site must commit to establish, implement and maintain a site Organogram. The Organogram must be displayed on site.

ROLE	RESPONSIBILITIES
Client Client Agent	The Client and/or its Agent shall ensure that the Principal Contractor, appointed in terms of Construction Regulation 5(1) (k), implements and maintains the agreed and approved Health and Safety Plan. Failure on the part of the Client or Agent to comply with this requirement will not relieve the Principal Contractor from any duties under the Act and Regulations.
CEO – Principal Contractor	The Chief Executive Officer of the Principal Contractor in terms of Section 16 (1) of the OHS Act to ensure that the Employer (as defined in the Act) complies with the Act. The pro forma Legal Compliance Audit may be used for this purpose by the Principal Contractor or his/her appointed contractor.
Person responsible for Health and Safety Section 16(2)	All OHS Act (85 /1993), Section 16 (2) appointee/s as detailed in their respective appointment forms shall regularly, in writing, report to management on health and safety matters or deviations identified during routine or ad hoc inspections/ audits. All reports shall be made available to the principal Contractor to become part of their site records (Health & Safety File).
Construction Manager or Assistant	The Construction Manager and Assistant Construction Supervisor/s appointed in terms of Construction Regulation 8 shall regularly, in writing, report to their managers on health and safety matters or deviations identified during inspections. All reports shall be made available to the principal Contractor to become part of site records (Health & Safety File).
SHE Representatives	All Health and Safety Representatives (SHE-Reps) shall act and report as per Section 18 of the OHS Act. She Representatives shall inspect and monitor activities on a daily basis and report findings to the Client and Health and Safety manager immediately. These safety representatives have the right to stop any unsafe work or work due to unsafe conditions and report findings and reason immediately to the employer.
Other Legal Appointees	Further (Specific) Supervision Responsibilities for OH&S Several appointments or designations of responsible and /or competent people in specific areas of construction work are required by the OHS Act and Regulations. The following competent appointments, where applicable, in terms of the Construction Regulations are required to ensure compliance to the Act, Regulations and Safety Standards.

LEGAL APPOINTMENTS AS REQUIRED IN THE CONSTRUCTION REGULATIONS			
Item	**Construction Regulation**	**Appointment**	**Responsible Person**
1.	5(1)(k)	Principal contractor for each phase or project	Client / Agent
2.	7(1)(c)(v)	Contractor	Principal Contractor
3.	7(2)(c)	Contractor	Contractor
4.	8(1)	Construction Manager	Principal Contractor
5.	8(2)	Assistant Construction Manager	Principal Contractor
6.	8(5)	Construction Safety Officer	Principal Contractor & Contractor
7.	8(6)	Construction Safety Officer Professional Registration with SACPCMP	Principal Contractor & Contractor
8.	8(7)	Construction Supervisor	Construction Manager
9.	8(8)	Assistant Construction Supervisor	Principal Contractor & Contractor
10.	9(1)	Risk assessor	Principal Contractor & Contractor
11.	10(1)(a)	Fall Protection Plan Developer	Principal Contractor & Contractor
12.	12(1)	Temporary Works Designer	Principal Contractor & Contractor
13.	12(2)	Temporary Works Supervisor	Principal Contractor & Contractor
14.	13(1)(a)	Excavation supervisor	Principal Contractor & Contractor
15.	16(1)	Scaffold inspector / Erector	Principal Contractor & Contractor
16.	17(1)	Suspended platform supervisor	Principal Contractor & Contractor
17.	17(8)(c)	Suspended platform expert	Principal Contractor & Contractor
18.	19(8)(a)	Material hoist inspector	Principal Contractor & Contractor
19.	18(1)(a)	Rope access supervisor	Principal Contractor & Contractor
20.	20(1)	Bulk mixing plant supervisor	Principal Contractor & Contractor
21.	20(2)	Bulk mixing plant operator	Principal Contractor & Contractor
22.	22(a)	Tower crane supervisor	Principal Contractor & Contractor
23.	22(e)	Tower crane operator	Principal Contractor & Contractor
24.	23(1)(d)	Construction vehicle and mobile plant operator	Principal Contractor & Contractor

25.	23(1)(k)	Construction vehicle and mobile plant inspector	Principal Contractor & Contractor
26.	24(d)	Temporary electrical installations inspector	Principal Contractor & Contractor
27.	28 (a)	Stacking and storage supervisor	Principal Contractor & Contractor
28.	29 (h)	Fire equipment inspector	Principal Contractor & Contractor
29.	DMR 18(10)(e)	Lifting tackle inspector	Principal Contractor & Contractor
30.	DMR 18(5)	Lifting machinery inspector	Principal Contractor & Contractor
31.	DMR 18(11)	Lifting machinery operator	Principal Contractor & Contractor
32.	24(c)	Temporary electrical installation controller	Principal Contractor & Contractor
33.	24(d)	Temporary electrical installation inspector	Principal Contractor & Contractor
34.	OHSA sec. 19(3)	Health & safety committee members nominated &appointed	Principal Contractor & Contractor
35.	OHSA sec. 17(1)	She representatives)	Principal Contractor & Contractor
36.	G.A.R. 9(2)	Incident investigator	Principal Contractor & Contractor
37.	16.2	Executive responsible for the health and safety wellbeing of employees	Principal Contractor & Contractor
38.	G.S.R 13(a)(1)	Ladder inspector	Principal Contractor & Contractor
39.	HCSR 3	Hazardous chemical substance supervisor	Principal Contractor & Contractor
Best practice			
40.	10(4)(c)(i)	Safety harness inspector	Principal Contractor & Contractor
41.	E.M.R 10(4)	Portable electrical equipment inspector	Principal Contractor & Contractor
42.	C.R 29(l)	Emergency evacuation co-ordinator	Principal Contractor & Contractor
43.	C.R 29(i)	Fire marshal	Principal Contractor & Contractor

Legal appointment lists may be used as a reference or tool to determine which components of the Act and Regulations would be applicable. This list shall not be assumed to be exhaustive.

5. APPLICATIONS AND INTERPRETATION

The Occupational Health and Safety Act and all its Regulations, with the exception of the Construction Regulations, distinguish between the roles, responsibilities and functions of employers and employees respectively. It views Consultants and Contractors as employees of the "owner" of a construction or operational project, the "owner" being regarded as the employer. Only if formally agreed to by way of the written agreement in this regard between the "owner(s)" and Consultant and/or between the "owner(s)" and the Contractor(s), will these assumptions be relinquished in favour of the position agreed upon between the relevant parties.

The position taken by the Construction Regulations is that the "owner", in terms of its instructions, operates (has to operate) in the role of Client as per relevant definition. The Contractors working for the Client are seen to be in two categories, i.e. the Contractors and Subcontractors. The Contractor has to take full responsibility for the health and safety on the site of the relevant project/contract. This includes monitoring health and safety conditions and overseeing administrative measures required by the Construction Regulations from all Contractors on the project site. Subcontractors are required to operate under the scrutiny and control (in terms of all health and safety measures which are covered in the Construction Regulations) of the Contractor. Where, for the work the Contractor will have to execute himself, practical health and safety measures are applicable, he will also be subjected to the relevant requirements with which Subcontractors have to comply with. The Contractor, however, does not have to actually fulfil such requirements in respect of any of the work/functions of any Subcontractors on the site for which he has been appointed as a Contractor. He has to, however, monitor such processes, ensuring that the requirements are complied with and that the required appointments/evaluations/inspections/assessments and tests are done and that the records are duly generated and kept as prescribed in the Construction Regulations. This has to feature clearly in the Contractors Health and Safety Plan.

6. RESPONSIBILITIES

6.1 A Client must:

- prepare a baseline risk assessment for an intended construction work project;
- prepare a suitable, sufficiently documented and coherent site-specific health and safety specification;
- include the health and safety specification in the tender documents;
- ensure that potential principal contractors submitting tenders have made adequate provision for the cost of health and safety measures;
- ensure that the principal contractor to be appointed has the necessary competencies and resources to carry out the construction work safely;
- ensure before any work commences on a site that every Contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993);
- appoint every Contractor in writing for the project or part thereof on the construction site;
- ensure that the Construction Work Permit (CWP) is available from the CHSA prior to any Contractors commencing any form of construction work;
- ensure that the health and safety file contemplated in regulation 7(1)(b) is kept and maintained by the principal contractor.

