MY HOME GROUP

My Home Constructions Pvt. Ltd

Project: HYMA PRECAST PLANT

Hazard Identification & Risk Assessment (HIRA)

Project Name: HYMA PRECAST PLANT | Doc. No : MHCPL-HIRA-PP | Rev. No : 02 | Dt:15-04-2025

Risk Matrix: **SNS, 1-6: Low Risk, 8-12: Medium Risk**- Urgent Action Required to mitigate Risk, **15-25: High Risk**-Immediately Stop the work and resolve the issues.

Sl. NO	Activity/ Process	Routeen/ Non-Routeen Activity	(Hazards Involved) Physical, Chemical, Biological, Environmental & Ergonomic/Workplace Design.	Risk - How to effect	Who might be ar risk	Existing			Risk Priority	Control Measures Required, What further controls/ actions required to mitigate risk levels & Legal Compliance Hierarchy of Controls: E-Elimination, SB- Substitution, EC-Engineering Controls, A- Administrative Controls, Competance and behavior based enhancement	Residual Risk- After			Risk Priority	Opportunities
						Likely Hood 1-5 (A)	Severity 1-5 (B)	Risk Level (A x B)	Low, Medium and High Risk		Likely Hood 1-5 (A)	Severity 1-5 (B)	Risk Level (A x B)	Low, Medium and High Risk	
1	Reinforcement work.	Routeen Activity	Rebar shifting :Slippery or uneven ground due to Slip, trip and fall on same level	Broken back, bones etc.	Workmen, Staff	4	3	12	Medium	Hierarchy of Controls: E-Elimination: Nil SB- Substitution: Nil EC-Engineering Controls:1. Material is stacked on sleepers and segregate Dia wise. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competentsupervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	3	6	Low	
			Manual handling:Adapting poor posture or handling of excessive load repeatedly.	Musculoskeletal diseases	Workmen	4	2	8	Medium	Hierarchy of Controls: E-Elimination: Nil SB- Substitution:1.Utilise mechanical lifting aids or equipment. EC-Engineering Controls:2. Safe access by avoiding slippery area and levelling the ground shall be ensured.3.• Conducting daily housekeeping drive to maintain access ways free from obstructions. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competentsupervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	2	4	Low	
			Working at height:Fall from height, fall of materials	. Fractures and major injuries. 2. Insertion of sharp objects or repair in the body 3. Fatality	Workmen	5	5	25	High	Hierarchy of Controls: E-Elimination:Remove the damaged ladders,platform. SB- Substitution:Ensure standard platform and ladder. EC-Engineering Controls:1. working platforms are installed. 2. Authorised Operator alloted for work. 3.Secured tools & tackles to be used. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competentsupervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	5	10	Medium	
			Poor ergonomics (e.g. workplace design that does not take account of human factors:Adapting poor posture, having inadequate space for work, working in an awkward positions	Musculoskeletal diseases	Workmen	4	2	8	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Avoid manual handling.and use equipment. EC-Engineering Controls:1. Platforms are made up to the required height.2 Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competentsupervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	3	2	6	Low	
			Sharp edges	Contact with sharp edges-Laceration	Workmen	4	1	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB-Substitution:Nil. EC-Engineering Controls:1. Proper material Stacking is being done. Administrative Controls:Training to be provided to the workforce.PTW to be filled.Display TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	3	1	3	Low	
			Excessive workload	Excessive workload-Mental pressure, restlessness, lack of sleep	Workmen, Staff	4	1	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB-Substitution:Nil. EC-Engineering Controls:1. Work is being done in planned way. 2. Extended hours work shall not be allowed for workmen. Administrative Controls:Training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	3	1	3	Low	
			Slippery or uneven ground	Slip, trip and fall on same level-Back bone injuries etc.	Workmen, Staff	5	3	15	High	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. Walkway over slab reinforcement to be made using jaals. 2. Proper stacking of materials. Administrative Controls:Training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	4	3	12	Medium	
2	Bar Cutting & Bar Bending Machine	Routine	Unguarded moving parts (e.g. crush)	Body injuries/ cuts	Workmen	2	3	6	Low	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. Electrical tools and tackles are periodically inspected Ensure naked wires and connection are avoided. 2. Periodic inspection of power tools & cables and assigning color codes 3.Only trained and competent person should handle the task Administrative Controls:Awareness on electrical safety to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	2	2	Low	
			Drawing in / cutting points (e.g. nips)	Body cuts/ Scattering of sharp objects	Workmen	4	3	12	Medium	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. Only competent persons are allowed to handle the power tools Administrative Controls:Awareness training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	2	2	Low	
			Uncontrolled movement	Trip and fall from same level, lossegripping of the material	Workmen	1	4	4	Low	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. Provision of PPE's and safety precaustions and proper house keeping. 2. Proper stacking of materials. Administrative Controls:Training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	2	2	Low	
			Tearing / Shearing (e.g. abrasions)	Body cuts/ Scattering of sharp objects	Workmen	4	3	12	Medium	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. Only competent persons are allowed to handle the power tools Administrative Controls:Awareness training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	2	2	Low	
			Auto-start equipment	Injuries by struck/ rotation parts	Workmen	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. Electrical tools and tackles are periodically inspected Ensure naked wires and connection are avoided. 2. Periodic inspection of power tools & cables and assigning color codes 3. Only trained and competent person should handle the task Administrative Controls:Awareness on electrical safety to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	2	2	Low	
			power cable contact with the wet floor	Electrocution	Workmen, Staff	4	5	20	High	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Cables are routed through conduits and through RCCB. 2. Earthing for DB & metallic equipment. Frequent checking of RCCB. 3. Authorizedelectrician are deployed for maintenance & rectification works.4.PTW to be filled 5.Competentsupervision Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	3	3	Low	

			high noise generation	Hearing problem	Workmen, Staff	1	4	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:(1) Control at Receiver's End (2) Suppression of Noise at Source (3) Acoustic Zoning (4) Sound Insulation at Construction Stages (5) Planting of Trees (6) Legislative Measures. Administrative Controls:Training to be provided to the workforce.PWT to be filled, Competent supervision shall be ensured.Provide safety sign boards at work location. TP-Training & PPE:-Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	2	2	Low	
3	Threading Machine	Routine	While placing the rod inside and check	hand injury	Workman	5	2	10	Medium	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. Authorized person only allow to operate the machine. 2. Provide safety hand gloves. 3. Switch off the power then change the rods. Administrative Controls:Awareness training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	2	2	Low	
			Flying steel cutting chips	Eye injury	Workman	1	3	3	Low	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. Provide glass guarding to reduce surroundings. 2. operator must wear safety goggles. Administrative Controls:Awareness training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	1	1	Low	
			Poor Illumination	Eye Stress	Workmen, Staff	1	2	2	Low	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Install proper illumination.2.Implement lux level values in range monitoring.3.Regularly inspect lux level . Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:-Ensure use of mandatory and task specific PPEs	1	1	1	Low	
4	Forging Machine	Routine	While Placing the Rod B/w jaws	hand injury	Workman	2	2	4	Low	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. Authorized person only allow to operate the machine. 2. Provide safety hand gloves. 3. Switch off the power then change the rods. Administrative Controls:Awareness training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	2	4	Low	
			Hydraulic oil leakage	Slip injury	Workmen, Staff	1	3	3	Low	Hierarchy of Controls: E-Elimination: Block the unsafe access. SB- Substitution: provide safe access. EC-Engineering Controls:1. Check hydraulic connections before operating . 2. Maintain the check list . Administrative Controls:Training to be provided to the workforce.PTW to be filled.Display the warn signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	3	3	Low	
			Poor Illumination	Eye Stress	Workmen, Staff	1	2	2	Low	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Install proper illumination.2.Implement lux level values in range monitoring.3.Regularly inspect lux level . Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:-Ensure use of mandatory and task specific PPEs	1	2	2	Low	
5	Band Saw Cutting Machine	Routine	Placing rods B/W vices	Hand cut injury	Workman	1	3	3	Low	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. Authorized person only allow to operate the machine. 2. Provide safety hand gloves. 3. Switch off the power then change the rods. Administrative Controls:Awareness training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	3	3	Low	
			Flying cut pieces	Body Injury	Workman	2	3	6	Low	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. Provide glass guarding to reduce surroundings. 2. operator must wear safety goggles. Administrative Controls:Awareness training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	3	6	Low	
6	Shuttle concreting work (carrying by Tracking)	Routine	Hit by shuttles	Person injury and Material damage	Workman/Property	3	4	12	Medium	Hierarchy of Controls: E-Elimination:Block the unsafe access. SB- Substitution:provide safe access. EC-Engineering Controls:1. only authorized operters should be allowed. 2. No person &work activities is allow to sit inside the tracker. 3. Emergency buttons ON/OFF swithches should be ccheck. 4. work permits systems shall implmenc. Administrative Controls:Awareness training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	3	2	6	Low	
			Concrete spills on Worker	Skin Irritation, allergy,	Workman	3	4	12	Medium	Hierarchy of Controls: E-Elimination:Change process to minimize contact with hazardous chemicals SB- Substitution:Nil. EC-Engineering Controls:1. Washing of hands before eating & drinking and at the end of work. 2.Ensure the spills of concrete is not contacted with body wearing full sleeve shirt. 3.Every persons should use gum boats and rubber gloves. 4. mandatory PPE (Safetyshor,Goggles, Safety helmet, Reflective vest) when handling the task. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce,PWT to be filled, Competent supervision shall be ensured. TP- Training & PPE:1. Use of Rubber Hand gloves, gumboots & Goggles / Face shield during concreting work.	3	2	6	Low	
			Fall of person/material	Person injury and Material damage	Workman/Property	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Better to stop unsafe work activity SB- Substitution:Work to be carried by folling safety regulations. EC-Engineering Controls:1. Safety tool box talkneed to conduct before the work 2. Experienced workman should be only engaged for the job. 3. Access and aggress ways should be clear from obstructions 4. PTW to follow Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	3	2	6	Low	
7	Stressing Machine	Routine	mechaanical failure, contact with strands,Electrocution	Cuts, Crush, lacerations, Multiple Injuries, Fatality	Workman	3	5	15		Hierarchy of Controls: E-Elimination:Better to stop unsafe work activity SB- Substitution:Work to be carried by following safety regulations. EC-Engineering Controls:1. Barricading the stressing area. 2. only competent & authorized person to operate. 3. red lightining burzer placed. 4. Installed buzzer/siren at time of stressing. 5.Isolate the stressing area from other work activity. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	4	4	Low	
8	Strand Pulling Machine	Routine	mechaanical failure, contact with strands,Electrocution, Entanglement with moving parts	Cuts, Crush, lacerations, Multiple Injuries, Amputation	Workman	3	4	12	Medium	Hierarchy of Controls: E-Elimination:Better to stop unsafe work activity SB- Substitution:Work to be carried by following safety regulations. EC-Engineering Controls:1. Barricading the strands pulling area. 2. only competent & authorized person to operate. 3.while pulling stress cable Isolate surrounding work activities. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	2	4	Low	
9	Corrugated Gi pipe machine	Non Routine	Mechanical hazards: Pinch points, rotating machinery, cutting mechanisms, etc. Electrical hazards: Exposed wires, electrical shock, short circuits, etc. Chemical hazards: Lubricants, cleaning agents, chemical reactions, etc. Ergonomic hazards: Awkward postures, repetitive motions, manual handling, etc. Environmental hazards: Noise, vibration, temperature extremes, ventilation issues, etc.	Cuts, Crush, lacerations, Multiple Injuries, Fatality	Workman	3	4	12	Medium	Hierarchy of Controls: E-Elimination:Better to stop unsafe work activity SB- Substitution:Work to be carried by following safety regulations. EC-Engineering Controls:1. Seperate area to be provided for job done. 2. only competent & authorized person to operate. 3. Proper maintainence to be done to machineary. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	2	4	Low	
10	Night work	Routine	lack of illumination/ lack of supervison/unfa miliar with the safe access	slip, trip, fall/ poor visibilty/ Personnal injury	Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Install proper illumination.2.Implement lux level values in range monitoring.3.Regularly inspect lux level . Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:-Ensure use of mandatory and task specific PPEs	2	2	4	Low	
		Cement&GGBS Soilo unloading vehicle	lack of supervison/unfa miliar with the safe access/road	mterial / property damage, human injuries	Workman, Property					Hierarchy of Controls: E-Elimination:Stop the work at unsafe SB- Substitution:Proper communication/supervesion to be done. EC-Engineering Controls:1. cement bunker vehicles approch access to be clear. 2. while revers to vehicle reverse horwand supervisors to provide. 3 Ensure speed limits restrictions and stop and watch innabnormal weather conditions. Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.and check the health checkup once 3 months.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers	1	2	2	Low	

