BASELINE RISK ASSESSMENT FOR REMOVING AND REPLACING ASBESTOS ROOFING AT VARIOUS COMMUNITY HALLS AND CRECHES IN GEORE MUNICIPALITY

COMPANY	BASELINE RISK ASSESSMENT
COMPILED BY	ERIC NQAMPI
DATE OF ASSESSMENT	25 AUGUST 2023
SCOPE OF WORK	SUPPLY AND REPLACEMENT OF ASBESTOS ROOFING AT VARIOUS COMMUNITY HALLS AND CRECHES IN GEORGE MUNICIPALITY.
REVIEW DATE	EVERY ONE (1) year or after reportable incident or change in scope of work.

HAZARD IDENTIFICATION AND RISK ASSESSMENT

Probability Index			Severity index injury /disease			Severity index (Production)			Severity index due to Environment			Severity index (Financial impact)			Frequency index		
	5	Almost certain to inevitable		5	Fatal		5	No production for at least 12 months		5	Permanent effects		5	Greater than R500 000.00		5	Hazards permanently present
	4	Probable		4	Permanently disabling injury		4	Loss of 1 month or more		4	Long term > 2 years		4	R100 000. 00 – R499 999,00		4	Hazards arises every week
	3	Improbable		3	Likely to be absent for more than 14 days		3	Loss of 1 week in production		3	Medium – 6 months to 12 months		3	R10 000.00 – R99 999.00		3	Hazards arises every month
	2	Less than even a chance		2	Medical recovery within 14 days		2	Loss of 1 day in production		2	Short term 1 day to six (6) months		2	R1 000.00 – R9 999.00		2	Hazards arises every year
	1	Highly improbable		1	First aid only		1	Loss of half day in production		1	Insignificant effect		1	R0 – R999.00		1	Hazards arises every five (5) years
	0	Not probable		0	Near misses		0	No loss of time but production		0	No aspect or impact		0	No cost involved		0	No hazards exists

BASELINE RISK ASSESSMENT FOR REMOVING AND REPLACING ASBESTOS ROOFING AT VARIOUS COMMUNITY HALLS AND CRECHES IN GEORE MUNICIPALITY

								affected by shock of employees									

	PRIORITY OF ACTION			ACTION TO BE TAKEN
RISK VALUE	A	75 – 100%	Immediate	Training, Safe Work Practice, Method Statements & detailed action plans
	B	60 – 74%	Within 1 week	Training, Safe Work Practice, Method Statements & detailed action plans
	C	45 – 59%	Within 1 month	Training, Safe Work Practice, Method Statements & detailed action plans and registers
	D	30 – 44%	Within 6 months	Training and Safe Operating Procedures
	E	15 – 29%	Within 12 months	Training
	F	0 – 14%	As reasonable	Training

Ref No.	Sequence of Activity in Action	Hazards (Safety, Health and environment)	Risk rating E (L + C)				Control Measure	Control Effectiveness Rating	
			Exposure (E)	Likelihood (L)	Consequence (C)	Risk Rating		Control Type	Control effectiveness rating
1.	Site Establishment	Damage to Construction equipment, Vehicles, heavy lifting equipment etc. Damage to existing electrical or Telecommunication lines. Damage to property of client. Construction vehicles crashes with site personnel causing injuries and fatal accidents.	**2**	**3**	**4**	**14**	• The principal contractor will be required to develop and submit prior to commencement of work a risk assessment, health and safety plan, the method statements and all relevant supporting documentation to ensure that all overall activities are properly planned. • When using lifting equipment and cranes to assist with site establishment, ensure that all relevant risk assessments and method statements are conducted & employees are briefed on the risks involved. • Use competent employees to fulfil functions during the activities. • Ensure that site is suitably and sufficiently barricaded and provided with controlled access points to prevent the entry of unauthorized persons.	Administrative	Satisfactory

BASELINE RISK ASSESSMENT FOR REMOVING AND REPLACING ASBESTOS ROOFING AT VARIOUS COMMUNITY HALLS AND CRECHES IN GEORE MUNICIPALITY