6.2 A Contractor must:

- The Contractor shall ensure that he is fully conversant with the requirements of this Specification and all relevant health and safety legislation. This Specification is not intended to supersede the Act nor the Construction Regulations or any part of either. Those sections of the Act and the Construction Regulations which apply to the scope of work to be performed by the Principal Contractor in terms of this contract (entirely or in part) will continue to be legally required of the Principal Contractor to comply with. The Principal Contractor will in no manner or means be absolved from the responsibility to comply with all applicable sections of the Act, the Construction Regulations or any Regulations proclaimed under the Act or which may perceivable be applicable to this contract;
- The Contractor shall ensure that the appointed Construction Health and Safety Officer/s are competent, resourced and have the support and accountability required in terms of the OHSA and Regulations, as well as the duties required by the SACPCMP. The Safety Officer/s must be fully registered with the SACPCMP and be full time of site. Resources include administrative supplies such as computers, printers, 3g cards, vehicles, means of communication, stationery etc.
- A principal contractor must further —
    - provide and demonstrate to the client a suitable, sufficiently documented and coherent site specific health and safety plan, based on the client's documented health and safety specifications contemplated in regulation 5(1) (b), which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the principal contractor as work progresses;
    - open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, which must be made available on request to an inspector, the client, the client's agent or a contractor; and
    - on appointing any other contractor, in order to ensure compliance with the provisions of the Act-
    - provide contractors who are tendering to perform construction work for the principal contractor, with the relevant sections of the health and safety specifications contemplated in regulation 5(1)(b) pertaining to the construction work which has to be performed;
    - ensure that potential contractors submitting tenders have made sufficient provision for health and safety measures during the construction process;
    - ensure that no contractor is appointed to perform construction work unless the principal contractor is reasonably satisfied that the contractor that he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely;
    - ensure prior to work commencing on the site that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993;
    - appoint each contractor in writing for the part of the project on the construction site;
    - take reasonable steps to ensure that each contractor's health and safety plan contemplated in subregulations (2)(a) is implemented and maintained on the construction site;
    - ensure that the periodic site audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once

every 30 days;

- stop any contractor from executing construction work which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons;
- where changes are brought about to the design and construction, make available sufficient health and safety information and appropriate resources to the contractor to execute the work safely; and
- discuss and negotiate with the contractor the contents of the health and safety plan contemplated in subregulations (2)(a), and must thereafter finally approve that plan for implementation;
- ensure that a copy of his or her health and safety plan contemplated in paragraph (a), as well as the contractor's health and safety plan contemplated in subregulation (2)(a), is available on request to an employee, an inspector, a contractor, the client or the client's agent;
- hand over a consolidated health and safety file to the client upon completion of the construction work and must, in addition to the documentation referred to in subregulation (2)(b), include a record of all drawings, designs, materials used and other similar information concerning the completed structure;
- in addition to the documentation required in the health and safety file in terms of paragraph (c)(v) and subregulation (2)(b), include and make available a comprehensive and updated list of all the contractors on site accountable to the principal contractor, the agreements between the parties and the type of work being done; and lastly
- ensure that all his or her conduct pre-employment, periodic and exit medical certificates of fitness specific to the construction work to be performed before and issued by an occupational medical practitioner in the form of Annexure 3.
- Failure to comply will be noted as a serious offence

7. SITE SPECIFIC INFORMATION

These specifications are applicable to the specific scope of work pertaining the Construction of Proposed New Multi-purpose Indoor Sport Centre in Smithfield. The scope of works involves but not limited to:

- Foundations
- Waterproofing
- Eathworks
- Concrete, Formwork and Reinforcement
- Roofing Coverings
- Carpentry and Joinery
- Ceilings Partitionings and Access Flooring
- Floor Coverings
- Ironmongery
- Metalwork

- Plastering
- Tiling
- Plumbing and Drainage
- Glazing
- Paintwork
- Floor finishes
- Removal of Existing Trees
- Deep Excavations
- Electrical Installations
- Mechanical Installations - HVAC
- Mechanical Installation - Fire Protection
- Covered parking and walkways
- Soil drainage
- Roads and paving
- Fencing Railing
- Landscaping

The following list is an example of specific activities and considerations that may be encountered on a project. The Contractor must select the applicable and extend with items particular to the project under consideration and Site Risk Assessments, Standard Working Procedures (SWP), management and control measures and Method Statements (where necessary) must be developed by the Contractor:

- Site Establishment
- Dealing with areas with water leaks
- Location of existing Services
- Installation & maintenance of temporary construction electrical supply, lighting and equipment
- Accomodation of traffic
- Adjacent land uses and surrounding property exposures
- Boundary & access control/public liability exposures (NB: The Employer is also responsible for the health and safety of non-employees affected by his/her work activities)
- Health risks arising from own activities and from the environment e.g. diseases, illnesses, allergies etc.
- Exposure to noise
- Exposure to working with wet and damaged and loose installations which might slip and fall
- Use of Portable Electrical Equipment including:
    - Angle grinder
    - Electrical Drilling machine
    - Welding including:
    - Arc Welding
- Formwork
- Scaffolding

- Steel reinforcement
- Concrete
- Excavations
- Work in trenches
- Loading & Offloading of delivery trucks
- Aggregate/sand and other materials delivery and or removal
- Manual and mechanical handling
- Driving & operation of construction vehicles and mobile plant including:
    - Vibratory rollers and others
    - Plate compactor
    - Front End Loader
    - Mobile Cranes, tower cranes and the ancillary lifting tackle
    - Parking of vehicles & mobile plant
    - Towing of vehicles & mobile plant
- Use and storage of flammable liquids and other hazardous substances. The Client and/or its Agent must be informed of this prior to such substances being brought on to site
- Ergonomic hazards
- As discovered by the Contractor's hazard identification and risk assessment
- As discovered from any inspections and audits conducted by the Client and/or its Agent
- As discovered from any accident/incident investigation.

8. NOTIFICATION TO AUTHORITIES, INTERESTED AND AFFECTED PARTIES

8.1 Notifications to local authority

This project triggers the application for a construction work permit, as required in terms of Construction Regulations 3(1) based on the project value and the duration of the project. The Client must at least 30 days before that work is to be carried out apply for the permit to do construction work to the provincial director in writing.

9. HEALTH AND SAFETY FILE

The Contractor must, in terms of Construction Regulation 7(2)(b), keep an Occupational Health & Safety File on site at all times that must include all documentation required in terms of the Act and Regulations and must also include a list of all Contractors on site that are accountable to the Principal Contractor and the agreements between the parties and details of work being done. A more detailed list of documents and other legal requirements that must be kept in the Health and Safety File is attached as an addendum to this document.

The Health and Safety File will remain the property of the Client and/or its Agent on its behalf throughout the period of the project and shall be consolidated and handed over to the Client and/or its

Agent on its behalf at the time of completion of the project.
The template for the file has been agreed and will be forwarded with the meeting minutes and indicated as annexure A.

10. POLICY

The following policies must be developed, reviewed and approved:

- Occupational Health and Safety Policy
- Environmental Policy
- Alcohol and Drug Abuse Policy
- HIV/AIDS Policy
- Disciplinary Policy
- Smoking Policy

All the above Policies must be displayed in a conspicuous area, communicated to all employees and records of such training shall be retained in the safety file.

11. OH&S PERFORMANCE

The Contractor is required to report monthly on his health and safety performance to the Client or its Agent. This will include but not limited to:

- Number of injuries (First aid, medical injuries, lost time injuries and fatalities)
- Number of near misses
- Number of property damages
- Lost time injury rate
- Medical treatment cases
- First aid injury cases
- Total man-hours worked
- Man-hours without a lost time injury
- Total man-power numbers
- Total number of improvements, contravention and prohibition notices

12. HEALTH AND SAFETY HAZARD IDENTIFICATION, RISK ASSESSMENT AND CONTROL

This Specification prescribes the minimum requirements for any Health and Safety Hazard Identification, Risk Assessment and Control activity during the renovations of the facilities inside the Schoo. It applies to all site staff involved during the renovations of the facilities inside the School. These include the Client, his Agents, visitors and other stakeholders such as the Department of Labour (DoL) etc.

Silver Mile Trading recognizes that effective Health and Safety programs are critical for all Construction companies and, if implemented and managed well, is a substantial cost saving exercise through the resultant minimized losses. This includes an effective Hazard Identification, Risk Assessment and Control Program.

This Specification prescribes the minimum components required to constitute a substantially common approach to hazard identification, risk assessment and control of these in order to:

- Pro-actively assess the hazards and risks associated with all tasks performed by the Division;
- Reduce and where possible eliminate the risks that employees and equipment are exposed to;
- Create hazard awareness amongst the employees performing various tasks;
- Ensure compliance to legislation and the requirements of the client.

12.1 Risk assessment methodology

Any risk assessment methodology that is accepted in the industry or prescribed by a Client may be used but all efforts must be made to ensure that it is covering the specifics in the construction industry.

The hazard identification and risk assessment process (HIRA) is a team-process. The Contractors appointed Risk Assessor must establish the relevant HIRA team and ensure that the members are trained to understand and be competent to perform HIRA using the multiplier approach. Though the Health and Safety professional coordinates the activities of the HIRA team, the Project or Line Manager must ensure the assessed and ranked risks are controlled on his Project. All Health and Safety hazards and risks must ideally be identified and assessed per project, per process and task step in order to support the Method Statements, Safe Work Procedure and Planned Task Observation requirements. Silver Mile Trading uses as a minimum a 5x5 matrix to rate its identified risks in either a qualitative or quantitative approach, or both.

The following examples are based on a typical 5x5 risk matrix and shows the difference between qualitative (table 1) and quantitative (table 2) scoring methodology. Both are acceptable in normal situations but where we require a ranked risk profile for a project, we use a quantitative method. For task specific Safe Work Method Statement and Safe Work Instruction purposes a 3x3 matrix may be used to improve the floor level DSTI effectiveness. In this case we often use a combination of qualitative and quantitative scoring, determined by the task team profile.