11	Batching plant Operation	Operations (loading of cement, cylo by motor, mixture blades cleaning)	Electrocution, hit by rotating parts, cuts and crush, dust arousal,	burns, body injuries, irritation, respiratory discomfort,	Workman					Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Cables are routed through conduits and through RCCB. 2. Earthing for DB & metallic equipment. Frequent checking of RCCB. 3. Authorized electrician are deployed for maintenance & rectification works.4.PTW to be filled 5.Competent supervision Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	2	2	Low	
12	Moulding / De-Moulding of walls, columns, stair cases	Routeen Activity	Manual Handling	Adapting poor posture or handling of excessive loads repeatedly-Musculoskeletal diseases, Cut injury, crush injury	Workmen	4	3	12	Medium	Hierarchy of Controls: E-Elimination:Avoid manual handling. SB- Substitution:Use EC-Engineering Controls: 1. Ensure lifting load within acceptable limit (Men 50kg).2. Safe means access provided to reach work location. 3. Conducting daily housekeeping drive to maintain access ways free from obstructions. Administrative Controls:Training to be provided to the workforce.PTW to be filled.Display the signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	3	6	Low	
			Slippery or uneven ground-Trip, slip & fall on level	Multiple Injuries	staff Workmen,	4	2	8	Medium	Hierarchy of Controls: E-Elimination:Avoid manual handling. SB- Substitution:Use mechanical/lifting aids where possible. EC-Engineering Controls:1.Safe means access provided to reach work location. 2. Conducting daily housekeeping drive to maintain access ways free from obstructions. Administrative Controls:Training to be provided to the workforce.PTW to be filled.Display the warn signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	3	2	6	Low	
			Working at height	Fall from height, fall of materials-Major injuries and Fatal	staff Workmen,	4	5	20	High	Hierarchy of Controls: E-Elimination:Nil. SB-Substitution:Use only safe work platform for height work. EC-Engineering Controls:1. Full installation and use of outer working platforms.2. Use of stools for column shuttering / de shuttering.3. installation of life line and use of full body harness.4. Edge protection system for open edges, lift shaft protection as per SOP.5. Cut out protection.6. Use of standard ladder for access on current floor level.7. Installation of catch nets along with outer working platforms8.2. Competent supervision and monitoring shall be ensured.. Administrative Controls:Training to be provided to the workforce.PTW to be filled.Display the warn signage. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	5	10	Medium	
			Electricity	Contact with electricity, Fire due to short-circuit/ overloading of circuit Electric Shock due to leakage current-Burns, Electrocution, Fatality and Fire.	Staff Workmen.	3	5	15	High	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Use of ELCB/RCCB in distribution boards.2. Use of plug tops for electrical connections.3. Damaged cables will be removed from the service.4. Electrical joints will be only with plug top connections.5. Safe routing of cables.6. Adequate lighting for night works.7. Only competent and authorized electrician will operate DBs.8. Use of Mandatory and Shock Resistant hand gloves and goggles Administrative Controls:Training to be provided to the workforce.PTW to be filled.Display the warn signage. TP- Training &PPE:8. Use of Mandatory and Shock Resistant hand gloves and goggles	2	5	10	Medium	
			Protruding rebar / sharp edges	Contact with sharp edges-Piercing / Laceration	Staff Workmen.	4	3	12	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Standard material stacking practice shall be ensured (5S). 2. Regular housekeeping shall be ensured.3.Ensure rebars caps.3. Competent supervision and monitoring shall be ensured. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training &PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	2	3	6	Low	
			Poor ergonomics (e.g. workplace design that does not take account of human factors)	Adapting poor posture, having inadequate space for work, working in an awkward positions-Musculoskeletal diseases	Workmen	4	2	8	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Use mechanical/lifting aids where possible EC-Engineering Controls: 1. Prior planning of the task will be done. 2. Adequate and safe working platforms will be provided. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	3	2	6	Low	
13	Electrical Work : Insulation of conduit,Electrical works and Earthing	Routeen Activity	Fall, Trip and Slip	Multiple Injuries	Workmen	2	3	6	Low	Hierarchy of Controls: E-Elimination:Remove damaged tools. SB- Substitution:Use non defective tools. EC-Engineering Controls: 1. Prior planning of the task will be done. 2. Adequate and safe working platforms will be provided.3.Ensure Proper access and egress. 4. Ensure proper staging and proper ladder for work.6.PTW to be filled 7. Provide Competent supervision. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	3	3	Low	
			Unauthorised Electrician	Use of undersize cables. Unauthorised Electrician-Overheating & short circuit Legal beach	Workmen/Electrician	2	3	6	Low	Hierarchy of Controls: E-Elimination:Remove damaged tools,poor electrical cables. SB- Substitution:Use non defective tools. EC-Engineering Controls: 1. Prior planning of the task will be done. 2. Adequate and safe working platforms will be provided.3.Ensure Proper access and egress. 4. Ensure proper staging and proper ladder for work.6.PTW to be filled .7.Provide Competent supervision.8.Ensure all Electrical Safety devices are in place. 9. MCB,ELCB,PPE'S Ensure licensed Electrician for all electrical works Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	3	3	Low	
			Open electrical joints & Poor Illumination and Improper earthing	Fall & Trip Electrical shock	Workmen/Electrician	2	3	6	Low	Hierarchy of Controls: E-Elimination:Remove damaged tools,poor electrical cables. SB- Substitution:Use non defective tools. EC-Engineering Controls:1. Min. of 54 lux illumination is provided. 2. Ensure all Electrical Safety devices are in place. 3. MCB,ELCB,PPE'S Cables are routed through conduits and through RCCB. 4. Earthing for DB & metallic equipment. Frequent checking of RCCB. 5. Authorize electrician are deployed for maintenance & rectification works. 6. Ensure Proper Earthing and the value should less than 2 Ohms. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	3	3	Low	
			circuit breakers fails.	Electrical shock,short circuit	Workmen/Electrician	3	5	15	High	Hierarchy of Controls: E-Elimination:Remove damaged tools,poor electrical cables. SB- Substitution:Use non defective tools. EC-Engineering Controls:Ensure all Electrical Safety devices are in place MCB,E.CB,PPE'S Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	3	6	Low	
			Poor Housekeeping-Fire,Slip & trip	Multiple Injuries	Workmen/Electrician	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:. Regular Housekeeping is maintained. 2. Space around wood working machine is free from obstruction. 3. A separate area is demarcated to dump the wood shavings, dust & Pieces. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	1	3	3	Low	

			Electricity	Electrocution,burns,fatal	Workmen/Electrician	3	5	15	High	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Cables are routed through conduits and through RCCB. 2. Earthing for DB & metallic equipment. Frequent checking of RCCB. 3. Authorized electrician are deployed for maintenance & rectification works.4.PTW to be filled 5.Competent supervision . Administrative Controls: Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured.Height pass test shall be conducted for the workmen working at height. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	5	10	Medium	
14	Working at Height	Non-Routeen Activity	1.Damage anything due to Fire. 2..Electrocution..3.(a).Falling of material (b).Falling of person 4(c). Hot metal spatters/weld buds	Electric shock & severe burns,Fatal	Gas cutter	5	5	25	High	Hierarchy of Controls: E-Elimination: damaged gas cutting set not use. SB- Substitution:use only proper gas cutting set EC-Engineering Controls:1.Proper access to approach the work place & working platform with proper guard rail.2. Combustible materials are removed from the area below welding activity.3. Spatters are arrested by providing fire blankets or the area below are barricaded.4. Fire extinguishers provided.5. Proper ventilation.6. Machine routed through ELCB / RCCB .7. Work permit to be followed.8. Helper will be present below the welding area.9. Welders are provided with container to collect all the waste electrode bits. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured. TP- Training & PPE:Fall protection arrangements. 11. Provision of PPEs (Safety harness, life line & fall arresters) 12.Daily inspection of fall protection arrangements and PPEs	2	5	10	Medium	
			1. Electrical and fire	Electric shock & severe burns,Fatal	Grinding Person	5	5	25	High	Hierarchy of Controls: E-Elimination:Remove damaged grinding machines. SB- Substitution:provide safe guardto machines.EC-Engineering Controls:1. Work permit to be followed2. Inspect the flammability3. Ensure wheel is locked properly4. Proper access & working platform with suitable railing 5. Ensure job is properly lacked. 6. Use of fire blanket7. Removal of combustible material8. Fire extinguisher kept stand by. 9. Periodic training10. Prepare checklist & followed11. Ensure grinder is wearing cotton cloth free from oil grease paint.12. Area is barricaded13. Ensure safe distance is maintained between job &grinder 14. Ensure ON OFF switch is spring loaded type. 15. Fire extinguishers provided.16. Proper ventilation17. Machine routed through ELCB / RCCB 18. Work permit to be followed19. Helper willbe present below the welding area.20. Welders are provided with container to collect all the waste electrode bits.Administrative Controls:Ensure emergency procedures are explained to the task team. Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured.TP- Training & PPE:Fall protection arrangements. Provision of PPEs (Safety harness, life line & fall arresters) Daily inspection of fall protection arrangements and PPEs	2	5	10	Medium	
			Maintainence of EOT crane & Shuttle Cleaning : Fall of men and materials.	Bruises, fractures, strains, and sprains.fatal.	Workmen	5	5	25	High	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:. 1.Work permit system .2. Monkey ladder provided for safe access. 3. Standard tools and Fullbody harness .4. Competent signal man in place.5. Area cordoned off.6. Skilled workforce deployed.7. Pre talk on the job.8. Proper access & working platform with suitable railing .9. Continuous supervision 10. Work to be ensured in day light. 11 Check the tpi documents. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled. Competent supervision shall be ensured TP- Training & PPE:Fall protection arrangements. Provision of PPEs (Safety harness, life line& fall arresters) Daily inspection of fall protection arrangements and PPEs	2	5	10	Medium	
			Loose cable-Overheating & burning of welding cables,	Electric shock and burns from contact with live part,Fatal	Welders, helpers and persons working around the area	3	1	3	Low	Hierarchy of Controls: E-Elimination:Dont use defective welding machines. SB- Substitution:Use only good condition welding machines. EC-Engineering Controls:•1.Cable is checked for its tightness by the welder / helper before starting the job Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	2	1	2	Low	
			Improper earthing to the parts to be welded.	Electrocution, burning of welding cables, fire hazard-Fatal	Welders, helpers and persons working around the area	2	1	2	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Ensure proper earthing to welding machines. EC-Engineering Controls:• Return earth is given through the welding lead only and no rebar to be used for return path Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	1	1	1	Low	
			Machine overheating	Machine burnout, electrocution-Fatal	Welders, helpers and persons working around the area	2	1	2	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Rest the machines. EC-Engineering Controls:• Double earthing is provided. • All electrical connection is routed through RCCB Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	1	1	1	Low	
			Worn out / defective welding holders	Electrocution to the welder-fatal.	Welders, helpers and persons working around the area	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Dont allow damaged earthing holders. SB- Substitution:Use only good conditionearthing holders EC-Engineering Controls:1. Welding holders is replaced when found damaged. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	2	3	6	Low	
			Failure to use PPEs	Electrocution,burn,fatal	Welders, helpers and persons working around the area	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Dont allow damaged ppes. SB- Substitution:Use standarad ppes. EC-Engineering Controls:1. HSE Induction is given to workers, supervisors. 2.Experienced and competent welder is allowed for the welding job. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	2	3	6	Low	
			Keeping the welding machine open to sky-Electrocution to the workmen during the rainy season	Electrocution,burn,fatal	Welders, helpers and persons working around the area	2	3	6	Low	Hierarchy of Controls: E-Elimination:Avoid work at poor ventilation area. SB- Substitution:Ensure the good ventilation. EC-Engineering Controls:1.Shed is provided for the electrical machines 2. All electrical connection is routed through RCCB.3. Barricade the area.4.ensure good housekeeping always.5.work at only dy places. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	1	3	3	Low	
			Cables lying on access-Tripping hazard	Bone fracture anothe wound.	Welders, helpers and persons working around the area	3	2	6	Low	Hierarchy of Controls: E-Elimination:Avoid damaged cables. SB- Substitution:Ensure the good electrical cables. EC-Engineering Controls:• Cable routing is done away from the pathway. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	2	2	4	Low	
			Improper connection-overheating and fire.	Electrocution,burn,fatal	Welders, helpers and persons working around the area	2	2	4	Low	Hierarchy of Controls: E-Elimination:Avoid poor electrical connections. SB- Substitution:Nil. EC-Engineering Controls:1.Connectors are used to join the cables. 2.Checking is done during the site HSE inspection. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	1	2	2	Low	
			Welding fumes generation-Air Pollution	Ill health	Welders, helpers and persons working around the area	4	1	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Change the good condition welding machine EC-Engineering Controls:1. Welding is done in open or well ventilated place 2.It is so carried out along the wind direction. 3.In confined space, arrangement of checking the level of oxygen is done. 4.Permit to work should be obtained to start the welding works.5.Ensure the calibration certificates. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	3	1	3	Low	
			Combustible materials	Fire,burn,fatal	Welders, helpers and persons working around the area	1	3	3	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Combustible materials are removed. 2.Fire retarder materials are used to contain sparks.Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall beensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	1	3	3	Low	

