

HAZARD IDENTIFICATION RISK ASSESSMENT (HIRA)											
RISK INDEX											
SEVERITY LEVEL			WORKMEN EXPOSURE		PROBABILITY		LEGISLATION				
SR NO.	DISCRIPATION (S)	RATING	FREQUENCY (E)	RATING	DISCRIPATION (P)	RATING	DISCRIPATION (L)	RATING			
1	No health effect /injury /No damage to property.	1	Rarely	1	Never heard in construction industry	1	No specific requirement	1			
2	Slight health effect /injury / little damage to property (Can be recovered in Minimal time period.)	2	Once in month	2	Heard in construction industry frequency is very less	2	General requirement Not complied	2			
3	Minor health (illness) effect / injury (Keeps person away from work 2-3 days.). First Aid Case. Minor Property Damage, Causing delay and effecting the work	3	once in week	3	Incident frequency is 2-3 times a year with in a organization. reference to the industry Standards .	3	Specific requirement not complied.	3			
4	Major health effect /illness / injury (fractures, breaking of organs, injury to body parts). Loss Time Injury effecting the operations productivity	4	once/ Twice a day	4	Incident frequency is 5-6 times a year with in a organization reference to the industry Standards .	4	Needs human interventions	4			
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Risk Evaluation											
LOW: IMPACT RISK UPTO 30			MODERATE: IMPACT RISK 31 TO 60			HIGH: IMPACT RISK 61 & ABOVE					
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SR NO.	ACTIVITY	HAZARDS	SSOCIATED RISK	SEVERITY S	EXPOSURE FREQUENCY	PROBABILI TY P	LEGISLATI ON L	IMPACT RISK (SxExp)	EXISTING CONTROL IN	RISK LEVEL	CONTROL (please provide the second level document title and number from OHSE master list of documents for
Wall Demolition											
1	wall demolition Floor Level 9th floor T-4	1. Unplanned or uncontrolled collapse of brick wall undergoing demolition 2.Lack of knowledge and Skill.	1Injury 2. Loss of Property / Material 3. Damage to Equipment, 4. Public disturbrence due to excess noise level	3	3	4	Yes	36	yes	Moderate	1. All demolition work to be supervised by our site supervisor . 2. Designated exclusion zones to be established with barrier tape and banks men when dismantling the building. 3. Designated exclusion zones to be established external to the site with barrier tape and banks men when working close to the perimeter of the site. 4. Persons not directly involved are to be excluded including the public by means of a hording and warning signs as necessary. 5. The elements of the structure that are prone to collapse is the roof structure and external walls. 6. Competent and experienced supervisor and operatives to undertake works and be able to evaluate load bearing members. 7. All worker & Staff PPEs must be worn during the wall demolition. 8. Unauthorizes person not allowed in near wall demolition area