Likelihood / Severity	Rare (1)	Unlikely (2)	Possible (3)	Likely (4)	Almost Certain (5)
Catastrophic (A)	Medium	Medium	High	High	High
Major (B)	Medium	Medium	Medium	High	High
Moderate (C)	Low	Medium	Medium	Medium	High
Minor (D)	Low	Medium	Medium	Medium	Medium
Insignificant (E)	Low	Low	Low	Medium	Medium

Likelihood / Severity	Rare (1)	Remote (2)	Occasional (3)	Frequent (4)	Almost Certain (5)
Catastrophic (5)	5	10	15	20	25
Major (4)	4	8	12	16	20
Moderate (3)	3	6	9	12	15
Minor (2)	2	4	6	8	10
Negligible (1)	1	2	3	4	5

Level	Likelihood	Description
1	Rare	Not expected to occur but still possible.
2	Remote	Not likely to occur under normal circumstances.
3	Occasional	Possible or known to occur.
4	Frequent	Common occurrence.
5	Almost Certain	Continual or repeating experience.

Level	Severity	Description
5	Catastrophic	Fatality, fatal diseases or multiple major injuries.
4	Major	Serious injuries or life-threatening occupational disease (includes amputations, major fractures, multiple injuries, occupational cancer, acute poisoning).
3	Moderate	Injury requiring medical treatment or ill-health leading to disability (includes lacerations, burns, sprains, minor fractures, dermatitis, deafness, work-related upper limb disorders).
2	Minor	Injury or ill-health requiring first-aid only (includes minor cuts and bruises, irritation, ill-health with temporary discomfort).
1	Negligible	Not likely to cause injury or ill-health

Risk level	Risk Acceptability	Recommended Actions
Low Risk	Acceptable	• No additional risk control measures may be needed. • Frequent review and monitoring of hazards are required to ensure that the risk level assigned is accurate and does not increase over time.
Medium Risk	Tolerable	• A careful evaluation of the hazards should be carried out to ensure that the risk level is reduced to as low as reasonably practicable (ALARP) within a defined time period. • Interim risk control measures, such as administrative controls or PPE, may be implemented while longer term measures are being established. • Management attention is required.
High Risk	Not acceptable	• High Risk level must be reduced to at least Medium Risk before work commences. • There should not be any interim risk control measures. Risk control measures should not be overly dependent on PPE or appliances. • If practicable, the hazard should be eliminated before work commences. • Management review is required before work commences.

12.2 Minimum required risk assessment processes

The following HIRA processes form part of an integrated pure risk management program and must be developed for each project:

- **Project Risk Assessment:**
  This must be conducted to encompass all the Projects Risks prior to commencement of work, covering all project specific areas, responsibilities, tasks, scope of work, method statements etc. from the project risk register;
- **Issue Based Risk Assessment:**
  This must be conducted prior to commencement of any specific work, covering all specific tasks and activities to be performed. This will include all tasks related to the scope of work, including newly identified tasks.
- **Daily Safe Task Instruction:**
  Informal risk assessments compiled by Frontline Supervisors or Foremen and discussed with employees before commencement of daily tasks.
- **Planned Task Observations:**
  Planned Task Observations (PTO) must be completed weekly by the Contractor's & subcontractor's management.

After any scope change, or specification change, or equipment change, new hazards and associated risk areas need to be evaluated, controlled and communicated to the workforce.

Change can be identified in the scope of work, the work environment, personnel selection / job competencies, man job specifications, laws, conventions, plant and equipment et cetera.

12.3 Conditions to consider when conducting HIRA

The HIRA process shall take the following into account when conducting hazard identification and risk assessments:

- Routine and non-routine activities;
- Activities of all persons having access to the workplace (including contractors and visitors);
- Human behaviour, capabilities and other human factors;
- Identified hazards originating outside the workplace capable of adversely affecting the health and safety of persons under the control of the organization within the workplace;
- Hazards created in the vicinity of the workplace by work-related activities under the control of the organization;
- Infrastructure, equipment and materials at the workplace, whether provided by the organization or others;
- Changes or proposed changes in the organization, its activities, or materials;
- Modifications to the Health and Safety Management system, including temporary changes, and their impacts on operations, processes and activities;
- Any applicable legal obligations relating to risk assessment and implementation of necessary controls;
- The design of work areas, processes, installations, machinery and equipment, operating procedures and work organization, including their adaptation to human capabilities.

12.4 Health risks to be included in assessments

The following **health risks** must also be considered when doing workplace risk assessments:

- Noise
- Dust
- Lighting
- Vibration
- Chemical Stressors
- Ergonomics

The prevalence and potential risk posed by biological stressors must be assessed by a Health and Safety Professional. These include:

- Bacteria;
- Viruses;
- Fungi;
- Parasites;
- Poisonous plants;
- Poisonous animals;
- Vectors such as mosquitoes, rats, mice, cockroaches;
- Water borne diseases;
- Air borne diseases;
- Blood borne diseases such as HIV/AIDS.

Manual material handling and repetitive action stress disorders

- Workflow design and environmental conditions must be considered;
- The posture, actions and movements required for manual handling must be considered;
- The shape, size, weight and nature of the objects must be considered;
- The distance over which the object is handled must be considered;
- The handler's age and general state of health must be considered;
- The availability and suitability of mechanical aids must be considered

Psychological stressors

- Psychological workplace stressors must be identified, for example extreme people concentrations or excessive work pressure, et cetera.

Fire risks assessment

- Fire risks and follow on risks as a result of a fire, must be identified and assessed;
- A recognized fire authority must be consulted;
- The level of service available from the local authority must be assessed and results incorporated in the risk management plan.

Emergency Scenarios

Potential emergency scenarios must be identified and assessed, and emergency equipment or procedures must be supplied in relation to the risks. This includes assessing the following base emergency scenarios:

- Political instability risks;
- High-jacking and abduction risks;
- Theft and burglary risks;
- Fire risks, etc.

13. MONITORING AND REVIEW AND MANAGEMENT OF CHANGE

13.1 The Contractor must develop and implement a monitoring and review plan for the risk assessments.

13.2 For any changes due to new designs, processes and incidents the specification, baseline risk assessment and SHE plan must be updated.

14. AUDITING AND INSPECTIONS

14.1 Periodical audit by Construction Health and Safety Agent

The Construction Health and Safety Agent will be conducting monthly audits at times agreed with the Contractor to comply with Construction Regulation 5(1)(o) to ensure that the Contractor has implemented, is adhering to and is maintaining the agreed and approved OH&S Plan (audits must be done at least once every 30 days).

14.2 Other audits and inspections by Construction Health and Safety Agent

The Construction Health and Safety Agent reserves the right to conduct any ad hoc audits and inspections as it deems necessary.
A representative of the Contractor and the relevant Health and Safety Representative(s) (SHE-Reps) must accompany the Agent on all Audits and Inspections and may conduct their own audit/inspection simultaneously. Each party will, however, take responsibility for the results of his/her own audit/inspection results. The Agent may request a copy of the Contractor SHE Committee meeting minutes, reflecting possible recommendations made by that committee to the employer for reference purposes.

The Contractor must conduct at least monthly audits on their Subcontractors and daily regular site inspections and generate reports which must be handed to Contractor Management for their action. All inspections and audits must be available for the Client/Agent at any time. Records of the audits must be retained in the safety file for review by the Client and/or its Agent

14.3 Actions plans must be developed for all findings recorded in the audits or inspections completed.

15. INCIDENT INVESTIGATION, REPORTING AND MANAGEMENT

15.1 Incident investigation

- The Contractor is responsible to investigate all his incidents. This will include near misses, first aid injuries, medical treatment injuries seen by a doctor and hospital or clinic cases, lost time injuries and fatalities. (General Administrative Regulation 9).

- All incidents must be recorded in the Incident Register. (General Administrative Regulation 9).
- The Contractor is responsible for the investigation of all incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the corrective action to prevent similar incidents in future.
- The Contractor is responsible for the investigation of all road traffic accidents relating to the construction site and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.
- Notwithstanding the requirements of Section 24 of the Act, all incidents shall be investigated and reported on in writing, irrespective of whether such incident gave rise to injury or damage.

15.2 Incident reporting

- The Contractor is required to notify the Construction Health and Safety Agent of all incidents immediately and then follow the Incident management reporting procedures thereafter.
- The Contractor shall further report all incidents where an employee is injured on duty to the extent that he/she:
  - Dies;
  - becomes unconscious;
  - loses a limb or part of a limb;
  - is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed.

  or where:
  - a major incident occurred;
  - the health or safety of any person was endangered (this could be a near miss);
  - where a dangerous substance was spilled;
  - the uncontrolled release of any substance under pressure took place;
  - machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects;
  - machinery ran out of control.

  to the Provincial Director of the Department of Labour within seven days and at the same time to the Client or its Agent. Refer in this regard to Section 24 of the Act, Construction Regulation 5(3) & General Administrative Regulation 8.

- The Contractor is required to provide the Client and/or its Agent on its behalf with copies of all statutory reports required in terms of the Act and the Regulations;

- The Contractor is required to provide a.s.a.p. the Client and/or its Agent on its behalf with copies of all internal and external accident/incident investigation reports

15.3 Incident Management

- The Contractor's safety officer must escort all injuries on duty to the hospital with the injured;
- All incidents must be investigated;
- Must be in possession of a completed WCL.2 form (employers report of accident), and certified ID of the injured.
- After treatment, the safety officer must ensure that he/she obtains a first medical report, from the attending Dr.
- The Contractor must ensure the injured employee honours his/her medical check-ups post treatment. All progress medical reports issued to the injured employee must be retained in the safety file. The Contractor must further arrange transport for the employee to be accompanied to the hospital when required.
- All medical reports and the investigations report must be filed in the safety file.
- An incident recall must be conducted post all injuries including near misses. An attendance register must be kept for all incident recalls.
- Risk assessment, safe work procedures, method statements and SHE Plan must be amended where required post the incident to ensure the controlled measures are strengthened to prevent a reoccurrence of the incident.
- The Construction Health and Safety Agent must be notified immediately of all incidents on the project.