15	Welding & Gas Cutting	Routeen Active	Non-segregation of welding cables over electrical cable.Fire due to excessive heat.	Fire,burn,fatal	Welders, helpers and persons working around the area	1	3	3	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Use damage free cables. cable are not laic over electrical cable and gas cutting hose. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:1. Welding	1	3	3	Low	
			Improper Handling	Bone fracture and wound	Shifting persons	3	1	3	Low	Hierarchy of Controls: E-elimination:Avoid manual handling. SB- Substitution:Use trollys for handling. mai for unloading the cylinders from the vehicle 2. Use cylinder trolley to transport to site Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:1. Use of tyre / coir	2	1	2	Low	
			Improper shifting. i.e, Rolling the cylinders on the ground	Explosion,fire,fatal	Persons working around the area	2	2	4	Low	Hierarchy of Controls: E-elimination:Avoid rolling cylinders. SB- Substitution:Use trollys. to site Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:• Use cylinder trolley to transport	1	2	2	Low	
			Leakage of gas cylinder near the valve	Fire, explosion-Fatal	Persons working around the area	1	3	3	Low	Hierarchy of Controls: E-Elimination Nil. SB-Substitution:Change the leakages cylinders. leaking cylinder well away from the site, inform dealer to take away immediately. 2.If fire occurs, keep cool the top side of cylinder in case it is full, otherwise put off. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:1.Keep the	1	3	3	Low	
			Gas cutting hose laid in haphazard manner	Bone fracture and wound	Persons working around the area	2	2	4	Low	Hierarchy of Controls: E-Elimination:Avoid laying hoses on ground. SB-Substitution:Use damage free hoses and maintain above the ground level. Engineering Controls:1. Gas hose is not laid on the pathway. 2. Kapi should be provided for protecting the cylinder's nozzle Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-	1	2	2	Low	
			Improper maintenance-Blockage-Flash back,	Explosion,fire,fatal	Gas-cutter and helper	1	4	4	Low	Hierarchy of Controls: E-Elimination:Ensure proper maintainces. SB- Substitution:Nil. cutter 2. Flashback arrestors is fitted in torch & cylinder Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:1. Nozzle is cleaned everyday by the gas	1	4	4	Low	
			Improper/storage	Fire/ explosion-Fatal	Persons working around the area	2	5	10	Mecium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. separately 2. Stored upright 3.Smoking isprohibited 4. Fire extinguishers are provided. 5. Cylinder trolleys are used. 6.Keeping the cylinders stock away from combustible materials. 7. Lock the cylinder with chain to avoid fall of cylinders. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:1. Store of filled & empty cylinders in	1	5	5	Low	
			damaged hose	Fire/ Explosion-Fatal	Persons working around the area	2	2	4	Low	Hierarchy of Controls: E-Elimination:Avoid damaged hoses. SB- Substitution:Use only good condition hoses. hoses are caecked frequently.2. Damaged or tempered hoses are replaced then & there. 3.Autocopier and clamp is used to join the hose. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:1. Conditions of	1	2	2	Low	
			Failure to use PPEs	Exposure to the spark-Arm/eye injury	Gas-cutter and helper	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Remove damaged ppes. SB- Ensure quality and standrad ppes. competent person should be engaged. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:1.Experienced and	2	3	6	Low	
			combustible materials	Fire hazard-Fatal	Persons working around the area	1	3	3	Low	Hierarchy of Controls: E-Elimination Nil. SB- Substitution:Nil. 2. Fire retarder materials are used to contain sparks. Administration Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:1. Combustible materials are removed.	1	3	3	Low	
			Generation of toxic gases, fumes etc	Air Pollution-Ill health,Contamination air	N/P	4	1	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. the yard of the site in well ventilated place Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to theworkforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:1. Welding and gas cutting to be done as per	3	1	3	Low	
			Throwing of welding butts at site	Soil Pollution-Ill health,Contamination of ground water	N/P	4	1	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. and ensured to store dept Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to theworkforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:1.Welding butts are stored in small box	3	1	3	Low	
16	MANUAL HANDLING AND SHIFTING	Routeen Active	Slip & Trip and Fall on ground	Injury or multiple injuries	Helpers	3	2	6	Low	Hierarchy of Controls: E-Elimination:Avoid manual handling. SB- Substitution:Use wheel borros,utilise the mechanical equipment for materials lifting.. Engineering Controls:• Safe means access provided to reach work location. • Conducting daily housekeeping drive to maintain access ways free from obstructions. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-	2	2	4	Low	
			Hit with object/materials-Physical Injury to the person handling materials	Back Pain Spinal Cord injury Awkward positions/	Helpers Material Handling person	3	2	6	Low	Hierarchy of Controls: E-elimination:Nil. SB- Substitution:Nil. wil be lifting and handling.2.Engaged trained & experienced people for materia handling.3. Ensure the workers are not lifting excessive loads4.Examine the object for snags, burrs, splinters & sharp edges by wellmen.5.Providing training to helpers on material handling safety.6. Materials are stacking not more than 1.5m height.7..Materials are stacking on an even ground.8.Ensure nobody is climbing on stack pile for removing materials. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured. TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task EC-Engineering Controls:1. Ensure that the workers are using proper technique	2	2	4	Low	

17	ROAD SAFETY	Routeen Active	Road traffic accident leads to personal injury	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. 2. Driving policy explained to all staff.3.No entry to site without helmet and seat belt 4.No entry without driving license Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1. Defensive driving training to all staff	1	5	5	Low	
			Distracted driving (talking / texting on phone)	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. 2.Driving policy explained to all staff.3. Hazards and risks explained to staff on cellphone driving Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1. Defensive driving training to all staff	1	5	5	Low	
			Doesn't know / follow company safe driving procedures and practices	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. 2. Driving policy explained to all staff.3. Hazards and risks explained to staff on cellphone driving Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1.Defensive driving training to all staff	1	5	5	Low	
			Doesn't wear seatbelt/Helmet	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Dont allow without helmet,seat belt. SB- Substitution:Nil. 2. Driving policy explained to all staff 3. No entry to site without helmet and seat belt.4. No entry without driving license Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1.Defensive driving training to all staff	1	5	5	Low	
			Driver fatigue	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. 2. Driving policy explained to all staff • Driver should not work over time 3.Adequate rest to be ensured for drivers 4. Continuous vigilance Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1. Defensive driving training to all staff	1	5	5	Low	
			Driver has poor vision / eyesight	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. 2. Driving policy explained to all staff.3. Ensure adequate lighting and use low beam at night Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.and check the health checkup once 3 months.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1.Defensive driving training to all staff	1	5	5	Low	
			Driving too fast for road / weather conditions	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Dont go over speed. SB- Substitution:Dont allow vehicles in poor weather condition,and instrut to speed limits. 2. Driving policy explained to all staff .3 Ensure speed limits restricions and stop and watch in abnormal weather conditions Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.and check the health checkup once 3 months.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1.Defensive driving training to all staff	1	5	5	Low	
			Impaired by alcohol, medication or prescription or illicit drugs	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Dont alllow drunken peoples. SB- Substitution:Nil. 2. Driving policy explained to all staff.3. Drunk and driving is not allowed 4. Heavy dosage of medicines before driving not allowed Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.and check the health checkup once 3 months.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1.Defensive driving training to all staff	1	5	5	Low	
			Medical condition that could affect driving abilities (e.g. heart condition, sleep apnea)	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Check health condition every 3 months. SB- Substitution:Nil. 2.Driving policy explained to all staff.3. Always take assist of someone who can accompany them in worst situation 4. Self-driving is restricted in maximum conditions Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.and check the health checkup once 3 months.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1.Defensive driving training to all staff	1	5	5	Low	
			Backing / reversing / parking incident	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination: Dont allow without horns,indicatres light. SB- Substitution:Nil. 3. While reversing,parking drivers should use reverse camera and/or someone's support. 4. Vehicle speed limit restricted to 10km/h Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.and check the health checkup once 3 months.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1.Defensive driving training to all staff	1	5	5	Low	
			Collision with oncoming vehicle	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination: Allow to asper the site layout. SB-Substitution: Use only safe access. EC-Engineering Controls:1. Defensive driving training to all staff 2. Driving policy explained to all staff.3. Driver should take clearance from other vehicle before entering to one way access.4. Vehicle speed limit restricted to 10km/h Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.and check the health checkup once 3 months.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers	1	5	5	Low	
			Collision with pedestrian	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Dont allow vehicles to pedestrain access areas SB-Substitution: use only designated marking areas. EC-Engineering Controls:1.Defensive driving training to all staff 2. Driving policy explained to all staff .3. Separate pedestrian access to be provided.4.Vehicle speed limit restricted to 10km/h Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.and check the health checkup once 3 months.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers	1	5	5	Low	
			Limited visibility (fog, excessive dust, travelling into sunset or sunrise)	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. 2.Driving policy explained to all staff.3. Driver should take clearance from other vehicle before entering to one way access 4.Vehicle speed limit restricted to 10km/h Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1.Defensive driving training to all staff	1	5	5	Low	
			Poor traction conditions (heavy rain, freeze /, shaded corners, temperatures)	Severe injury/fatal	Employees, passengers, road users and pedestrians	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Dont drive vehicles on heavy rains. SB- Substitution:Nil. 2. Driving policy explained to all staff.3. Driver should take clearance from other vehicle before entering to one way access 4. Vehicle speed limit restricted to 10km/h Administrative Controls:Ensure emergency procedures are explained.Emergency rescue arrangement & training to be provided to staff.and check the health checkup once 3 months.TP- Training & PPE:Ensure use Helmet and seat belt is mandatory for drivers EC-Engineering Controls:1.Defensive driving training to all staff	1	5	5	Low	