2.	Hazardous Chemical Substances	Exposure to hazardous chemical substances.	**4**	**2**	**3**	**20**	• Before any employee is allowed to use HCS, they must be provided with training, warned about possible hazards as per MSDS. Correct and relevant PPE should be issued and wearied to mitigate any possible risk.	Administrative and the use of PPE	Good
		Adhesive aggregate used to attach drywall splashes into eyes, skin contact causing irritation and other	**2**	**4**	**3**	**14**	• Ensure employees are provided with PPE.	PPE	Good
3.	Electricity	Electrical shock due to contact with live electrical wire	**3**	**5**	**3**	**24**	• Develop detailed method statement and ensure that it is implemented. • Exclusion zones to be created with rigid barriers and warning signs. • No machine to be operated in an area where any part of machine or equipment can contact electrical wire. • All persons to be provided with training in the hazards associated with live electrical wire. • Provide employees with relevant PPE.	Combination of Administrative process and PPE	Satisfactory
	Electricity	Electrical shock or electrocution due to the use of unsafe electrical equipment (including generators)	**3**	**5**	**3**	**24**	• Electrical equipment to be inspected by an authorised operator or user on a daily basis prior to use. • Details of these inspections to be recorded in a register which will be kept on site at all times.	Administrative	Satisfactory
	Electricity	Electrical shock or electrocution due to contact with live overheard power lines	**3**	**5**	**3**	**24**	• Electrical artisans need to be mindful of existing electrical wires. Before any equipment is used on a work site, an assessment should be carried out and reports of such assessments kept in the Contractor's SHE file.	Administrative	Satisfactory
4.	Ladder: to gain access to ceilings/elev	Falling from the ladder leading to injuries	**3**	**3**	**3**	**18**	• Must be erected by a qualified person. • Principal contractor to appoint such qualified person and must ensure that no worker uses a scaffolding that is not approve for use by a competent person.	Administrative	Good

	ated working sites.						• Provide personal protective equipment		
5.	Erecting working platforms	Poor manual handling leading to sprains, strains, and fractures.	**4**	**3**	**5**	**32**	• Train employees on good lifting techniques. • Providing suitable working platforms for working conditions.	Administrative	Good
6.	Moving materials for employees	Poor terrain Incorrect type of trolley to lift materials. Repetitive lifting of materials Damage to existing office equipment.	**4**	**3**	**5**	**32**	• Train employees on good lifting techniques • Introduce the lifting machinery to avoid accidents to employees. • Existing office equipment must be protected throughout the construction activities.	Administrative	Good
7.	Drilling and grinding	Flying particles that can cause asthma	**4**	**3**	**5**	**32**	• Machine guard to be fitted and ensure that the machine is working properly. Inspection and pre checks to be conducted before using any driven machine.	Engineering and Administrative	Satisfactory
8.	Working in enclosed areas or confined space.	Accumulation of particulate matter within the confines of the building. Lack of oxygen. Damage to property such as fibre cables and electrical wires.	**3**	**3**	**5**	**24**	• Employees must ensure that their workspace is well ventilated. • Employees must be cognizant and avoid overcrowding when working in confined spaces. • PPE must always be used.	Administrative and Engineering	Good

9.	Improper stacking and storage of material and equipment	Material falls due to improper stacking causing injuries to persons.	**3**	**4**	**4**	**24**	• Stacking should be supervised by competent person. Best stacking practices should be applied. Training for those responsible for discharging this duty should be provided.	Administrative	Good
10.	Loading and offloading	Back injuries	**3**	**3**	**6**	**27**	• Train employees on safe lifting techniques, reduce the weight of items to be lifted and use the mechanical to lift heavy items.	Administrative	satisfactory
11.	Portable Electrical Equipment	Noise will be generated by portable electrical equipment which will lead to noise induced hearing loss	**2**	**2**	**3**	**10**	• Principal Contractor to provide PPE (Ear Protection). Workers should be rotated to reduce exposure. Noise must be measured and if found to be more than 85 decibels, the contractor must provide means to mitigate the impact. • Principal contractor to conduct continuous awareness and communication with Municipal personnel regarding the probable exposure to noise pollution and the remedial actions applicable.	Administrative	Satisfactory
12.	Use of Adhesive aggregate (e.g. Rhinolite)	Inhalation of air containing particulate matter leading to respiratory problems like asthma.	**3**	**3**	**4**	**21**	• The Principal Contractor must ensure that particulate matter in their working zones is suppressed through applicable methods, such as providing adequate ventilation. • Provide the PPE such as Dust mask to mitigate the impact. Medical surveillance must be conducted before the commencement of the project and after the project.	Administrative	Good
13.	Mistakes in operation by employees and operators	Lack of training leads to mistakes, use of equipment incorrectly	**4**	**5**	**4**	**36**	• All employees on site to be properly inducted. • Competent supervision to be provided on site.	Administrative	Good

14.	Housekeeping	• Housekeeping not being maintained daily. • Generated waste, scrap and debris not removed from site at reasonably appropriate intervals. • Construction areas near occupied offices not sufficiently hoarded.	**4**	**3**	**4**	**28**	• Housekeeping to be maintained daily. • Hoarding must be maintained daily and must be kept up to standard.	Administrative	Good
15.	Working at elevated position / at height	Falling objects Employees working at heights not having necessary competency to work at heights.	**4**	**5**	**5**	**40**	• Tools to be secured while working at heights to prevent falling from heights. • Adequate training and awareness to be provided to employees on working in elevated/fall position.	Engineering and administration	Good
16.	Fall protection	Employees not working according to approved fall protection plan. Employees not trained on fall protection plan Lack of supervision to ensure that workers	**4**	**5**	**5**	**40**	• Fall Protection plan to be communicated among all employees by means of induction training and toolbox talks. • Employees to have the necessary competency to qualify to work at heights. • Fall protection plan to be updated throughout the project life span.	Engineering and administration	Good