16. HEALTH AND SAFETY REPRESENTATIVES AND SHE COMMITTEES

16.1 Designation of health and safety representatives

- Where the Principal Contractor employs more than 20 persons (including the employees of the Contractors) he has to nominate and appoint a minimum of one SHE Representatives, then he must appoint one for every 50 employees or part thereof. (OHS Act85, 1993 - Section 17 and GAR 6; 7.);
- These SHE Representatives shall be trained and designated in writing.

16.2 Duties and functions of health and safety representatives (this is based on the construction norms and is not an exhaustive list)

- The Principal Contractor must ensure that the designated H&S representatives conduct a formal weekly inspection of their respective areas of responsibility using a checklist.
- All findings must be reported to the Principal Contractor. The reports shall be submitted to the Health and Safety Committee for action. Record shall be kept in the form of minutes;
- SHE Representatives must take part in incident investigations;
- SHE Representatives shall be members of at least one SHE Committee and attend all

the SHE Committee meetings.

16.3 Establishment of H&S Committee(s) – where 2 or more H&S representatives are appointed. The Contractor must establish H&S Committees consisting of designated H&S Representatives together with a number of Employers Representatives appointed as per Section 19(3) that are not allowed to exceed the number of H&S Representatives on the committee. The persons nominated by the employer on an H&S Committee must be designated in writing for such period as may be determined by him. The H&S Committee shall co-opt advisory (temporary) members (who are not allowed to voteon issues discussed) and determine the procedures of the meetings including the chairmanship.

Legally, the H&S Committee must meet minimum every 3 months, but it is advised that they meet at least once a month and consider, at least, the following Agenda for the first meeting. Thereafter the H&S Committee shall determine its own procedures as per the previous paragraph.

Agenda:

1) Opening and determining of chairmanship (only when necessary);
2) Facilities and Hygiene;
3) Housekeeping
4) Incidents and incident investigation; and
5) Inspection checklists and Registers: H&S Rep. Inspections;
6) Matters of First Aid;
7) Scaffolding;
8) Ladders;
9) Excavations;
10) Portable Electric Equipment;
11) Fire Equipment;
12) Power Hand tools;
13) Incident Investigation reports;
14) Pressure Equipment and vessels under pressure;
15) Personal Protective Equipment.
16) Safety Statistics;
17) Health and Safety Awareness / Training / Posters and Symbolic signs;
18) First Aiders and First Aid equipment;
19) Demarcation of work- /hazardous-/safe areas/walkways;
20) Safety Suggestions;
21) Environmental Management;
22) General;
23) Date of Next Meeting; and
24) Closing.

All minutes must be circulated and retained on site.

17. SITE ESTABLISHMENT

Proper planning by management of the Contractor is an essential part of preparation and budgeting for the safe and efficient running of a construction operation. Site establishment method statements and detailed risk assessments are required for each activity to be completed linking to the construction programme.

Details regarding management of subcontractors and Suppliers are contained within the body of the specification. Competent, resourced subcontractors are to be used, with an H&S plan approval lead time of 7 days prior to Contractors being able to commence work.

It is expected that Contractors and subcontractors will respect each other's workspaces and operations and communicate with each other to arrange work where there are overlaps or adjacent activities. The following rules apply:

- All equipment and personal belongings must be locked whilst on site.
- The camp must set-up at a location to prevent flooding and collision with traffic.
- Precautions must be taken to prevent fires from starting.
- Suitable toilet for each gender and signage posted to indicate such gender will be on site for the duration.
- Provision of suitable change rooms

18. SITE ACCESS AND PROTECTING THE PUBLIC AND SITE

18.1 Site security

- All people who are on site must be authorised.
- No firearms or other dangerous weapons will be allowed at this construction site.
- No people under the influence of alcohol or behaviour altering substances are allowed at this construction site.
- Access to site must be locked at all times
- Managing and guarding shall be through suitably qualified security personnel with PSiRA registration.

18.2 Site boundary

Information obtained from the pre-construction information and pre-contract situational assessment will enable decisions to be made on the site layout. It is important to remember that decisions relating to the site layout and its boundaries are important in protecting the safety of the public, especially children, as well as the safety of the workforce.

Owing to the proximity of the members of the Public to the Project, a fence must be erected enclosing all construction activities. In this case:

- The fence should not be less than 1,8m high;
- The fence should not be capable of being easily climbed;
- The fence should be either close-boarded or covered with mesh not exceeding 30mm in size;
- The fence should be planned, designed and constructed to ensure that it is stable and will not fall over;
- Solid fencing/hoarding must be designed to take into account wind loading;
- Access openings should be fitted with gates which must be kept locked at all times when the site is unoccupied;
- Surveillance of the gates should be maintained when they are open;
- Fencing should be properly maintained;
- Materials should not be placed or stacked in the vicinity of the fence in such a way as to provide easily climbed access over the fence;
- Suitable warning notices should be fixed to the fence.

As part of the planning process thought should also be given to the possibility of materials or equipment falling onto persons outside the site boundaries.

- The possibility of plant, parts of plant, or loads extending beyond the site boundary and potentially hitting people or vehicles also needs to be considered;
- Lifting operations over public areas should be avoided as far as is possible.

18.3 Site layout

In addition to considerations of the site boundary, there are a range of other factors to be considered in deciding upon the site layout. Site layout plan must consider, but not limited to the following:

- Location of sanitary facilities;
- Parking area in relation to movement of persons;
- Security guard house;
- Illumination at night;
- Storeroom/s;
- Emergency signs and assembly area;
- Smoking areas
- Location of the construction board
- Construction access gate

18.4 Safe access

Safe access and good visibility for plant and vehicles entering and leaving the site must be ensured. Where possible, pedestrians should be excluded from vehicle access ways. Trained

Banksmen should be used on busy highways near public footpaths and elsewhere if reversing is necessary. One-way systems or other means of controlling site transport and avoiding the need to reverse, should be set out. The conditions of both vehicle and pedestrian routes must be maintained in good order. Suitable warning signs must be posted. Employees will not be allowed to be transported at the back of construction vehicles unless the vehicle is fitted with seatbelts and the seats are firmly secured to the vehicle.

18.5 Storage areas

Location of stores and storage areas will be determined by the availability of space, the nature of the materials and any statutory requirements, e.g. in relation to highly flammable materials or explosives. Consideration must be given to suitable off-loading areas and lifting equipment. Positioning lifting appliances.

Positioning of cranes, hoists and other lifting appliances will be determined by physical features on the site (e.g. overhead lines), the building under construction.

19. EXCAVATION AND TRENCHING

Excavation work must to be properly planned, managed, supervised and carried out to ensure that every excavation is done with absolute safety and to ensure there is no threat of damage to any service and that the excavation remains in a safe condition for the period that it is open.

19.1 Pre-excavation

Note: All excavation work requires a permit.

Excavation work must be carried out under the supervision of a competent person who has been appointed in writing.

Planning for trenching and excavation work must as a minimum take the following into consideration:

- Location of existing services (gas, water, electricity, fibre optic cables, etc.) adjacent to or crossing the line of the trench. Mark all underground services before any excavation work commences by:

- using service plan to locate and mark underground services; and
- using locators to trace any services where there are no obvious signs of these services.

- Traffic diversions
- Hard surfaces or obstructions to be broken out
- Limitations on plant (access, rights of way, headroom, overhead cables, bearing capacity of ground, noise restrictions)
- Possibility of flooding by surface run-off or water from broken mains
- Presence of standing or running water

- Suitable means of draining discharged water
- Condition and stability of adjacent structures
- Surcharge loads
- Vibrations
- Working area and room for placement of spoil and materials
- Evidence of previous excavations in the area
- Evidence of possible hazardous contamination

Ensure that all employees involved in the digging know about safe digging practices and how to deal with damage to cables and pipes:

- Excavation by powered equipment is prohibited closer than 1.2 metres to any underground cable; do not remove tiles covering electric cables without prior approval.
- Make sure that there is an emergency plan to deal with damage to cables and pipes and a system for notifying the service owner.

19.2 Assessment of ground conditions

Prior to any excavation taking place, the ground conditions must be assessed. This can be achieved through boreholes, trial pits or information from previous or current work in the area. If none of the above is possible the ground conditions can only be examined when excavation commences. This examination must be carried out by a competent person using the initial excavation as a trial pit.

19.3 Excavation depth less than 1.25 metres

A risk assessment must be carried out to determine if a risk to employees exists, and if so, the method and type of protection to be provided. It should address, but not be limited to, the following:

- Water table - Is it above or below the trench bottom?
- De-watering - is dewatering required, and if so, will it affect the stability of the trench?
- Adjacent buildings or roads - are adjacent buildings, roads or services liable to damage?
- Ground conditions - has the type of ground been examined to determine its structure, i.e. clay, sand, silt, rock, fill or previously excavated ground?
- If any doubt exists as to the self-supporting ability of the ground it must be benched, battered or shored.