18	LIFTING OF MATERIAL BY EOT CRANES	Routeen Activity	Slip, trip and Falling of material.	fractures, breaking of organs, injury to body parts.	Workmen,riggers	3	4	12	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Trained Riggers crew shall be engaged and the workforceshall be trained for safe handling. 2. Tag lineshall be used to control the swinging load. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	1	4	4	Low	
			Damaged tools and tackles	Falling of Materials (materials damage)	Property	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Remove the damaged lifting tools & tackles. SB- Substitution: Only good condition/certified tools and tackles to be use. EC- Engineering Controls:1.Trained Riggers crew shall be engaged and the workforceshall be trained for safe handling. 2. TP to be done to all the lifting tools & tackles. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task					
			Failure of lifting gear, improper rigging-Fall of material from height, Damages to material, man power.	Bone fracture and wounds.	Workmen,riggers	2	4	8	Medium	Hierarchy of Controls: E-Elimination:Remove the damaged lifting gears. SB- Substitution:Use only certified and condtion of lifting tools. EC-Engineering Controls: 1.Periodic testing & inspection.2. Pre use testing of lifting equipment's, lifting tools like Shackles, ropes, slings, pulley, etc. 3. Periodic maintenance of lifting equipment's & tools. Special training to the Riggers. 4. Do not allow overloading of the lifting equipments. 5. Barricading the area with signage to avoid unwanted visitors to the area Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	1	4	4	Low	
			Due to uneven ground imbalance or toppling of hydra cranes	Injuries -.Fatal / Permanent Loss of Organs	Workmen,riggers	2	4	8	Medium	Hierarchy of Controls: E-Elimination:Remove the damaged lifting gears. SB- Substitution:Use only certified and condtion of lifting tools. EC-Engineering Controls:1. A trained work crew shall be deployed, 2. Crane working area shall be cordoned with indicative tapes, 3. Third party certified crane shall be used, 4. Outriggers shall be fully extended and prior to use of crane 5. A general inspection shall be carried out by TPI Team with checklist.6. Lifting shall be avoided where overhead electrical lines are crossing. 7. Compaction of the ground to be ensuredAdministrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	1	4	4	Low	
			Hit by object due with rapid speed of lowering hoist/hook.	Injuries with head & hand/shoulder-Multiple injuries and wounds,Bone fracture and wounds.	Workmen,riggers	3	2	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. A trained gang shall be deployed,2. Adequate height of platform or ladder shall be used for placement and removal of slings and D shackles,3. Third party certified tools shall be used, 4. Prior to use physical inspections shall be carried out by mechanical department. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task	2	2	4	Low	
19	Working in Office /workstation ergonomics	Routeen Activity	Fire due to Combustible materials-	Burns,Multiple fatal	Office Users	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Regular housekeeping. 2.Clean desk concept. 3 Fire extinguisher are placed, employees are trained in fire fighting 4 Domestic gas cylinder should not be used instead of the gas cylinder induction stove to be used.5.Closable type Cub boards shall be provided to keep the documents under control Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	3	3	Low	
			Contact with electricity	Death or serious injury to the person	Office Users	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. All Connections are routed through conduits and through RCCB. 2. Earthling for DB & metallic equipment. Frequent checking of RCCB.3. Authorized electrician are deployed for maintenance & rectification works4.Earthing/grounding of containers should be done Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	3	3	Low	
			Poor Ergonomics	musculoskeletal disorders, such as back pain, neck pain, and carpal tunnel syndrom	Office Users	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Good conditioned chairs and tables should be used.2.The chairs should have the options of adjustable according to the height and the flexibility.3. Good housekeeping should be maintained . Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	3	3	Low	
			Energy consumption	Energy wastage	NP	3	2	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Usage of tube lights in offices.2.LED lamps at site Energy efficient electrical installations like CFL lamps at office, sodium vapour lamps at street lights Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	2	4	Low	
			Slippery	Bone fracture and wound	Office Users	3	2	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Antiskid flooring is provided at access.2. Wet floors are cleaned regularly Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	2	4	Low	
			Congested & Inadequate access	Bone fracture and wound	Office Users	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Minimum 1.2 m passage shall be maintained. 2.Access is kept free of materials Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Fire	Death or serious injury to the person	Office Users	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Daily cleaning of garbage & paper waste.2. Disposing it properly.3.Mass waste collection area is identified for non-regular collection..4.Sufficient Fire Extinguishers to be provided. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	2	2	Low	

			Health Hazard Unhygienic Toilets	Ill Health	Office Users	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Regular cleaning & disinfection.2.Toilet fresher's placing schedule of cleaning with done details are displayed. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	2	2	Low	
			Health Hazard	Ill Health	Office Users	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Every container shall be provided with content identity. 2. Usage of water or other beverage cans for storing these chemicals are prohibited. 3. Keeping the containers under custody. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	2	2	Low	
			Adverse Climate conditions	Ill Health	Office Users	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Neat and cleaned cloths should be worn 2. Sweater and rain coat should be used during winter or rainy season. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	2	2	Low	
			Covid 19-Exposure to corona virus	Ill health/Fatal	Office Users/All Staff/Workmens	3	5	15	High	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.SOP on work resumption is available and communicated to all for implementation.2.Providing nose masks and sanitizers to all staff and workmen3. Workplace is being disinfected with chemical on daily basis.4.Provided separate quarantine rooms for new workmen and covid patients.5.Conducting covid test for all new workmen before allow them into site6.Providing vitamin tablets to all for immune boosting.7. Conducting regular awareness trainings to all staff and workmen.8. Engaging workmen at workplace by maintaining social distance. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	5	10	Medium	
20	HOUSEKEEPING	Routeen Activity	Improper handling while removal of material from storage.	Bone fractures and wounds	workmens	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil SB- Substitution:Nil. EC-Engineering Controls:1.Use mobile steps and height adjustable trolleys to remove timber from racks.2.Use of appropriate hand trolleys.3.Storage should occur within the 'best working zone' – between shoulders and knees – wherever possible. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	2	2	Low	
			Improper storage of hazardous materials-Fire and explosion Falling objects	Injury /death / property damage	workmens	3	2	6	Low	Hierarchy of Controls: E-Elimination:Nil SB- Substitution:Nil. EC-Engineering Controls:1.Existence of operational Procedures..2.Periodic checks for checking the material condition..3. No materials to be placed or stacked near the edge of any excavation. 4. No load to be placed or moved near the edge of excavation where it is likely to cause collapse of side of work.5.No roll able objects stored on the floors / Excavation area Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	2	4	Low	
			Improper handling of Pipes-Fall of material	Lifting injury / Swinging load	workmens	3	2	6	Low	Hierarchy of Controls: E-Elimination:Avoid manual handling. SB- Substitution:Use equipment and machiery. EC-Engineering Controls:1.Provide secure stockpile area for pipes and fittings. 2.Minimize height of pallets / stockpile. 3.Unload and stack pipes strictly in accordance with the manufacturers' recommendations (contact manufacturer for recommendations where necessary). 4. Correct manual handling techniques. 5.Use mechanical aids where possible. 6.Maintain control of loads when lifting & moving. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	2	2	Low	
			Working at height-Fall of material / Fall of persons	Injury / Death	workmens	3	5	15	High	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Use of fall prevention mechanism such as safety net, safety harness, etc. wherever possible. 2. Use of fall protection devices such as temporary work platforms or scaffolding, wherever possible. 3.Use of work positioning system such as a rope access system to position and support the worker for the duration of the task, wherever possible. 4.Use of ladder for the duration of the task, wherever required. Securing or safe keeping, as appropriate, of working tools, material, equipment, etc. to be used while. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	5	10	Medium	
			Inadequate access/egress-Slip / Trip	Abrasions, strains and sprains; back pain	workmens	2	1	2	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Conduct site inspection to ensure access/egress is adequate for the task activities. 2.Signages must be provided in and around worksite. 3.Use of Supervisor for directions, if possible Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	1	1	Low	
			Improper use of hand tools-Excessive force, High vibration, Electrical safety (not double insulated) Flimsy guards, Lack of operating instructions, Noise levels-no fail-safe protection	Awkward postures and, Injury, Fractures,	workmens	3	2	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Tools should be presented at a comfortable height for the operator.2.Use double insulated electrical power tools and earth Leakage circuit breakers for all electrical equipment.3.Preparation of Safe to start card (STAART CARD) by physical verification of the site conditions Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	2	4	Low	
			Working in poorly ventilated spaces-Over exposure to hazardous chemicals, unsafe oxygen levels, potential	Vision impairment loss, Injury, Death	workmens	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Provide good air at ventilated areas. EC-Engineering Controls:1.Ventilation provided by opening doors or windows in the work area, if available..2.Limit the amount of time a person spends in an enclosed area. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	3	3	Low	
			Working at height-Fall from height, fall of materials	Physical injuries, Broken bones, Bruises, Multiple injuries.	Visitor	3	4	12	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution: EC-Engineering Controls:1. Edge protection system is provided; 2. Lift shafts and other openings are protected well.3. Catch nets are provided all over the periphery of towers. 4. Catch nets are provided all over the periphery of towers.5. Toe guards are provided in edge protection system6. Proper signage to be in place and EHS induction to be given for each visitor prior to entry to the site7. Tools and tackles at height to be secured.8. No material and debris should be stacked near edges. 1. PWT to be filled. 2.. Competent supervision shall be ensured Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	4	8	Medium	
			Transport hazard-Run-over - Hitting of commuters,	Hit or cut injuries, Broken head and shoulders.	Visitor	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution: EC-Engineering Controls:1. Designated walkways are provided, hi visibility jackets are provided for visitors.2. Only competent operators are allowed to handle moving machinery and are given trainings regularly.3. Speed limits are well defined on site. 4. Guards are provided for all moving parts of the machinery.5. Periodic inspection for all vehicles and machinery is being carried out.6. Competent supervision shall be ensured Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	2	2	Low	