2	Check all clearance for start activity of wall demolition	1.Start Work without permit. 2. Start work without supervision of the floor engineer/supervisor. 3. without check & clearance the existing plumbing line or electrical circuit. 4. Contact with LIVE services 5.Contact with LIVE services –Electrocution, fire, explosion	1.Injury to worker due to Circuit circuit 2. Damage other things working without supervision (Means Property Damage)	3	3	4	Yes	36	yes	Moderate	1. make sure work permit is done. 2.make sure floor engineer must be available during the demolition of wall 3. make sure the all existing plumbing line is not in working condition 4. make sure existing light circuit point must be turn off. 5. make sure working area must be barricaded and provide signages. 6. make sure the worker must worn the appropriate Ppes during the demolition. 7.Where services within proximity are required to be left LIVE for the duration of the works, they must be identified, and their location documented before commencement. The site engineer must ensure that all operatives and plant operators are aware of their location and the controls that are required to ensure their protection. 8.Strict permit to works system in place, the site Engineer must ensure that all operatives and plant operators are
3	Housekeeping of working area	Falling/Slip object on the floor	DAMAGE TO PROPERTY, INJURY	3	3	4	Yes	36	yes	Moderate	1. All loose debris to be removed from height. Eg. Debris to be removed from flat roof or tops of wall. 2. The project is designated a hard hat site and appropriate hard hat signs and a barrier safe zone shall be put in place. 3. Falling object protection must be fitted on demolition excavator plant. 4. All high level demolition and soft strip will be performed by an excavator 5. Competent and experienced supervisor and operatives to undertake works 6. A watchmen shall be present outside of the hording when demolition works are being undertaken close the hording to direct pedestrians and provide safe passage. Temporary barriers maybe erected
4	Debris of wall demolition	Debris in public areas - prevention	PREVENTING DEBRIS ENTERING PUBLIC AREAS DURING DEMOLITION /All public	4	3	4	Yes	48	yes	Moderate	1. All areas of public use will be protected for against the entry of dust, debris and glass. 2. Where possible barriers will be erected to prevent the entry of these materials into public areas. All barriers will be suitable to prevent debris entry – polythene and ply boarding etc 3. Regular inspections of all public areas will be undertaken by the site manager during the demolition phase. Liaison will be kept with persons working in public areas to ensure minimal disruption and disturbance 4. Where glass is being broken in the work area, the glass panels will be taped over to help contain the debris spread 5. All breaking of concrete and brick will be suppressed so as to minimise the emitted dust.
5	Use of breaker during the wall demolition	Noise	All) Public nuisance,	4	3	4	yes	48	yes	Moderate	Establish exclusion zone/ hearing protection zone, limiting access using barriers and signage.
	Working with Mobile Scaffolding During the wall demolition (Work At height)	1. Person can fall down 2. Material can fall down due to not securing properly 3. Breakage of working platform due to not proper welding. 4. Breakage of Full Body Harness due to contact of hot metal or sharp edges. 5. Hand tools can fall down due to keep at height in loose condition. 6. Use of defective ladder 7. Not use of PPE's	1. May sustain sever injuries or prove fatal 2. May hit the scrap / material stacked at the ground or in between 3. May hit the workers working at lower levels and may prove fatal	4	4	4	yes	64	yes	High	1. Inspect visually welding of ladder before climbing. 2. Provide guard rails & Mid rail / barricade at the work place. 3. Use PPE like Full Body Harness, Life Line, Helmets, Fall Arrestor Gear and Safety Shoes etc. 4. Obtain the permit for working at height above 2 meters. 5. All workers required to work at height above 2 meters should be tested for Vertigo and certified fit for working at height by competent Doctors. 6. Provide adequate working space. 7. Tie / Weld working platform with fixed support. 8. Avoid movement on beams in standing position. 9. Use lifeline and anchor safety harness with lifeline during movement. 10. Keep the work place neat and clean. 11.Ensure proper platform for working at height. 12.Ensure availability of toe guards, mid rails. 13.Ensure trained and competent person for the task. 14.Ensure use safety harness & fall arrestor with life line.& Safety net if required. 15.Ensure proper access and egress. 16.Ensure use of personal protective Equipment 17.Ensure Height work permit 18.Ensure training. Tool box, trainings

6	Working with Breaker during the wall breaking	1. Damaged cable 2. Defective tool 3. Loose components (Wheel, switch guard) 4. Excess pressure on tool 5. Improper handling tools 6. Non use of PPE	1. Electric Shock 2. Spark / Shock 3. Hit Injury 4. Incident and Injury 5. Body Injury 6. Shock / Eye and Body Injuries	4	3	3	yes	36	yes	Moderate	1. Daily check-up before start work 2. Replace defective tools 3. Proper maintenance 4. Training on proper use and care 5. Inspection and corrective action to follow correct handling procedures 6. Use adequate PPE (Face shield / goggles, gloves) 7. All tools inspected & tagging System 8. Area must be barricaded and only authorized person allow the demolation area.
7	wall demolation Floor Level	Dust	(All) – Inhalation by	4	3	3	yes	36	yes	Moderate	1. Ensure controls to eliminate or reduce dust emissions
8	Using Held Tools (Including percussive tools)	1. Operatives- personal injury 2. Hand Arm Vibration 3. Electrocutation	1. Electrical Shock 2. Body vibration 3. Injury	3	4	4	yes	48	yes	Moderate	1. Establish exclusion zones limiting access into working zone. All operatives within the working zone to wear eye protection, hearing protection, dust mask. Dust suppression to be employed. Clear debris regularly 2. Establish exposure using HSE calculator Use suitable well-maintained equipment Periodic monitoring of equipment Screening of operatives and regular monitoring Rotation of labour with adequate breaks from use of the tool. 3. Ensure all equipment and cables are regularly maintained and tested