19.4 Excavation depth 1.25 metres or greater

Trenches 1.25 metres deep or greater require a protective system, unless the excavation is made entirely in stable rock. Trenching or excavation work shall not be commenced until the ground has been examined by a competent person to determine the protection required. Protection must be erected and maintained where having regard to the nature of the soil and the slope of the side of the trench or excavation, a fall or dislodgment of earth or other material is likely to occur from a height of 1.25 metres or more so as to bury or trap a person.

The competent person must then provide a statement in writing - detailing the findings of the examination, type(s) of ground encountered, the calculations used in deciding the method of protection required. Trenches of six meters (6m) deep or greater require that the protective system be designed by a registered professional engineer or be based on tabulated data prepared and/or approved by a registered professional engineer.

19.5 Sloping and benching

In general, the flatter the sloping or benching angle, the greater the protection. Benches are cuts in the slope that give it a stair-step appearance. There are two types of benches: simple and multiple.

Rain, vibration, and pressure from heavy equipment can make soil unstable and increase the risk of a cave-in. Sloped or benched excavations that show signs of cracks, bulges, or clumps of soil that fall away from the faces are dangerous and must be inspected by a competent person. You must immediately get out of the excavation and stay away until the competent person determines it is safe to enter.

19.6 Shoring

Shoring and shielding systems can prevent cave-ins in excavations with or without sloped or benched faces; it requires installing aluminium hydraulic or other types of supports to prevent soil movement. The safest way to install and remove them is from outside the excavation.

Vertical shores are called uprights. They're easy to install, relatively inexpensive, and often used in stable soil or in shallow excavations that have parallel faces. Vertical shores must be sized for the excavation's dimensions and soil type.

If shoring is to be used, it must be designed by a competent person. Shoring involving major temporary works (e.g. sheet piling/dewatering) should be designed by an experienced designer with suitable professional indemnity insurance provisions.

The shoring or support system must be installed without delay as the excavation progresses. Operatives installing the system must be given clear instructions preferably recorded as drawings or sketches. The shoring must extend at least 300mm above the edge of the excavation, or a fender board of the same height provided.

19.7 Shielding

Shields provide employees a safe work area by using trench boxes or other types of supports to protect them from collapsing soil. Shields don't prevent cave-ins but "shield" employees if a face does collapse. They are usually placed in the excavation by heavy equipment.

19.8 Barricading

Every part of the trench or excavation where there is a likelihood of a person falling 1 metre or more must be provided with barricades or guardrails as soon as possible after excavation. Barricades or guardrails can be removed to allow access or movement of plant, or materials. Once access is no longer required, the barricades or guardrails must be re-instated. Whenever barriers are set back from the edge of a trench, all access to the excavation should be confined to the proper pathways and no materials should be stacked in the space between the barrier and the trench edge.

Where vehicles can pass close to a trench, heavy loads can endanger the trench. Traffic barriers must be provided to keep vehicle traffic from encroaching too close to the trench edge. Barriers or stop blocks are also necessary

to stop cranes, dumpers tip trucks, etc. manoeuvring too close to the edge of the trench and endangering its stability. Timber baulks are effective against small wheeled machines, but taller barriers are required for larger pieces of plant.

19.9 Backfill and compaction

- A competent person must supervise the installation, alteration, or removal of excavation support.
- Make sure that employees removing shoring after completion of work are not left in the bottom of the excavation; remove shoring in a manner to prevent cave-in on employees.
- Backfill consists of the placement of specified backfill material, in layers of 15 cm, in the excavations; use soil materials for backfill that is free of clay clods, rock or gravel larger than 6 cm. Debris waste, frozen materials and other deleterious matter of any dimension must be removed.
- Backfill excavations as promptly as the work permits, but not until completion of the following:
- approval of construction below finish grade;
- inspection, testing, approval, and recording location of underground utilities;
- removal of concrete formwork; and
- removal of rubbish and debris;
- Perform the compaction of soil materials for backfills by using the specified compaction equipment that is suitable for the soil material being compacted and for use in the location of the work area.
- Control soil compaction for compliance with the percentage of maximum density for the area classification, where applicable.

19.10 Precautions

19.10.1 Materials falling into excavations

Make sure that the edges of the excavation are protected against falling materials by:

- providing toe boards where necessary; and
- storing excavated ground and building materials well away from the side of any excavation.

19.11 Inspections

A competent person must inspect trenches daily, and as conditions change, before employee entry and as needed throughout the shift to ensure elimination of excavation hazards. Changing conditions include, for example, after every rainfall or hail fall, as soil conditions change or after any accidental fall of rock, earth or any other material. Stop work if the inspection shows it is not safe to continue.

Note: A competent person is an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to employees, soil types and protective systems required, and who is authorised to take prompt corrective measures to eliminate these hazards and conditions.

20. EMERGENCY PREPAREDNESS

The Contractor must develop a site Evacuation Plan detailing specification for the appropriate appointments for

the fire-fighting team, bulk first aid and the emergency coordinating team. In addition to which, mustering points must be identified and depicted by the use of appropriate symbolic signage (SANS approved). The Emergency Evacuation Plan must be approved by the Contractor in consultation with the Client, or Clients Agents. Should the early warning fire alarm system not be integrated each zone/area must, by definition be accommodated in the site Evacuation Plan. (Ref;Environmental Regulations Section 9).

The following plans must be action by the Contractor:

- The Site Manager must conduct an emergency identification exercise and establish what emergencies could possibly develop. He/she must then develop a detailed contingency plan and emergency procedure, taking into account any emergency plans that may already be in place.
- The Contractors must hold regular practice drills of the contingency plans and emergency procedures to test them and to familiarise employees with them.
- Contractor and subcontractors must appoint a competent person to act as Emergency Controller/Coordinator.
- A contact list of all emergency service providers (Fire Department, Ambulance, Police, Medical Hospital, and Safety Agent,etc.) must be maintained and available for site personnel. An emergency situation, which is likely to require outside emergency assistance, may attract mass circulation, written media or electronic media attention and be harmful to the Client's reputation. No person may comment on the incident on site without prior approval from the Client.

Scenarios must be risk based and can include the following base emergency scenarios:

- Medical evacuation risks;
- Fire risk
- Political instability risks;
- High-jacking and abduction risks;
- Theft and burglary risks;
- Construction mafia risks;
- Flooding risk
- Riots

Records from the emergency drills must be retained. The emergency equipment must be visible.

21. TRAINING AND COMMUNICATION

The contents and syllabi of all training required by the OHSACT and Regulations must be included in the principal contractor's occupational health and safety plan. A training matrix must be developed and scheduled for all training required for the project.

21.1 General induction training

All members of the Contractor's site management, employees, essential visitors as well as all the persons appointed as responsible for occupational health and safety in terms of the Construction and other Regulations will be required to attend a general induction session.

All employees of the principal and other contractors must be in possession of proof of general induction training. This could be by means of stickers on the hardhats.

All subsequent and newly appointed employees must also be subjected to the induction training as soon as possible after the appointment but prior to starting to work onsite.

21.2 Site-specific induction training

The Contractor will be required to develop a contract work project specific induction training course based on the risk assessments for the contract work and train all employees and other contractors and their employees in this.

All employees of the Contractor and other contractors must be in possession of proof that they have attended a site-specific occupational health and safety induction training at all times.

21.3 Communication

A risk communicate plan must be developed. This must include the platform to communicate all Health and Safety risks. This can include emails, DSTI's, training, communication of SOP's and risk assessments, face to face meetings, notices and signages, toolbox talks, SHE rep meetings, community liaison, formal training etc. All communications must be recorded and saved.

22. SPECIFIC OBLIGATORY REQUIREMENTS

22.1 PERSONAL PROTECTIVE EQUIPMENT

Subject	Requirement
PPE needs analysis	Need for PPE identified and prescribed in writing. PPE remain property of Employer, not to be removed from premises GSR 2(4)
Head Protection 	All persons on site wearing Hardhats including Contractors and Visitors (where prescribed)
Foot Protection 	All employees on site wearing Safety Footwear including Gumboots for concrete / wet work and non-slip shoes for roof work. Visitors to wear same upon request or where prescribed
Eye and Face Protection	Eye and Face (also Hand and Body) Protection (Goggles, Face Shields, Welding Helmets etc.) used when operating the following:

	- Jack/ Kango Hammers - Angle / Bench Grinders - Electric Drills (Overhead work into concrete / cement / bricks - Explosive Powered tools - Concrete Vibrators / Pokers - Hammers & Chisels - Cutting / Welding Torches - Cutting Tools and Equipment - Guillotines and Benders - Shears - Sanders and Sanding Machines - CO2 and Arc Welding Equipment - Skill / Bench Saws - Spray Painting Equipment etc.
Hearing Protection 	Hearing Protectors (Muffs, plugs etc.) used when operating the following: - Jack / Kango Hammers - Explosive Powered Tools Wood/Aluminium Working Machines e.g. saws, planers, routers
Hand Protection 	Protective Gloves worn by employees handling / using: - Cement / Bricks / Steel / Chemicals - Welding Equipment - Hammers & Chisels Jack / Kango Hammers etc.
Respiratory Protection 	Suitable/efficient prescribed Respirators worn correctly by employees handling / using: - Dry cement - Dusty areas - Hazardous chemicals - Angle Grinders Spray Painting etc.
Fall Prevention Equipment	Suitable Safety harnesses / Fall Arrest Equipment correctly used by persons working on / in unguarded, elevated positions e.g.: - Scaffolding - Riggers - Lift shafts - Edge work - Ring beam edges etc. Other methods of fall prevention applied e.g. catch nets
Protective Clothing	All jobs requiring protective clothing (Overalls, Rain Wear, Welding Aprons etc.) Identified and clothing worn. Disposable overalls when Asbestos is handled.