21	Factory visitors	Non Routeen activity	Slippery or uneven ground-Trip, slip & fall on level	Broken bones, muscular injuries, cuts	Visitor	3	1	3	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution: EC-Engineering Controls:1.Access and egress are made clear and free from debris, spillages are well controlled.2. All electrical cables are routed overhead. 3.Competent supervision shall be ensured Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	1	2	Low	
			Electricity-Contact with electricity, Electric Shock due to leakage current	Burns, Scalds, heart failure	Visitor	3	4	12	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. RCCBs and ELCBs are provided in all circuits and regular inspections ensured.2. Plug tops are provided for electrical connections.3. LOTO is being followed for electrical maintenances. 4. Cable routings are all according to cable line diagrams and SOP for temporary electrical connections.5. Proper signage to be in place and EHS induction to be given for each visitor prior to entry to the site.6. Proper signage to be in place and EHS induction to be given for each visitor prior to entry to the site. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory andtask specific PPEs by all the workmen involved in the task.	2	4	8	Medium	
			Labour unrest and violence at work-Exposure to violence	Hit, cut or burns	Visitor	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Security at all the entrances with proper guidance and proper entry in the system.2. It is ensured that any visitor must report to concerned person prior to entry to the site and it is the responsibility of that concerned person to ensure company to the visitor while at site.3. Exit and escape routes are properly maintained and installed with sign boards.4. Security guards are designated at different locations.5. Emergency evacuation plan is formulated and explained to the visitors.6. Drills are being conducted at regular intervals. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory andtask specific PPEs by all the workmen involved in the task.	1	2	2	Low	
			inhalation of dust particles-inhalation of dust particles	Respiratory diseases and eye allergy	Visitor	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Water is regularly sprinkled on roads and pathways. 2. Competent supervision shall be ensured Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	1	2	2	Low	
22	RCC Concreting	Routeen activity	Working at Height-Slip and Trip,fall of man and materials.	Broken bones, Bruises, Multiple injuries.	Workmen	4	4	16	High	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Ensure the barricading should be made available near chodges, floor openings & lift shaft.2. Ensure Full body harness to the workmen while doing concreting near the edges of the building, floor openings & lift openings.3. Ensure safe to start work card should be filled before starting the task.4. Ensure proper work permits like hot work permit, height work permit etc are taken5. Ensure the shuttering of the concreting place is properly done as per scheme drawing as approved by CMPC.6. Ensure the supporting's, bracings should be done as per methodology & scheme drawing as approved by CMPC. 7. Safe access/egress is provided. 8. Working platform design is to be checked by concerned and to be approved by EHS department. 9. Ensure no loose materials shall be kept in the edges of the building.10. Signage shall be provided.11. Ensured close supervision should be deployed while doing concreting. 12. Training shall be conducted among the workmen. 13. Ensure fall protection like vertical safety catch net & horizontal safety fan net system around the periphery of the building. 1. Safe to Start Work card will be filled. 2. Competent supervision and monitoring shall be ensured. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	3	4	12	Medium	
			Slip and Trip-Slip and Trip	Injury to person	Workmen	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Arrange and maintain safe access/egress while concreting.2. Close supervision shall be engaged.3. Access is clearly demarcated.4. Signage shall be provided. 5.Safe to Start Work card will be filled.6.Competent supervision and monitoring shall be ensured. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	3	6	Low	
			Poor ergonomics	may prevent musculoskeletal injuries (such as back strain or carpal tunnel syndrome) by reducing physical and mental stress caused by the workstation set-up	Workmen/staff	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Work permit to be followed.2. Inspect the flammability.3. Ensure wheel is locked properly.4. Proper access & working platform with suitable railing .5. Ensure job is properly locked. 6. Use of Fire blanket.7. Removal of combustible material.8. Fire extinguisher kept stand by. 7. Ensure the proper working platform should be made availabe. 1. Safe to Start Work card will be filled.2. Competent supervision and monitoring shall be ensured. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	3	6	Low	
			Inhalation of cement particles-Inhalation of cement particles	Ill health irritation on eyes and respiratory problems	Workmen	3	4	12	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Refer the MSDS for specific chemical & take preventive & corrective measures for the specific activity to avoid the exposure of chemical to the workmen.2. Ensure proper ventilation should be provided.3. Ensure the workmen to use nose mask, googles while making mortar. 4. Awareness training shall be conducted among the workmen regarding chemical hazard.5. Regular medical examination of workmen shall be ensured to monitor the exposure of workmen during inhalation.6. Suitable PPE shall be used.1. Safe to Start Work card will be filled.2. Competent supervision and monitoring shall be ensured. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	4	8	Medium	
			Body Contact with cement particles	Ill health irritation on eyes and respiratory problems	Workmen	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Refer the MSDS for specific chemical & take preventive & corrective measures for the specific activity to avoid the exposure of chemical to the workmen.2. Awareness training shall be conducted among the workmen regarding chemical hazard.3. Safe to Start Work card will be filled.4.Competent supervision and monitoring shall be ensured. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	3	6	Low	
			Transport hazard	Broken bones, Bruises, Multiple injuries,fatal	Workmen	3	5	15	High	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Experienced & licensed drivers & operators to operate vehicles.2. Reverse Horns & Tail lights of the vehicle to be ensured.3. Speed limit of 20KMPH shall be observed.4. Warning signage shall be posted.5. AvSeparate banks men to be deployed to direct all vehicles to its designated positions safely. 1. Safe to Start Work card will be filled. 2. Competent supervision and monitoring shall be ensured. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.PTW to be filled.Competent supervision shall be ensured . TP- Training & PPE:Ensure use of mandatory and task specific PPEs by all the workmen involved in the task.	2	5	10	Medium	
			Electricity-Contact with Electricity / Electric shock due to leakage in current	Electric shock & severe burns,fatal	workmens	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Defective power cables not used. SB- Substitution:Use only good condtion cables ,tools used for this activity. EC-Engineering Controls:1. Avoid damaged de-watering hose pipes.2. Connection for the Pump is routed through RCCB.3.Ensure Power cable is free from any damages and routed as per SOP.4. Body Eartning is ensured from the Connection box.5. Weather protection is ensured for the Starter box.6.Hard barricading for the pit area to avoid the unauthorized entry Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Excessive workload / Heat-Excessive	Injury to men,Unconsciousness,fatal	workmens	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls;1. Work hours of each workman to be controlled to maximum 12 hours only. 2. Adequate rest time in between concreting shall be provided.3. Proper drinking water fasility shall be provided.4. Glucose water / Lemon water / Electrolytes shall be provided during summer.5. Continuous supervision and competent monitoring shall be established. 1. Safe to Start Work card willbe filled.2. Competent supervision and monitoring shall be ensured. Administrative Controls:Ensure emergency proceedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Live machine components	1. Injury to men 2. Heart failure .3. Burns	workmens	3	4	12	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls;1. All rotating parts & cutting wedge provided with suitable guards to avoid entanglement of limbs.2. Workmen with loose attire not to be involved.3. Ensure connections shall be routed through RCCB.4. Cables of sufficient capacity with double insulation & industrial plug tops & sockets to be used. 5. Provision of Main & Body Earthing. Insulation tape provided near cable joints with a knot.6. Damage to cables to be prevented by proper lying of cable either OH above 7ft height or underground 7.Regular electrical inspection. 8. Weekly RCCB inspection. 1. Safe to Start Work card will be filled. 2. Competent supervision and monitoring shall be ensured.Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	4	8	Medium	

			Lack of Management control	Broken bones, Bruises, Multiple injuries,fatal	workmens	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls;1. Ensured Workmen are inducted, trained and fitness of the job through medical check up and height pass system.2. Work to be started only after safety approval. 1. Safe to Start Work card will be filled.2. Competent supervision and monitoring shall be ensured.Administrative Controls:Ensure emergency procedurer are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP-Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
23	Pest control	Non-routeen work	Spillage-Contact with skin	Skin disease / infection	workmen	4	2	8	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls.1.Peoples are trained in material handling techniques. 2. Always maintain the access free from obstructions Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	3	2	6	Low	
			Contact with Chemical substances-Absorption Through body	Allergy/ Chemical burns/ Dermatitis	workmen	1	3	3	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls.1.Peoples are trained in material handling techniques. 2.Use of Rubber hand gloves 3.Always maintain the access free from obstructions. 4Follow the safety precautions on the label leaflet of the pesticide.Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	3	3	Low	
			Inhalation of vapour /Gases-Inhalation of harmful gases	Ill Health/Allergy/ Respiratory Problems	workmen	3	2	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls.1.Get medical attention if any discomfort continues based on MSDS 2. 3.Medical attention shall be given immediately based on MSDS Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	2	4	Low	
			Ingestion-Chemical Ingestion in to the body	Mouth Ulcer/ Ill Health	workmen	3	4	12	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls.1. Medical attention shall be given immediately based on MSDS.2.Rinse mouth thoroughly.3. Do not induce vomiting. 4.Take food before the starting of the spray.5.Washing hands and face with soap and water before eating, drinking, smoking or chewing tobacco.6.Discarded parts (Empty container) collected and disposed to the landfill area. So that it can not be used as a water container. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	4	8	Medium	
			Incompatible Storage of Chemicals- Chemical Spillage on floor spillage on other materials which may contact with hands	Dermatitis / Ill Health	workmen	3	2	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls.1.Appropriate flooring arrangement has made. 2. Soak the spillage in fine dry soil and bury away from the water source.3.Never mop the spillage with a cloth or wash with water. 4. Maintain adequate space for safe storage.5. Chemicals are stored in separate designated place.6. Warning signs like "Chemical Hazards", 7. "Do not touch" is displayed on visible locations. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	2	4	Low	
			Came in contact with Electricity-Electrocution	Electric shock & severe burns,fatal	Operator and Helper	1	4	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Local earth is made as per the specification.2.Earth resistance is checked at regular interval (once in 2 months) and the value conforms to the requirement.3. Terminals/ Bus bars are covered.4. Neutral earthing is ensured.5. Neutral earths and body earths are not interconnected.6 Out coming cable is protected with gland at the entry – Gland earthing Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	4	4	Low	
			Unauthorized Operation-Electric shock/ Electrocution	Bone fractures and wound,fatal.	Operator and Helper	2	4	8	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.DG room with door arrangement is provided for Unauthorized person.,2.The location is cordoned with gates and lock & key.3.Competency cards for DG Operator 4. Operators are designated and their authorization is displayed on or to the DG for identification. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	4	4	Low	
			Unguarded Rotary movement-Entanglement	Crush injury,severe injuries,fatal	Operator and Helper	2	1	2	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls: All Rotary parts are guarded . Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP-Training & PPE:Ensure use of mandatory and task specific PPEs	1	1	1	Low	
			Contact with hot object-Heat	Burns.	Operator and Helper	1	1	1	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Thermal Insulation is provided to avoid the transmission of Heat.2.The operators will not be doing any service works in DG when it is running. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	1	1	Low	
			Vibration-Frequency vibration in the hand	Damage to nerves, muscles and blood vessels in the fingers, hands and arms	Operator and Helper	2	1	2	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution: Nil. EC-Engineering Controls:1.The exhaust manifold is covered with wool and sheet insulation.2.Padding is provided to absorb the vibration.3.Regular Maintenance is carried out. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	1	1	Low	
24	Diesel Generator (DG) Operation	Routeen work	DG Exhaust-Emission of smoke	Air pollution	N/A	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution: Nil. EC-Engineering Controls:1.DG exhaust manifold is kept at height referring to the norms.2.Regular maintenance as per schedule Emission check shall be carried and maintained accordingly Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	3	3	Low	
			Excessive Noise-Sound	Noise pollution	N/A	1	1	1	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution: Nil. EC-Engineering Controls:1.Acoustic Proof DGs are installed. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	1	1	Low	
			Electrical Energy-Diesel or other fuel	Energy consumption	N/A	1	1	1	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution: Nil. EC-Engineering Controls:1.Weekly maintenance done by P&M. 2.Operator recorded the running hours by using log sheet system Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	1	1	Low	