		are implementing the approved fall protection plan.					• Fall protection plan to address all site-specific conditions.		
17.	Painting and attributed tools and equipment.	Paint being flushed down drains	**3**	**4**	**3**	**21**	• All cleaning of paint brushes to be conducted in a controlled manner and working area.' • No paint to be disposed off down drains or into the stormwater systems. • Empty paint containers to be removed from site and disposed off as per regulations on disposal of hazardous chemical waste.	Administrative	Good
18.	Drilling and grinding	flying particles that can cause asthma	**4**	**3**	**5**	**32**	• Machine guard to be fitted and ensure that the machine is working properly. Inspection and pre checks to be conducted before using any driven machine.	Engineering and administrative	Satisfactory
19.	Welding	Fumes that can cause asthma	**2**	**4**	**5**	**18**	• Provide personal protective equipment, ensure that the area is ventilated if the operation is taking place in-house.	Administrative and PPE	Satisfactory
20.	Asbestos Abatement Process	Dismantling: Exposure to asbestos contaminated air whilst dismantling AC Roofing.	**4**	**4**	**5**	**36**	• Provide simple and easy-to-understand information for people involved in clear-up work that describes what asbestos is, where it might be found, what the hazards are, and how to handle and dispose of it safely. • Trained personnel from an accredited Asbestos Contractor should inspect the sites to identify the type of materials, the hazard that they present and the safest course of action. • The necessary PPE (Gloves, Goggles, Disposal Clothing and Disposal Dust Masks) must be provided by the PC to all personnel responsible for the dismantling of the AC roofing. • The dismantling process must be as delicate as possible. • The asbestos material must be kept wet to reduce the accumulation of airborne fibres and dust.	Administrative and PPE	Satisfactory

		Handling and Storage of ACWM	**4**	**4**	**5**	**36**	• Restrict access where there piles of building debris, and to demolition sites and waste storage areas. No children or unauthorized persons allowed. • Prohibition of the tempering and manipulation of ACWM whilst in waste storage area/container. • ACWM must always be stored in sealable containers until they are disposed of safely, at a registered Hazardous Waste Disposal Facility. • The containers must be clearly labelled in local languages and must also have a hazard warning e.g "**Danger: Contains Asbestos Fibres, Harmful if inhaled, May Cause Cancer, Keep Sealed, Avoid Creating Dust**"	Administrative and PPE	Satisfactory
		Handling and Disposal of ACWM: Exposure to asbestos contaminated air whilst dismantling AC Roofing.	**4**	**4**	**5**	**36**	• Container inspection register and checklist must be conducted prior to collection for transportation. • Estimated Volume of ACWM must be recorded prior to transportation. • Legible transportation manifests must be produced and duplicated for inclusion in OHS File. • Admission permit from Hazardous Waste Disposal Facility must be acquired. • Disposal certificates of all accumulated ACWM Volumes must be acquired and inserted in the OHS File for record.	Administrative and PPE	Satisfactory

1. **A risk level is attributed to each circumstance in the following manner**

- Low Risk = 1 – 15
- Medium Risk = 16 – 30
- High Risk = 31 – 50

2. **Risk Ranking calculation**

2.1 Consequence

- Medical Treatment only or less (minor injury) = 2
- Average Lost Time Injury = 4
- Major Injury = 6
- Fatality or Permanent disabling injury = 8

2.2 Probability

- Not likely to occur in our lifetime = A
- Could occur = B
- Has happened = C
- Common Occurrence = D

2.3 Calculation of Risk

- Consequence = probability x frequency

3. **Evaluation of results**

Activities listed in the high risk zones must be seen as tasks requiring immediate attention. Administration will in most instances solve some of the problems satisfactory, administration would involve training and awareness programmes to educate employees about the hazards and risks associated with their tasks.

An implementation plan must be devised to address the outstanding issues which may need engineering solution or PPE if all attempts fail. The action plan must be cognisance of the specific hazards that need to be eliminated.

4. **Assessment Team**

The following professionals were involved in the design of this baseline risk assessment for Supply and Replacement of Asbestos Roofing at Various Community Halls and Creches in the George Municipality Area :

Eric Nqampi – Pr. CHSA
Dunyiswa Nosana: CHSO
Siwapiwe Bekebu: CHSO

5. **Task Specific Risk Assessment**
   Should the baseline risk assessment indicate tasks in high risk zone, a specific task risk assessment must be conducted. The assessment will then target the specific tasks and hazards attached to the identified activity.

6. **Required and Existing Control Measures**

   - Safe Work Procedures
   - Training
   - Medical Examination
   - Supervision
   - Risk assessment
   - Mitigation measures
   - Consequence management