PPE Issue & Control	Identified Equipment issued free of charge. All PPE maintained in good condition. (Regular checks). Workers instructed in the proper use & maintenance of PPE. Commitment obtained from wearer accepting conditions and to wear the PPE. Record of PPE issued kept on H&S File. PPE remain property of Employer, not to be removed from premises GSR 2(4)

22.2 Scaffolding / formwork / support work

Subject	Requirement
• Access/System Scaffolding	- Foundation firm / stable - Sufficient bracing. - Tied to Structure/prevented from side or cross movement - Platform boards in good condition/sufficient/secured. - Handrails and toe boards provided. - Access ladders / stairs provided. - Area/s under scaffolding tidy. - Safe/unsafe for use signs - Complying with OH&S Act/SABS 085
• Free Standing Scaffolding	- Foundation firm / stable - Sufficient bracing. - Platform boards in good condition/sufficient/secured. - Handrails and toe boards provided. - Access ladders / stairs provided. - Area/s under scaffolding tidy. - Safe/unsafe for use signs - Height to base ratio correct - Outriggers used /tied to structure where necessary - Complying with OH&S Act/SABS 085
• Mobile Scaffolding	- Foundation firm / stable - Sufficient bracing. - Platform boards in good condition/sufficient/secured. - Handrails and toe boards provided. - Access ladders / stairs provided. - Area/s under scaffolding tidy. - Safe/unsafe for use signs

• Mobile Scaffolding	- Wheels / swivels in good condition - Brakes working and applied. - Height to base ratio correct. - Outriggers used where necessary Complying with OH&S Act/SABS 085
• Suspended Scaffolding	- Outriggers securely supported and anchored. - Correct No. of steel wire ropes used. - Platform as close as possible to the structure. - Handrails on all sides - All winches / ropes / cables / brakes inspected regularly and replaced as prescribed - Scaffolding complies with OHS Act (Act 85/93) Winch(es) maintained by competent person(s)
• Formwork / Support Work	- All components in good condition. - Foundation firm / stable. - Adequate bracing / stability ensured. - Good workmanship / uprights straight and plumb. - Good cantilever construction. - Safe access provided. - Areas under support work tidy. Same standards as for system scaffolding.
• Special Scaffolding	- Special Scaffolding e.g. Cantilever, Jib and Truss-out scaffolds erected to an acceptable standard and inspected by specialists.
• Edges & Openings	- Edges barricaded to acceptable standards. - Manhole openings covered / barricaded. - Openings in floor / other openings covered, barricaded/fenced. - Stairs provided with handrails. Lift shafts barricaded / fenced off.

22.3 Ladders

Subject	Requirement
Physical Condition / Use & Storage	- Stepladders - hinges/stays/braces/stiles in order. - Extension ladders - ropes/rungs/stiles/safety latch/hook in order. - Extension / Straight ladders secured or tied at the bottom / top. - No joined ladders used - Wooden ladders are never painted except with varnish - Aluminium ladders NOT to be used with electrical work - All ladders stored on hooks / racks and not on ground. - Ladders protrude 900 mm above landings / platforms / roof. Fixed ladders higher than 5 m have cages/Fall arrest system

22.4 Electricity (as part of, or additional to the manual "safety & switching procedures for electrical installations")

Subject	Requirement
Electrical Distribution Boards & Earth Leakage	- Colour coded / numbered / symbolic sign displayed. - Area in front kept clear and unobstructed. - Fitted with inside cover plate / openings blanked off / no exposed "live" conductors / terminals/Door kept close - Switches / circuit breakers identified. - Earth leakage protection unit fitted and operating. - Tested with instrument: Test results within 15 – 30 milliamps - Aperture/Opening/s provided for the plugging in and removal of extension leads without the need to open the door Apertures and openings used for extension leads to be protected against the elements and especially rain.
Electrical Installations & Wiring	Temporary wiring / extension leads in good condition / no bare or exposed wires. Earthing continuity / polarity correct: Cables protected from mechanical damage and moisture. Correct loading observed e.g. no heating appliance used from lighting circuit etc. Light fittings/lamps protected from mechanical damage/moisture. Cable arrestors in place and used inside plugs

Physical condition of Electrical Appliances & Tools	Electrical Equipment and Tools: (includes all items plugging in to a 16 Amp supply socket) - Insulation / casing in good condition. - Earth wire connected/intact where not of double insulated design - Double insulation mark indicates that no earth wire is to be connected. - Cord in good condition/no bare wires/secured to machine & plug. Plug in good condition, connected correctly and correct polarity.

22.5 Emergency and fire prevention and protection

Fire Extinguishing Equipment 	Fire Risks Identified and on record The correct and adequate Fire Extinguishing Equipment available for: - Offices - General Stores - Flammable Store - Fuel Storage Tank/s and catchment well - Gas Welding / Cutting operations - Where flammable substances are being used / applied. - * Equipment Easily Accessible
Maintenance	Fire equipment checked minimum monthly, serviced yearly
Location & Signs	Fire Extinguishing Equipment: - Clearly visible - Unobstructed - Signs posted including “No Smoking” / “No Naked Lights” where required. (Flammable store, Gas store, Fuel tanks etc.)

Storage Issue & Control of Flammables (incl. Gas cylinders 	Storage Area provided for flammables with suitable doors, ventilation, bund etc. - Flammable store neat / tidy and no Class A combustibles. Decanting of flammable substances carried out in ignition free and adequately ventilated area. Container bonding principles applied - Only sufficient quantities issued for one task or one day's usage - Separate, special gas cylinder store/storage area. - Gas Cylinders stored / used / transported upright and secured in trolley/cradle/structure and ventilated. - Types of Gas Cylinders clearly identified as well as the storage area and stored separately. - Full cylinders stored separately from empty cylinders. - All valves, gauges, connections, threads of all vessels to be checked regularly for leaks. - Leaking acetylene vessels to be returned to the supplier **IMMEDIATELY**.
Storage, Issue & Control of Hazardous Chemical Agents (HCA) 	- HCS storage principles applied: products segregated - Only approved, non-expired HCS to be used - Only the prescribed PPE shall be used as the minimum protection - Provision made for leakage/spillage containment and ventilation - Emergency showers/eye wash facilities provided - HCS under lock & key controlled by designated person - Decanted/issued in containers as prescribed with information/warning labels - Disposal of unwanted HCS by accredited disposal agent - No dumping or disposal of any HCS on or inside the storage area or anywhere else on the project site - All vessels or containers to be regularly checked for leaks

22.6 Tools

Subject	Requirement
Hand Tools	<u>Shovels / Spades / Picks:</u> - Handles free from cracks and splinters - Handles fit securely - Working end sharp and true <u>Hammers:</u> - Good quality handles, no pipe or reinforcing steel handles. - Handles free from cracks and splinters - Handles fit securely <u>Chisels:</u> - No mushroomed heads / heads chamfered - Not hardened - Cutting edge sharp and square <u>Saws:</u> - Teeth sharp and set correctly * Correct saw used for the job
Explosive Powered Tools.	- Only used by trained / authorized personnel. - Prescribed warning signs placed / displayed where tool is in use. - Work area must be properly isolated/demarcated during use of tool. - Inspected at least monthly by competent person and results recorded. - Issue and return recorded including cartridges / nails and unused cartridges / nails / empty shells recorded. Cleaned daily after use.

22.7 Cranes

Subject	Requirement
Tower Crane (Not envisaged for this project)	- Only operated by trained authorized operator with valid certificate of training - Structure - no visible defects - Electrical installation good/safe - Crane hook: Throat pop marked/safety latch fitted/functional - SWL/MML displayed - Limit switches with backup switches fitted/operational - Access Ladder fitted with backrests/Fall arrest system installed - Lifting tackle in good condition/inspection colour coding

	Lifting tackle checked daily
Mobile Crane	- Only operated by trained authorized operator with valid certificate of training - Rear view mirrors - Windscreen visibility good - Windscreen wipers operating effectively - Indicators operational - Hooter working - Tyres safe/sufficient tread/pressure visibly sufficient - No missing Wheel nuts - Headlights, taillights operational Reverse alarm working and audible and known by all employees
Mobile Crane continued	- Grease nipples and grease on all joints - No Oil leaks - Hydraulic pipes visibly sound/no leaks - No corrosion on Battery terminals - Boom visibly in good condition/no apparent damage - Cable/sheaves greased/no visible damage/split wires/corrosion and checked daily - Brakes working properly - Crane hook: Throat pop marked/safety latch fitted/functional - SWL/MML displayed - By-pass valves operational - Deflection chart displayed/visible to operator/driver Outriggers functional used
Gantry Crane (Not envisaged for this Project)	- Only operated by trained authorized persons - Correct slinging techniques used - Recognized/displayed on chart signals used - Logbook kept/up to date - Prescribed inspections conducted on crane &lifting tackle and checked daily - “Crane overhead” signage, where applicable - Crane hook: Throat pop marked/safety latch fitted/functional - SWL/MML displayed/load limiting switches fitted/operational

22.8 Builders hoist

Subject	Requirement
Builder's Hoist	"Hoist in Operation" - sign displayed. General construction strong and free from patent defects. Tower: * Adequately secured / braced. - At least 900 mm available for over travel. - Barricaded at least 2 100 mm high at ground level and floors. - Landing place provided with gate at least 1 800 high. Platform: * No persons conveyed on platform - Steel wire ropes with breaking strength of six times max. load. - Signal systems used which may include two-way radio connection. - Goods prevented from moving / falling off. Effective brake capable of stopping and holding max. load.