			Flammable materials-Fire	Fire,Burn injury/Fatal	workmens	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution: Nil. EC-Engineering Controls:1.Regular disposal of wipes cloth 2. Flammable materials are removed regularly.3. insulated material is placed above the battery and also the battery is placed on insulated material. 4. Fire Extinguisher & bucket is provided .5. Full diesel drums are not placed in front of DG exhaust location.6. Operators dresses are not kept in DG are Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	2	2	Low	
			Discarded Parts-Land contamination	Harm to ground water	N/A	1	1	1	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution: Nil. EC-Engineering Controls:1.Discarded parts collected at P&M Workshop and disposed to the landfill area.2. Not throwing directly on the land & streams. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	1	1	Low	
			Diesel spillage-Releases to land	Harm to ground water	N/A	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution: Nil. EC-Engineering Controls:1.Diesel is pumped with the hire of Hand Pump 2. Usage of drip Pan.3.Fuel will not pour in ON condition Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	2	2	Low	
25	Grinding works	Routeen work	Working at height-Fall from height	Major injury or fatality	workmens	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Remove unsafe work platforms. SB- Substitution:Used safe work platform. EC-Engineering Controls:1.Adequate spacing working platform should be provided.2. Railing should be provided for fall protection.3. All the persons engaged for this purpose should be trained regarding the Do's & Don'ts • Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	5	5	Low	
			Poor ergonomics- Having in adequate working space	awkward posture,Major injury	workmens	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Adequate working space should be provided for the work on rope suspended platform.2.Avoid any unwanted material on the platform. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	2	2	Low	
			Rotating parts-Contact with rotating parts of machinery	Major injury	workmens	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Remove unguard machines. SB- Substitution:use only safe guard to machinery. EC-Engineering Controls:1.All rotating parts should be covered with guard.2. Experienced workman should be only engaged for the job.3.Dead man's switch should be avaialble .4. Electrical connection should be reviewed in every interval .5.Training should be given to worker for "Safe working method". Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Fire & explosion-Fire due to electrical short circuit	Major injury, property damage & Fatality	workmens	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Remove the poor quality electrical cables. SB- Substitution:Use only standard cables. EC-Engineering Controls:1.All rotating parts should be covered with guard.2. Experienced workman should be only engaged for the job.3.Dead man's switch should be avaialble.4.Electrical connection should be reviewed in every interval Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	5	5	Low	
			Electricity-Contact with electrical live cable. Electric Shock due to electric leakage	Burns, Fatality	workmens	2	5	10	Medium	Hierarchy of Controls: E-Elimination:Remove the poor quality electrical cables. SB- Substitution:Use only standard cables. EC-Engineering Controls:1.Routing Power cables into confined space shall be avoided as much as possible 2. Electrical equipments should be routed through RCCB and proper earthing should be ensured during work. 3. Cable condition should be checked everyday Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	5	5	Low	
			Inhalation of particles-Inhalation of particles	Lung dieses	workmens	4	2	8	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution: Nil. EC-Engineering Controls:1.using water sprays on stockpiles and roads, and when using machinery and cutting equipmen alternatively, dampen areas with water before dust collection. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	2	4	Low	
			Uneven ground/ slippery-Slip/trip and fall on level	Broken bones, Bruises, Multiple injuries,fatal	Workmen	1	2	2	Low	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls:1. The workmen colony is levelled and cleaned from any bushes etc.,. 2. The access to Workmen colony is clear and visibe. 3. Illumination is ensured at night Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	2	2	Low	
			Physical violence	Injury	Workmen	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls:1. Security personnel are made available at Workmen colony to prevent any violence. 2. Workmen are instructedto gather in orderly manner while boarding buses. 3. Supervisors are instructed to control the workmen during gatherings. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to theworkforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	2	2	Low	
			Movement of vehicles-Run over/ hit of workmen	Injury	Workmen	1	3	3	Low	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls1. The Workmen colony isfenced to prevent vehicle movement inside the colony.2. Speed limiting signage are provided near colony area Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to theworkforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	3	3	Low	
			Fire And Explosion -Fire and Explosion	Major injury, property damage & Fatality	Workmen	4	4	16	High	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls1. Cooking inside the rooms are prohibited 2. Separate cooking areas are allotted for each contractors 3. All workmen are educated about the hazard associated about cooking inside the living rooms 4. No flammable items are allowed to store inside the rooms 5. All taping devices are check for fitness to prevent electrical fire Water tank with a pump and hose pipe which will act as a fire fighting source shall be arranged Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to theworkforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	4	12	Medium	
			Snake bite/Insect bites	Redness, swelling, bruising, bleeding, or blistering around the bite,fatal.	Workmen	1	4	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls:1. Snake control and pestcontrol sprays are done weekly twice 2. Ambulance is kept in workmen colony.3. Bushes are cleared near the area. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to theworkforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	3	3	Low	
26	Workmen Camp	Routeen work	Sickness-Food waste/disease outbreak/unhygienic workplace	Health issues	Workmen	4	3	12	Medium	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls1. Daily visit by Care taker is done to check any workmen has remained in the colony.2. Register is maintained in colony to record any sickness cases.3.Toilets and bathing area are cleaned regularly.4, Food waste is removed in daily basis. 5. Hygienic condition of workmen colony is ensured Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	3	9	Medium	

			Health Hazard Unhygienic Toilets-Inadvertent intake	Ill Health	Workmen	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls 1.Regular cleaning & disinfection. 2.Toilet fresher's placing Schedule of cleaning with crane details are displayed Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure ppe.	1	2	2	Low	
			Health Hazard-Inadvertent intake	Ill Health	Workmen	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls1.Every living Room shall be provided with content identity. 2.Usage of water or other beverage cans for storing these chemicals are prohibited. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure ppe.	1	2	2	Low	
			Adverse Climate conditions	Ill Health	Workmen	2	2	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls1.Neat and cleaned clothes should be worn.2.Sweater and rain coat should be used during winter or spring season Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure ppe.	1	2	2	Low	
			Contact with Electric appliances	Burns, Electrocution, Fatality and Fire	Workmen	2	3	6	Low	Hierarchy of Controls: E-Elimination:Remove damaged defective electrical cables SB Substitution:Use only standard cables. EC-Engineering Controls1.All connections are routed through RCCB.2. E.R.(Earth Leakage Relay) is functional.3. Electrician and care taker inspection is done regularly to find out any electrical tapping area made .4. Cables used for household electrical appliances are checked regularly Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	3	3	Low	
			Covid 19-Exposure to corona virus	Ill health/fatal	Workmen	3	5	15	High	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls1.SOP on work resumption is available and communicated to all for implementation 2.Providing nose masks and sanitizers to all staff and workmen.3.Workplace is being disinfected with chemical on daily basis.4.Provided separate quarantine rooms for new workmen and covid patients.5.Conducting covid test for all new workmen before allow them into site.6.Providing vitamin tablets to all for immune boosting.7.Conducting regular awareness trainings to all staff and workmen.8.Engaging workmen at workplace by maintaining social distance.Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	5	10	Medium	
27	LOADING & UNLOADING	Routeen activity	In adequate access or Egress, Unloading of sharp edged materials, Improper Housekeeping-Slip, Trip & Fall of person or material	Cut Injury Fire	Workmen	2	3	6	Low	Hierarchy of Controls: E-Elimination:Avoid manual handling. SB Substitution:Use lifting equipment. EC-Engineering Controls1. Loose materials at all passageways, platforms at height will be removed periodically and close monitoring at job. 2.A cordoned area is demarcated to dump the scrap pieces.3.All materials will be stored or stacked in a safe and orderly manner to avoid obstruction of path way and working place and not on edges of floor/platform. 4.Regular housekeeping is to be maintained. 5.Safe carrying capacity of platform/floor will beconsidered while storing materials.6. Before commencement of the works, loading area needs to be inspected to ensure the conditions are suitable for loading. 7. Sufficient number of skilled workmen allotted to the job .8.While stacking, Unstacking, stowing or unstowing of materials proper measures will be taken to avoid any accident or dangerous occurrences.9. Ensure appropriate illumination 10.Barication provided at material stacking areaAdministrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	3	3	Low	
			Non-Inspectedequipment-Fall of material.	Hit injury, Material damage, Fatal	Workmen	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls:1.Ensure the Equipment fitness for the crane before entering of the site.2.Daily inspection for the equipment through daily inspection checklist. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	3	3	Low	
			Soil/Road condition-Crane Tilt & falling Down	Hit injury, Material damage, Fatal	Workmen	2	3	6	Low	Hierarchy of Controls: E-Elimination:Dont use unsafe access. SB Substitution:Use safe access. EC-Engineering Controls1.Removing the Obstructions in the outrigger extension area.2.Pre-Inspection of Approach road & Position area of Crane.3.Approach area development by Compacting & Leveling. Administrative Controls:Ensure emergency procedures areexplained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	3	3	Low	
			Unauthorized Operation-Hit injury / Fall of material	Fatal	Peopie working around crane/workmens	3	4	12	Medium	Hierarchy of Controls: E-Elimination:Dont allow unauthorized persons. SB Substitution: Nil. EC-Engineering Controls:1.Only authorized operator allowed to operate the crane.2.Authorized operators list with photo to be displayed in the crane. Administrative Controls:Ensure emergency procedures areexplained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	4	8	Medium	
			Suspended Load / Over load Fall of Object / Heavy Object	Hit injury, Material damage	Peopie working around crane/workmens	2	3	6	Low	Hierarchy of Controls: E-Elimination:Dont allow unauthorized persons. SB Substitution: Nil. EC-Engineering Controls1.Extending the outriggers fully out rigger is rest on heavy planks.2. Over height & over load is strictly restricted.3.Crane Fitness Certificate system & Crane hook having hook latch .4.Prohibiting mobile phone usage by the crane operator & Signal man.5.Pulling the load is strictly prohibited.6. Workmen instructed to keepaway from front tire.7. Provision of Tag line to control the load.8.Ensured work permit system like Permit to work with New generation cranes, Crane lift permit along with safe to start work ,SI AART CARDs.9. System of obtaining Equipment fitness test by Competent Person for Mobile crane & All Lifting accessories like D shackle, Wire rope / Web / Chain Sling.10.A Flag man will be ensured for adequate communication Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	3	3	Low	
			Inadequate illumination or Poor Visibility-Run over / Hit injury / Struck against object.	Hit injury, Material damage	People working around crane/workmens	2	3	6	Low	Hierarchy of Controls: E-Elimination:Dont allow works in poor visibility. SB Substitution:Provide sufficient good EC-Engineering Controls:1.Ensure the Lighting of Equipment is sufficient.2.Only authorized operator allowed to operate the crane.3.adequate illumination to be ensured. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	3	3	Low	
			Non functioning of safety Device-Uncontrolled movement	Hit injury, Material damage	People working around crane/workmens	2	2	4	Low	Hierarchy of Controls: E-Elimination:Dont allow works in poor visibility. SB Substitution:Provide sufficient good EC-Engineering Controls:1.All the rotating parts are covered / guarded.2. Over load, over hoist limit switch & Boom Limit Switch are provided.3.Daily inspection through Daily checklist will be ensured. Administrative Controls:Ensure emergencyprocedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	2	2	Low	
			Outriggers not fully extended / Supported-Crane Collapse due to instability	Hit injury, Material damage	People working around crane/workmens	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB Substitution:Nil. EC-Engineering Controls:1.Extending the outriggers fully out rigger is rest on heavy planks. Administrative Controls:Ensure emergencyprocedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	2	2	Low	
			Defects in Lifting gears / Failure of lifting gear	Defects in Lifting gears / Failure of lifting gear	People working around crane/workmens	2	3	6	Low	Hierarchy of Controls: E-Elimination:Dont use damaged tools and tackles. SB Substitution:use only good tools and tackles. EC-Engineering Controls:1.Only new generation crane to be used for any lifting operation such as ESCORTS F15.2. Ensure the third party inspection and Competent certificates for the all Lifting appliances & Gears 3.Underneath area will be barricaded Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE: Ensure use of mandatory and task specific PPEs	1	3	3	Low	
			Rotating parts-Contact with rotating parts of machinery	Major injury	workmens	3	3	9	Medium	Hierarchy of Controls: E-Elimination:Remove unguard machines. SB- Substitution:use only safe guard to machinery. EC-Engineering Controls:1.All rotating parts should be covered with guard.2. Experienced workman should be only engaged for the job.3. Dead man's switch should be avaialble.4.Electrical connection should be reviewed in every interval Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.Training should be given to worker for "Safe working method" . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	