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1	<u>Air Conditioning</u> 1-Commissioning System Handling plant Installing plant at height 2-Lifting plant with mechanical equipment 3-Installing ductwork Installing ductwork at height 4-Commissioning System 5-Handling plant	Sharp or jagged edges Unintended falls of material/tools/debris Fall of material/ equipment/tools Contact with sealants Fall of Person Exposure to dust/ debris Poor handling technique Cuts, abrasions, eye injuries and breathing difficulties	Those in the immediate vicinity of ducting outlet Operatives and those passing below Persons doing the work and those in the immediate area Barriers and signage will be positioned to exclude persons from the area below the works	4	3	4	yes	48	Yes	Moderate	#.Minimize or reduce the risk of injury by practicing the following technical and informative guidelines: 1.Control Measures that should be already in place Persons not required to be in the vicinity of the duct outlets will be kept out of the area 2.Ducting system cleaned on a regular basis during installation and immediately prior to commissioning 3.Manual Handling assessment carried out 4.Refer to risk assessment for specific access equipment used 5.Refer to risk assessment for specific lifting equipment used 6.Additional Control Measures Needed likeDust masks, gloves and eye protection to be worn by those in the vicinity of duct outlets during Commissioning 7.Warning signs to be placed around duct outlets during system commissioning Appropriate gloves suitable for the task provided 8.Refer to risk assessment for specific lifting

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HVAC											
	Prepare work area	1.Unauthorized, 2.untrained 3.workers	1.Cuts 2.Abrasions	3	3	3	yes	27	Yes	Moderate	1. TBT/DSTI to be conducted by the foreman/ safety officer prior to work commencement 2.Task specific safety training to be provided 3.Authorized personnel to undertake the job 4.Daily safety inspection should be carried and eliminate the hazard 5.PTW to be applied and obtained prior to start prior to work commencement 6.Work safety officer
	Storage Material	· Over Loading · Improper storing · Poor Posture	· Crush · Slip, trip, fall · Property Damage	3	3	4	yes	36	Yes	Moderate	1.Task specific safety training to be provided 2.Authorized personnel to undertake the job 3.Daily safety inspection should be carried and eliminate the hazard 4.PTW to be applied and obtained prior to start work

	Manual Handling	1.Incorrect lifting of loads. 2.Sharp edges. 3.Placing the object while fingers underneath.	1.Crush 2.Back Injuries 3.Strain and Sprain	3	3	4	yes	36	Yes	Moderate	<p>1.No employee should be asked to carry loads above his capacity and in any case no load shall exceed 30kg per man.</p> <p>2.Avoid manual handling where reasonably practical. e.g use mechanical equipment.</p> <p>3.TBT to be conducted by the foreman/supervisor prior to work commencement</p> <p>4.Take help if load is large/very heavy.</p> <p>5.Check the line of travel. Don't allow the load to obstruct the view</p> <p>5.The area should be free from fall, slip and trip hazards.</p> <p>6.Training personnel in kinetics of manual lifting.</p> <p>7.Use personnel protective equipment as provided. (Safety shoes, helmets, coveralls, hand gloves etc.)</p>
	Working at Height	<ul style="list-style-type: none"> · Possible falls · Falling material · Untrained, Unauthorized workers 	<ul style="list-style-type: none"> · Slip, trip, fall · Fracture · Fatality 	4	4	4	yes	64	Yes	High	<ul style="list-style-type: none"> · Scaffolding/ladder to be used as per safe work load. · Working platforms should be clear of men and material when the scaffold is being moved. · Incomplete and non standard scaffold should not be allowed for any work. · The practice of moving rolling scaffolds with workers on the platform is strictly prohibited. · Inspection tagged (by authorized person)/ firmly fixed heavy duty ladders / scaffolding should be used. · Wheels will be locked when the scaffolding is in use. · Proper/Adequate access and egress should be provided to scaffold. · The route should be sufficiently clear of overhead wires. · At the end of each working shift the scaffold should be secured against unauthorised access · Approved ladders should be used. · No site made wooden ladders should be allowed. · Ladders must be secured before use. In case of any practical difficulties there should be an additional person to hold the ladders. · Ensure that when ladder is used for access to a scaffold, both bottom and top portion of the ladder is secured to prevent displacement. · While ascending or descending, the user shall face the ladder, use both hands and place his