22.9 Transport & materials handling equipment

Subject	Requirement
Site Vehicles	- All Site Vehicles, Dumpers, Bobcats, Loaders etc.; checked daily before use by driver / operator. - Inventory of vehicles used/operated on site - Inspection by means of a checklist / results recorded. - No persons riding on equipment not designed or designated for passengers. - Site speed limit posted, enforced and not exceeded. - Drivers / Operators trained / licensed and carrying proof. No unauthorized persons allowed to drive / operate equipment.
Conveyors	Conveyor belt nip points and drive gear guarded. Emergency stop/lever/brake fitted, clearly marked & accessible and tested to be functional under full load.

22.10 Site plant and machinery

Subject	Requirement
Brick Cutting Machine	- Operator Trained. - Only authorized persons use the machine. - Emergency stop switch clearly marked and accessible. - Area around the machine dry and slip/trip free/clear of offcuts - All moving drive parts guarded/electrical supply cable protected - Operator using correct PPE - eye/face/hearing/foot/hands/body.
Electric Arc Welder	- Welder Trained. - Only authorized / trained persons use welder. - Earth cable adequately earthed to work. - Electrode holder in good condition/safe - Cables, clamps & lugs/connectors in good condition. - Area in which welding machine is used is dry/protected from wet. - Welder using correct PPE - eye/ face/foot/body/respirator. Correct transparent screens & warning signs placed
Woodworking Machines	- Operators Trained. - Only authorized persons use machines. - Provided with guards. - Guards used. - Operators using correct PPE - eye/face/feet/hearing - Circular saws strictly operated according to prescribed methods and settings Only prescribed saw blades (crosscut, ripping blade, smooth cut, aluminium) shall be used for various applications
Compressors	- Relief valves correctly set and locked / sealed. - Maximum Safe Working Pressure (MSWP) indicated on face of pressure gauge: not on glass cover. - All drives adequately guarded. - Receiver/lines drained daily - Hoses good condition/clamped, not wired Compressed air NEITHER used to dust off clothing/PPE/ and work areas NOR on bare skin.

Concrete Mixer / Batch Plant	- Top platform provided with guardrails. - Dust abatement methods in use. - Operators using correct PPE - eye / hands / respirators. - All moving drive parts guarded. - Emergency stops identified / indicated and accessible. - Area kept clean/dry/and free from tripping and slipping hazards. Operator's overseer identified and crane signals displayed and used.
Gas Welding / Flame Cutting Equipment	- Only authorized/trained persons use the equipment. - Torches and gauges in good condition. - Flashback arrestors fitted at cylinders and gauges. - Hoses in good condition/correct type/all connections with clamps. - Cylinders stored, used and transported in upright position, secured in trolley / cradle / to structure. - All cylinders regularly checked for leaks, leaking cylinders returned immediately. Fire prevention/control methods must apply such as hot work permits.

22.11 Plant & storage yards/site workshops specifics

Subject	Requirement
Section 8(2)(1) General Machinery Regulation 2(1): Supervision of the Use & Maintenance of Machinery	- Person/s with specific knowledge and experience designated in writing to supervise the Use & Maintenance of Machinery. - Critical items of Machinery identified/numbered/placed on register/inventory. - Inspection/maintenance schedules for abovementioned. - Inspections/maintenance carried out to above schedules. Results recorded.
General Machinery Regulation 9(2): Notices re. Operation of Machinery	Schedule D Notice posted in Work areas.

Pressure Equipment Regulation 13(1)(b): Supervision of the Use & Maintenance of Vessels under Pressure or Pressure Equipment	- Person/s with specific knowledge and experience designated in writing to supervise the Use &Maintenance of Pressure Equipment. - Pressure Equipment identified/numbered/placed on register/Manufacturers plate intact. - Inspection/maintenance carried out according to schedule. Results recorded/Test certificates available.
Lock-out Procedure	Lock-out procedure in operation
Ergonomics	- Ergonomics survey conducted – results on record. Survey results applied.
Demarcation & Colour Coding	- Demarcation principles applied - All services, pipes, electrical installation, stop-start controls, emergency controls etc. colour coded to own published or SABS standard Employees trained to identify colour coding
Portable & Bench Grinders	- Area around grinder clear/trip/slip free - Bench grinders mounted securely/grinder generally in good condition/No excessive vibration - On/Off switch/button clearly demarcated/accessible - Adequate guards in place - Tool rest – secure/square/max. 2 mm gap, perpendicular to drive shaft - Stone/disk - correct type and size/mounted correctly/dressed Use of Eye protection enforced
Battery Storage & Charging	- Adequately ventilated, ignition free room/area/no smoking sign/s - Batteries placed on rubber/wooden surface - Emergency shower/eye wash provided - No acid storage in area Prescribed methods in place and adhered to when charging batteries
Ancillary Lifting Equipment	- Chain Blocks/Tirfors/jacks/mobile gantries etc. identified/ numbered on register - Chains in good condition/links no excessive wear/checked daily - Lifting hooks – throat pop marked/safety latch fitted - SWL/MML marked/displayed

Presses/Guillotines/ Shears	Only operated by trained/authorised persons Interlocks/lockouts fitted/PPE worn or used at all times

22.12 Workplace environment, health and hygiene

Subject	Requirement
Lighting	Adequate lighting in places where work is being executed e.g. stairwells and basements. Light fittings placed / installed causing no irritating/blinding glare. Stroboscopic effect eliminated (not only reduced) where moving objects or machinery is used
Ventilation	Adequate ventilation / extraction / exhausting in hazardous areas e.g. chemicals / adhesives / welding / petrol or diesel/ motors running and in confined spaces / basements.
Noise	Tasks identified where noise levels exceed 85 dB at any one time. All reasonable steps taken to reduce noise levels at the source. Hearing protection used where noise levels could not be reduced to below 85 db.
Heat Stress	Measures in place to prevent heat exhaustion in heat stress problem areas e.g. steel decks, when the WBGT index reaches 30. (See Environmental Regulation 4) Cold drinking water readily available at all times.
Ablutions	Sufficient hygiene facilities provided - 1 toilet per 30 employees (National Building Regulations prescribe chemical toilets for Construction sites) - Toilet paper available. - Sufficient showers provided. - Facilities for washing hands provided. - Soap/cleaning agent available for washing hands. - Means of drying hands available.

	- Lock-up changing facilities / area provided. Ablution facilities kept hygienic and clean.
Eating / Cooking Facilities	Adequate storage facilities provided. Weather protected eating area provided, separate from changing area. Refuse bins with lids provided. Facilities kept clean and hygienic.
Pollution of Environment	Measures in place to minimize dust generation. Accumulation or littering of empty cement pockets, plastic wrapping / bags, packing materials etc. prevented. Spillage / discarding of oil, chemicals and dieseline into storm water and other drains or into existing or newly dug holes/cavities on site expressly prohibited.
Hazardous Chemical Substances	All substances identified and list available e.g. acids, flammables, poisons etc. Material Safety Data Sheets (MSDS) indicating hazardous properties and emergency procedures in case of incident on file and readily available. Substances stored safely. Expiry dates meticulously checked where applicable.

23. ROOF WORK AND WORKING AT HEIGHTS

As far as is practicable, any person working in an elevated position will work from a platform, ladder or other device that is at least as safe as if he/she is working at ground level and whilst working in this position be wearing a safety harness with double lanyard that will be worn to prevent the person falling from the platform, ladder or other device utilized. This safety harness will be, as far as is possible, secured to point away from the edge over which the person might fall and the lanyard must be of such a length that the person will not be able to move over the edge.

The roof is designed as fully accessible other than the decorative steel and aluminium edging. The edging is designed for basic maintenance loading, but the concept is that it will be erected from the main roof to provide a more stable working platform.