28	Using and handling vibrating tools and equipment	Routeen acivity	Vibration-Exposure to excessive vibration either to hand or to whole body	Tingling or numbness in the fingers or toes and Blanching	Person who are operating Machine	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls. 1. Use Low vibration equipment instead of High Vibration equipment 2. Restrictions in place to limit duration and frequency of using high vibration equipment.3. Job rotation used to limit exposure of individual workers and provide variety of movement to work activities.4. Power tools inspection has been conducted by every month.5. Supervisors to ensure that the equipment provided is suitable for the intended use.6.When selecting new equipment preference is given to equipment with low vibration levels. 7.Workers exposure to be regularly reviewed and discussed at team meetings and alternative ways of working developed.8. Vibration exposure to be monitored by supervisors via log sheets.9.Vibration exposure to be monitored by supervisors. 10.Use fully fingered anti-vibration gloves shall be used wherever required.11.Compare vibration data from different manufacturers prior to purchasing products.12. Create equipment replacement plan, prioritising according to vibration levels and usage. Administrative Controls:Ensure emergency procedures areexplained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	3	3	Low	
			Inadequate information, instruction and training	Tingling or numbness in the fingers or toes and Blanching	Person who are operating Machine	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls.1. All operatives and supervisors are provided with hand arm and whole body vibration training by external and Internal agency.2. Authorized Operator photos are displayed on the machines .3.Safe to start card shall be prepared effectively before deploying at work.4. Adequate signage's related to vibration control shall be made and displayed.5.Workplace hazards shall be communicated before starting of the work after preparation of safe to start card. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	3	3	Low	
			Poorly maintained equipment	Tingling or numbness in the fingers or toes and Blanching	Person who are operating Machine	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Inventory of work equipment kept by the garage.2. Equipment is checked before use, high vibration levels and faults are reported and fixed. Maintenance programme is in place for high use tools that cause hand arm vibration (HAV) Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	3	3		
			Monitoring	Tingling or numbness in the fingers or toes and Blanching	Person who are operating Machine	2	3	6	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls.1.HAV levels have been measured for rotary and percussiveequipment High risk equipment to be colour coded and labelled and staff informed.Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	3	3		
29	Legionella	Routeen activity	Legionnaires Disease-Lung infection (pneumonia	Infection	All	4	1	4	Low	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :..The primary method used to control the risk from Legionella is water temperature control.2. Water services should be operated at temperatures that prevent Legionella growth.3. Potential for Legionella growth e.g. water stagnation, sources of contamination etc.4.Potential for aerosol generation.5.Presence of susceptible persons.6. Adequacy of existing site management records and arrangements.7. Efficacy of existing preventative and control measures.8.systems at greatest risk assessed, e.g. showers, cisterns, lawn sprinklers, firefighting systems – sprinklers or hoses, humidifiers in food cabinets, spray washing equipment, emergency showers, eye wash stations, etc.9.The Legionella Control plan contains:10.Description of the water system and the safe and correct operation of the system and any relevant plant and equipment .11.An up to date schematic diagram of the system .12.Details of the tests and checks, e.g. temperature measurements, to be carried out, by whom and when and what records are kept and by whom .13.Details of the remedial action to be taken if the system is out of specification.14.Cold water pipework insulated and kept away from heat sources Cold water storage holds enough for a day's use only and has no build-up of scale and water storage tanks are checked and cleaned, any build-up of sludge/slime is cleaned, and tanks are disinfected annually. There are arrangements in place for little used outlets, to either.15. flush through showers/ taps/emergency showers and all other sources arising on at least a weekly basis,16.carry out a safe purge of the water system before use e.g. prior to reopening after summer holidays. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Nil	3	1	3	Low	
30	Psychosocial	Routeen activity	Excessive Workload	Stress, Blood Pressure, Family Conflict, and Workplace Accidents	Concrete workmen, Carpenters and helpers and Unskilled workmen	5	2	10	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Looking for different ways to get the work done easily and safely . 2. Prioritize the task and set achievable deadlines.3. Distribute the workload with the all of the workmen not with single workman.4. Provide One Task at a time.5. Given Short Breaks. 6. Avoid working hours more than 12 hours in a day.7. Conducting "Touch the heart Session" at workplace to understand the workmen stress level.8.Maintain alternative work crew for continuous job like major concreting.9 Conducting Meditation and Yoga Training Program for workmen. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Nil.	2	2	4	Low	
			Workplace Physical Environment	Serious illness, Serious Injuries	Staff/Workmen	5	2	10	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Workplace, equipment, devices and systems are maintained, in working order and in good repair.2. Workplaces are ventilated and have enough fresh and purified air.3. Maintained a reasonable temperature inside building during working hours.4. Keeping workplaces and furnishings clean. Waste materials are not accumulated, except in suitable containers.5. Provided suitable workstation for the worker and work. A suitable seat must be provided where necessary.6. Floor/Ground surface is suitable and not uneven or slippery, presenting a safety risk. They are kept free from obstructions likely to cause a slip, trip or fall. Handrails are provided on staircases.7. Taken suitable and sufficient measures to prevent people falling or being struck by falling objects.8. Organised workplaces to allow safe traffic circulation by pedestrians and vehicles.9. Provided sufficient toilets, washing facilities, drinking water and first aid facilities. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	4	2	8	Medium	
			Physical Violence	Threatening behaviour, Verbal or written threats, Verbal abuse and Physical attacks	Staff/Nearby workmen/Accounts staff/Contractor billing staff	5	3	15	High	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1. Strategically placing fences and effective security systems to control access to the workplace for Unauthorized person entry.2. Provide adequate exterior lighting around the workplace and near entrances and also provide CCTV.3. DO NOT enter any situation or location where any employee feels threatened or unsafe.4. Behaviour (e.g., violence, intimidation, bullying, harassment, etc.) management considers inappropriate and unacceptable in the workplace.5. Provide counseling session for who are violating and remove from work if frequent violence by any one. 6. Upward communication system is available for reporting the same. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	3	3	9	Medium	
			Bullying or intimidation	Panic or anxiety, Headaches, Inability to sleep, Loss of appetite and Anger	Concrete workmen, Carpenters and helpers and Unskilled workmen	5	2	10	Medium	Hierarchy of Controls: E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls1..ENCOURAGE everyone at the workplace to act towards others in a respectful and professional manner.2. EDUCATE everyone that bullying is a serious matter.3. TRY TO WORK OUT solutions before the situation gets serious or "out of control".4. EDUCATE everyone about what is considered bullying, and whom they can go to for help.5. TREAT all complaints seriously, and deal with complaints promptly and confidentially.6. TRAIN supervisors and managers in how to deal with complaints and potential situations. Encourage them to address situations promptly whether or not a formal complaint has been file.. 7. HAVE an impartial third party help with the resolution, if necessary. Administrative Controls:Ensure emergency proceedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	3	2	6	Low	
31	Infection control	Routeen activity	Lack of Hand Hygiene Facilities	sick and spreading germs to others in the workplace viruses, bacteria, fungi, parasites and, rarely, prions	All persons	5	3	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Provide handwashing stations at key locations.2. Ensure soap and water availability .3.Supply hand sanitizers at entry/exit points - Install touch-free handwashing stations.5.Conduct regular training on proper hand hygiene.6. Display educational posters on hand hygiene Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Shared Tools and Equipment	sick and spreading germs to others in the workplace viruses, bacteria, fungi, parasites and, rarely, prions	All persons	4	3	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Assign individual tools to workers.2. Develop a tool sterilization schedule.3.Regularly sanitize shared equipment.4. Use UV-C or chemical disinfection methods.5.Implement shift-based tool sanitization - Encourage workers to clean tools after use. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Congested Break Areas	Chickenpox. Common cold. Diphtheria. E. coli. Giardiasis. HIV/AIDS. Infectious mononucleosis. Influenza (flu	All persons	5	3	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Establish staggered break times.2.Increase the number of designated break areas.3.Enforce physical distancing in break areas - Create outdoor break spaces if feasible.4. Increase break area size or create multiple - Implement rotational break schedules. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	4	3	12	Medium	
			Inadequate PPE Usage	sick and spreading germs to others in the workplace viruses, bacteria, fungi, parasites and, rarely, prions	All persons	5	3	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Provide appropriate PPE for different tasks.2. Implement spot checks for PPE usage.3.Regularly inspect and replace damaged PPE.4. Conduct PPE fit testing. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	4	3	12	Medium	