- Roof erection methodology to be submitted to the engineer for approval 3 days before required.
- A competent fall protection planner must be appointed in writing and compile a job specific fall protection plan according to Construction Regulations 10.
- All employees working at heights must be trained in the fall protection plan.
- The 8.1 must be in possession of a copy of the fall protection plan
- Correct PPE to be issued and used at all times- as identified in the risk assessment

- Properly constructed safe access must be provided to all work at heights areas.
- Such access must take into account the tools or equipment that need to be carried up to work at heights areas or onto the roof.
- All roofs should be treated as brittle
- Any person required to be on the roof covered with fragile roofing materials should use walkways and crawl boards.
- Cover or guard all brittle and dangerous areas.
- A bump rail may be used provided it is successful in keeping all people at least 2 meters away from the brittle areas. A bump rail should not be used on roofs with greater than 5-degree pitch.
- Edge protection should be equal to or better than a guard rail.
- Edge protection should be erected from an elevated work platform, vehicle or suitable access platforms.
- Edge protection should include a level platform, 2 planks wide at eaves height on roofs over 45-degree pitch.
- A mobile scaffold or scissor hoist can be used as long as it extends at least 2 m on either side of a line directly up the slope of the roof to where employees are working.
- Mobile scaffolding or scissors hoists must also sustain the additional overturning moment of an employee sliding down a roof onto it. Lighter scaffolds and scissor hoists may be unstable unless ties or additional stability is provided.
- All bundles should be securely banded while being lifted
- Tag lines should be used to control the swinging of the bundles while they are out of reach.
- Leather gloves should be worn while removing sheets from bundles to reduce the instance of cuts.
- Bundles of roofing material should be placed evenly along the roof to avoid the need for walking with sheets.
- Ensure that the area below roof work is isolated to protect people from falling materials, debris or tools e.g. debris netting, covered walkways.
- Nothing should ever be thrown from a roof. Use enclosed rubbish chutes or lower material instead.
- The perimeter of the site should be free of obstacles and rubbish.
- Any dangerous obstacles which cannot be removed (e.g. steel work), should be noted and additional precautions taken when working above that point.
- Erect clearly visible signs at all site entrances, advising and explaining that roofing is in progress and advising visitors to keep off the site.
- Consider adverse weather conditions and their effects, such as moisture conditions, wind speed, UV radiation and sun glare.
- Do not work on roofs in rainy or windy conditions.
- Structure must first be inspected by a competent person before roof work can commence

24. EDGE PROTECTION AND BARRICADING

The Principal Contractor must ensure that all exposed edges and openings are guarded and demarcated at all times until permanent protection has been erected. All barriers must be at a minimum height of 900mm. The Contractor has the following options when contemplating the protection of openings, slabs and edges:

- A physical barrier at the edge of the opening/slab, which must be strong enough to carry the

weight of a person in the process of falling (wire will not be deemed sufficient).

- External façade scaffold (with mid rail at 450 mm) complete with a fully boarded platform at the same level as the slab with a handrail, could serve as a fall protection measure.
- A visual barrier in the form of orange webbing, at a distance of at least one meter from the actual edge of such slab, opening.

- Should none of the above be achieved, as a last resort, the Contractor must endeavour to gain exemption from Construction Regulation 10(4)(a) obtainable in writing from the Department of Labour.
- The Principal Contractor's fall protection plan must detail the following safety measures: Protection of decking edges; finished floor slab edges; stairways; floor penetrations; lift shafts; and all other openings and areas from where a person may fall.
- The placement of edge protection at deck edges must be coordinated so as to minimize the time that such edge protection is not in place;
- The removal of edge protection from temporary work decks and the subsequent replacement thereof at the finished floor edge must be systematically coordinated by the Principal Contractor.
- During the erection of temporary works, edge protection may be wavered in lieu of fall arrest equipment. The Principal Contractor and contractors' fall protection plans must include the strategies for management of edge protection and penetrations.

25. BRICKLAYING

The Contractor must ensure the following:

- Ensure appropriate instruction in manual handling techniques and in the placing of bricks and blocks.
- The use of gloves when lifting and/or when applying mortar may be appropriate but care should be taken to ensure that gloves are a good fit.
- Do not allow brick or block work walls to increase in height by more than 1.5 m per day.
- Keep stacks of loose bricks and blocks at a low level and check for stability.
- Safety footwear should be worn.
- Safety helmets (hard hats) may be needed in some circumstances where there is a risk of objects falling onto someone's head.
- Use protective gloves or barrier creams and avoid direct contact with mortar.
- Consider wearing eye protection when mixing mortar, especially if this is done outside on windy days.
- Ensure when using scaffold that it conforms to SANS 10085 standards
- When working at heights, the fall protection plan must be communicated to employees.

26. HOUSEKEEPING

Good housekeeping will be maintained at all times as per Construction Regulation No. 27. Poor housekeeping contributes to three major problems, namely, costly or increased accidents, fire or fire hazards and reduction in production. Good housekeeping will enhance production time.

Particular emphasis is to be placed on the following crucial elements of a construction site:

- Phase priorities and production/plant layout;
- Enclosures;
- Pits, openings and shoring;
- Storage facilities;
- Effective, sufficient and maintained lighting or illumination;
- Principal sources of injuries e.g. stairways, runways, ramps, loose building material;
- Oil, grease, water, waste, rubble, glass, storm water;
- Colour coding;
- Demarcations;
- Pollution;
- Waste disposal;
- Ablution and hygiene facilities; and
- First aid.

This list must not be taken to be exclusive or exhaustive!

In promotion of environmental control all waste, rubble, scrap etc, will be disposed of at a registered dump site and records will be maintained. Where it is found to be impractical to use a registered dump site or it is not available, the Principal Contractor will ensure that the matter is brought to record with the client or his representative, after which suitable, acceptable alternatives will be sought and applied.

Dross and refuse from metals, and waste matters or by-products whose nature is such that they are poisonous or capable of fermentation, putrefaction or constituting a nuisance shall be treated or disposed of by methods approved of by an inspector.

NOTE: No employer (Contractor) shall require or permit any person to work at night or after hours unless there is adequate, suitable artificial lighting including support services in respect of Health and Safety.

27. LOCKOUT SYSTEMS – ELECTRICAL

A system of control shall be established in order that no unauthorized person can energize a circuit, open a valve, or activate a machine on which people are working or doing maintenance, even if equipment, plant or machinery is out of commission for any period, thus eliminating injuries and damage equipment as far as is reasonably practicable.

Physical/mechanical lock-out systems shall be part of the safety system and included in training. Lockouts shall be tagged, and the system tested before commencing with any work or repairs.

28. GENERAL

The project under control of the Contractor shall be subject to periodic health and safety audits that will

be conducted by the client at intervals agreed upon between the Contractor and the client, provided such intervals will not exceed periods of one month. The Contractor is to ensure that he/she and all persons under his control on the construction site shall adhere to the above specifications, as non-conformance will lead to the client taking action as directed by Construction Regulation 5(1)(q).

The Contractor should note that he shall be held liable for any anomalies including costs and resulting deficiencies due to delays caused by non-conformance and/or non-compliance to the above Health and Safety Specifications and the Health and Safety Plan based on these specifications.

29. MANDATORY LISTS AND RECORDS TO BE KEPT

The following are lists of several records that are to be retained in terms of the Construction Regulations. The lists are:

- List of appointments;
- List of record keeping responsibilities;

These lists and documents are to be used as a point of reference to determine which components of the Act would be applicable to a particular site or task or project.

29.1 List of record of responsibilities

ITEM	CR	RECORD TO BE KEPT	RESPONSIBLE PERSON
1.	3(1)	Construction Work Permit	Contractor
2.	OHS Act sec. 37(2)	37(2) agreement between the Client and Contractor and Contractor and the subcontractor.	Client, Contractor & subcontractor
3.	5(1)(m)	Copy of Contractor's Health & Safety Plan available on request	Client
4.	7(d)	Copy of Contractor's Health & Safety Plan As well as each Contractor's Health & Safety Plan Available on request	Contractor
5.	7(b)	Health and Safety File opened and kept on site (including all documentation required in terms of OHSA & Regulations Available on request	All Contractors

6.	7(e)	Consolidated Health and Safety File handed to Client on completion of Construction work. To include all documentation required in terms of the OHSA & Regulations and records of all drawings, designs, materials used and similar information on thestructure	Contractor
7.	7(f)	Comprehensive and Updated List of all subcontractors on site, the agreements between the parties and the work being done Included in Health and Safety file and available on request	Contractor

29.2 List of records

ITEM	CR	RECORD TO BE KEPT	RESPONSIBLE PERSON
1.	8(6)	Keep record on the Health and Safety Officers registration with a statutory body approved by the Chief Inspector.	Contractor
2.	9(1)	Risk Assessment - Available on site for inspection	Contractor
3.	7 (5)	Proof of Health and Safety Induction Training	Every Employee on site
4.	10(3)	Construction Manager [CR 8(1)] has latest updated version of Fall Protection Plan [CR 10(1)]	Contractor
5.	11(2)(b)	Record of inspections of the structure [First 2 years – once every 6 months, thereafter yearly] - Available on request	Owner of Structure
6.	11(2)(c)	Maintenance records - safety of structure - Available on request	Owner of Structure
7.	13(2)(h)	Record of excavation inspection - On site available on request	Contractor
8.	17(11)	Suspended Platform inspection and performance test records Kept on site available, on request	Contractor
9.	19(8)(c)	Material Hoist daily inspection entered and signed in record book kept on the premises	Contractor
10.	19(8)(d)	Maintenance records for Material Hoist - Available on site	Contractor
11.	20(8)	Records of Batch Plant maintenance and repairs on site available for inspection	Contractor
12.	21(2)(g)(ii)	Issuing and collection of cartridges and nails or studs (Explosive Powered Tools) recorded in register – recipient signed for receipt as well as return	Contractor
13.	23(1)(k)	Findings of daily inspections (prior to use) of Construction Vehicles and Mobile Plant	Contractor
14.	24(d)	Record of temporary electrical installation inspections [once a week] and electrical machinery [daily before use] in a register and kept on site	Contractor
15	29(*l*)	Fire Evacuation Plan	Contractor

30. Acceptance

Confirmation and Acceptance	Signature	Date
I_____confirm that I have read and understood the Health and Safety Specifications as set out above.		
I _____ confirm that I have read and understood and confirm my intention to comply with all the legal requirements.		
I _____ confirm my acceptance and understanding of the assigned responsibilities and duties involved.		