			Poor Respiratory Hygiene	coughing, congestion, runny nose, and/or increased production of respiratory secretions	All persons	5	3	15	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Encourage workers to cover coughs/sneezes.2.Display posters on proper respiratory hygiene.3.Provide tissues and no-touch disposal options. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	4	3	12	Medium	
			Inadequate Site Sanitization	sick and spreading germs to others in the workplace viruses, bacteria, fungi, parasites and, rarely, prions	All persons	5	3	15	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Increase frequency of site cleaning.2.Utilize electrostatic disinfection techniques.3.Sanitizehigh-touch surfaces regularly .4.Assign a dedicated sanitation team.5.Assign specific personnel for sanitation tasks.6.Implement post-work sanitation protocols. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Insufficient Worker Screening	sick and spreading germs to others in the workplace viruses, bacteria, fungi, parasites and, rarely, prions	All persons	5	3	15	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Implement daily health checks for workers .2.Use temperature screening and symptom checks.3.Inforce stay-at-home policy for sick workers.4. Implement mandatory COVID-19 testing. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	4	3	12	Medium	
			Limited Information Dissemination	sick and spreading germs to others in the workplace viruses, bacteria, fungi, parasites and, rarely, prions	All persons	5	3	15	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Establish clear communication channels.2.Implement a digital communication platform.3.Providereguar updates on infection control.4.Conduct weekly safety briefings.5. Encourage workers to report concerns .6.Develop a dedicated infection control website. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	4	3	12	Medium	
			Inaccurate Measurement	financial losses	Nil	4	3	12	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Use calibrated measuring tools .2.Implement digital measurement technology.3.Provide training on accurate measurement.4.Conduct regular quality checks on measurement tools.5.Double-check measurements before pouring - Develop standardized measurement procedures. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Improper Mixing Proportions	the surface finish will be poor	Nil	4	3	12	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Follow approved mix designs.2.Implement automated batching systems.3.Conduct regular quality checks on mixe.4.Assign dedicated personnel to oversee batching.5.Use skilled workers for mixing - Develop a database of successful mix proportions. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Overpouring Concrete	Slip, trip and fall on same level-Back bone injuries etc.	workmens	4	3	12	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Use formwork and spacers to control pouring..2. Implement flowable fill concrete for minimal wastage.3. Conduct pre-pour inspections.4.Train workers on proper concrete placement.5.Monitor concrete placement during pouring.6.Implement volumetric concrete mixers. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	3	3	9	Medium	
			Inadequate Curing	Slip, trip and fall on same level-Back bone injuries etc.	workmens	4	3	12	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Implement proper curing methods..2.Use curing compounds for better surface protection.3.Cover freshly placed concrete with curing.4.Implement moist curing methods 5.Maintain curing conditions for recommended.6.Conduct regular curing effectiveness check. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Overvibration of Concrete	Slip, trip and fall on same level-Back bone injuries etc.	workmens	4	3	12	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Use proper vibration equipment.2.Train workers on proper vibration techniques.3. Monitor concrete consistency during vibrating.4.Implement self-consolidating concrete for reduced vibration.6. Use skilled workers for vibration.7. Regularly calibrate vibration equipment Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Uncontrolled Temperature Changes	Cracks,segregation,burns.	workmens	4	3	12	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Protect freshly placed concrete from extreme.2.Use insulating blankets during colder conditions.3.Monitor ambient temperature during curing.4.Implement heating/cooling systems for temperature control.5.Avoid concrete placement during extreme.6.Use temperature-resistant concrete admixtures.Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Inadequate Formwork Design	misalignment, movement, loss of support, failure of forms that can lead to cracking and structural failure	workmens	4	3	12	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Use engineered formwork designs..2.Implement reusable formwork systems.3. Conduct pre-pour inspections of formwork.4.Train workers on proper formwork installation.5. Reinforce formwork as needed.6.Implement formwork management software. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Lack of Quality Control	lost time, wasted resources, and decreased efficiency.	workmens	4	3	12	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Establish a comprehensive quality control.2.Implement third-party quality inspections.3. Conduct regular inspections and testing.4.Develop a quality control checklist.5.Train quality control personnel - Implement statistical process control (SPC) Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
32	Hazardous materials	Routeen activity	Improper Chemical Storage-can cause a fire, explosion, or personal injury	Slip, trip and fall on same level-Back bone injuries etc.	workmens	5	4	20	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1. Designate specific storage areas for chemicals..2.mplement fire-resistant chemical storage areas.3.Use proper labeling and color-coding.4.Conduct regular inventory checks.5.Store incompatible chemicals separately .6. Implement controlled access to chemical storage. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	3	4	12	Medium	
			Inadequate Ventilation	dry throat and eyes, concentration disorders, fatigue, headaches, shortness of breath, poor sleep, drowsiness, dizziness.	workmens	3	3	9	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Install proper ventilation systems..2.Implement air quality monitoring.3.Regularly inspect andmaintain ventilation .4.Provide workers with personal respiratory protection.5. Establish confined space procedures.6.Conduct indoor air quality assessments Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Unsafe Handling of Hazardous materials.	Trauma (as in explosion) Burns. Illness. Death	workmens	4	5	20	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Provide training on proper handling procedures..2.Conduct regular safety drills for emergency response Materials.3.Use appropriate personal protective equipment.4. Develop a waste management plan.5. Implement spill response procedures.6. Maintain a hazardous materials inventory. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. . TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	5	10	Medium	
			Insufficient Hazard Communications	Trauma (as in explosion) Burns. Illness. Death	workmens	4	3	12	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Implement proper labeling and signage .2.Display emergency contact information. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Uncontrolled Asbestos Exposure	Shortness of breath. Persistent dry cough. Chest tightness or chest pain. Weight loss from loss of appetite. A dry, crackling sound in the lungs while breathing in. Wider and rounder than normal fingertips and toes (clubbing)	workmens	4	5	20	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1. Conduct asbestos surveys before demolition..2. Implement engineering controls for asbestos removal.3. Use certified asbestos removal contractors.4. Establish decontamination procedures for workers.5.Properly contain and seal asbestos materials.6. Conduct periodic air quality monitoring . Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	5	10	Medium	
			Flammable Material Handling	Trauma (as in explosion) Burns. Illness. Death	workmens	4	5	20	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Implement proper storage and handling..2. Conduct regular equipment inspections.3.Use non-sparking tools and equipment.4.Establish designated smoking areas.5. Store flammable materials away from heat sources.6.Implement hot work permits and procedures Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	5	10	Medium	
			Electrical Hazards	Electric shock and burns from contact with live part,Fatal	workmens	4	5	20	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1. Regularly inspect and maintain electrica.2.Implement lockout/tagout procedures.3. Install ground fault circuit interrupters (GFCIs)4.Conduct thorough pre-task electrical risk assessments. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	5	10	Medium	
			Hazardous Waste Management	cancer, genetic mutations, physiological malfunctions (e.g., reproductive impairment, kidney failure, etc.), physical deformations	workmens	4	5	20	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Implement proper waste storage and disposal.2.Train workers on hazardous waste handling anddisposal.3. Properly label and segregate waste streams 4.Conduct regular waste stream audits.5. Use certified waste disposal contractors.6.Implement spill containment measures. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	5	10	Medium	
			Eye Strain and Fatigue	It can make you tired and reduce your ability to concentrate	workmen/staff	5	3	15	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Provide adjustable chairs and workstations..2. Implement ergonomic assessments for workstations. 3.Ensure proper lighting for work areas.4. Encourage workers to take regular screen breaks. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	4	3	12	Medium	
			Incorrect Display Settings	Eye strain	workmen/staff	5	3	15	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Provide training on adjusting display settings..2.Implement display calibration procedures.3. Regularly inspect and calibrate displays.4.Encourage workers to report display issues.5.Implement standardized display profiles.6.Develop user-friendly display adjustment guides . Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Trip and Fall Hazards	Slip, trip and fall on same level-Back bone injuries etc.	workmen/staff	3	4	12	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Ensure cables and cords are properly secured..2. Implement cable management systems.3.Use non-slip mats under workstations.4.Establish clear walkways around workstations.5.Keep work areas free from clutter.6.Conduct regular site inspections for trip hazards. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	4	4	Low	
			Electrical and Fire Hazards	Electric shock and burns from contact with live part,Fatal	workmen/staff	4	5	20	High	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Inspect and maintain electrical connections..2. Use surge protectors and GFCIs for electrical safety..3. Implement regular fire safety inspections.4 Conduct regular fire drills and safety training.5. Keep displays away from flammable materials .6.Provide fire extinguishers in accessible locations. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	5	10	Medium	
33	Dse(Display screen equipment) Users	Non Routeen activity	Ergonomic Injuries	Carpal tunnel syndrome. Tendinitis. Rotator cuff injuries (affects the shoulder) Epicondylitis (affects the elbow) Trigger finger. Muscle strains and low back injuries.	workmen/staff	3	4	12	Medium	E-Elimination:Nil. S-Substitution:Nil. EC-Engineering Controls:1.Provide ergonomic seating and accessories..2.Conduct regular ergonomic training sessions.3. Impement height adjustable workstations.5.Offer ergonomic assessments for individual workers.6.Encourage proper posture and breaks. 7.Establish a stretching routine for display users. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	1	4	4	Low	

			Electrical Cord Hazards	Electric shock and burns from contact with live part,Fatal	workmen/staff	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Use cable management systems for cords. 2.Implement cord covers to prevent tripping. 3.Regularly inspect cords for damage. 4. Provide cordless alternatives where possible. 5.Educate workers on safe cord handling .6.Use retractable cable reels for easy management. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Inadequate Lighting	Headache and eyestrain. Neck, back, and shoulder strain (when straining to see items because of poor lighting) Falling, tripping, slipping. Dropping materials or tools. Depression	workmen/staff	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Provide adequate and adjustable lighting. 2.Implement task lighting for specific work areas. 3.Conduct regular checks on lighting levels. 4.Install daylight-balancing LED lighting systems. 5.Encourage workers to report lighting issues. 6. Implement glare-reducing screens for displays. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
			Eye Strain and Digital Vision	Headache and eyestrain. Neck, back, and shoulder strain (when straining to see items because of poor lighting) Falling, tripping, slipping. Dropping materials or tools. Depression	workmen/staff	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1. Encourage regular eye check-ups - Implement a "20-20-20" rule for screen usage. 2.Educate workers on digital vision hygiene. 3.Provide blue light-filtering screen protectors. 4.Provide adjustable display settings. 5. Promote outdoor breaks to reduce eye strain Customize this template based on the specific types of display equipment and conditions of your construction site. 6.The control measures provided are examples; tailor them to your site's needs and adhere to relevant regulations. Conduct a thorough assessment to determine the probability and severity of each hazard, and implement measures to ensure the safety and well-being of workers using display equipment. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	3	6	Low	
34	Noise and vibration	Routeen activity	Noise Exposure	high blood pressure, heart disease, sleep disturbances, and stress,hearing loss	workemens/staff	5	5	25	High	E-Elimination:Remove the damaged tools. SB- Substitution:Use good condition power tools. EC-Engineering Controls:1. Provide hearing protection to workers. 2. Implement noise-reducing barriers and enclosures. .3.Use quieter equipment and machinery .4.Implement quieter work methods or practices. 5.Establish designated noise zones .6.Conduct regular noise level monitoring. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce.TP- Training & PPE:Ensure use of mandatory and task specific PPEs	2	5	10	Medium	
			Hand-Arm Vibration (HAV)	Repetitive trauma from vibration	workmens	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Provide your employees with protective clothing when necessary to keep them warm and dry. 2.Use tools with reduced vibration levels. 3. Rotate workers to reduce prolonged exposure. 4. Implement job rotation and task variation. 5.Conduct regular maintenance of equipment. 6.Educate workers about the risks of HAV. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEsProvide vibration-damping gloves	3	4	12	Medium	
			Whole-Body Vibration (WBV)	Fatigue, stomach problems, headache, loss of balance and "shakiness"	workmens	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Use equipment with suspension systems. 2.Implement vehicle seat upgrades for vibration dampening. 3.Ensure proper maintenance of vehicles. 4.Implement regular maintenance of heavy machinery. 5.Provide training on correct seating posture. 6. Implement shock. 7.absorbing flooring in vehicles. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	4	4	Low	
			Noise-Induced Hearing Loss (NIHL)	sensorineural hearing loss or nerve deafness	workmens/Workforce , public & visitors	5	5	25	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Use hearing protection in noisy areas. 2.Implement quiet zones or rest areas. 3.Limit exposure time in noisy environments. 4.Conduct regular hearing tests for workers. 5.Educate workers about the risks of NIHL. 6.Provide training on proper use of hearing protection. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	5	10	Medium	
			Musculoskeletal Disorders (MSDs)	Direct blows to muscles, bones or joints. Overuse injuries. Poor posture. Sprains	workmens	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Implement ergonomics training. 2. Provide ergonomic tools and aids. 3. Ensure proper lifting and carrying techniques. 4.Implement job rotation to reduce strain. 5.Use ergonomic equipment and tools. 6. Conduct regular ergonomic assessment. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	4	12	Medium	
			Slips, Trips, and Falls	Slip, trip and fall on same level-Back bone injuries etc.	workmens	3	2	6	Low	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1. Maintain clear walkways and paths. 2.Use non-slip surfaces and matting. 3. Implement proper signage and barriers. 4. Conduct regular site inspections for hazards. 5.Provide adequate lighting for walkways. 6. Establish designated pathways for workers. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	2	4	Low	
			Fatigue	chronic tiredness, sleepiness or lack of energy	workmens	3	2	6	Low	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Establish reasonable work hours. 2. Implement a fatigue management program. 3.Provide regular breaks and rest periods. 4.Educate workers about the importance of sleep. 5.Promote healthy lifestyles. 6. Encourage workers to report signs of fatigue. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	2	4	Low	
			Hand-Arm Vibration Syndrome (HAVS)	vibration white finger, a permanent and painful numbness and tingling in the hands and arms, also painful joints and muscle weakening	workmens	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Implement vibration reduction measures. 2.Use low-vibration tools and equipment. 3.Train workers on correct tool usage. 4. Provide medical assessments for HAVS risk. 5.Rotate workers to reduce prolonged exposure Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	4	4	Low	
35	work station ergonomics	Routeen activity	Poor Seating and Posture	injury and Muscle Guarding. Stanton Stephens / Getty Images. Muscle Tension and Muscle Weakness. .	staff	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1. Provide adjustable chairs and workstations. 2.Conduct ergonomic training for workers. 3.Educate workers on proper sitting posture. 4.Implement workstation assessment tools. 5.Encourage regular breaks and stretching. 6.Offer on-site physiotherapy services. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	4	4	Low	
			Inadequate Work Surface Height	Neck, back, and shoulder strain	staff	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1. Provide adjustable chairs and workstations. 2.Conduct ergonomic training for workers. 3.Educate workers on proper sitting posture. 4.Implement workstation assessment tools. 5.Encourage regular breaks and stretching. 6.Offer on-site physiotherapy services. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	4	4	Low	
			Inadequate Lighting	persistent eyestrain, discomfort, and visual fatigue	staff	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Provide adequate and adjustable lighting. 2.Use task lighting for specific work areas. 3. Regularly inspect and adjust lighting. 4. Use daylight-balancing LED lighting systems. 5.Educate workers on proper lighting - Implement glare-reducing screens for displays. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	4	4	Low	
			Insufficient Space	cramped and disorganised workspace will impact workers' happiness and productivity	staff	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Design workstations with adequate space. 2.Regularly review and optimize workstation layouts. 3. Implement proper organization of tools. 4. Use compact storage solutions for materials. 5.Maintain clear walkways and access paths. 6. Implement vertical storage solutions. Administrative Controls:Ensure emergency procedures are explained to the task team .Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	3	6	Low	
			Repetitive Movements	fingers, hands, wrists and elbows	staff	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Implement job rotation to vary tasks. 2. Conduct ergonomic risk assessments for repetitive tasks. 3.Provide ergonomic tools for repetitive tasks. 4.Use automation for tasks that involve repetition. 5. Educate workers on safe movement techniques .6.Encourage workers to take micro-breaks . Administrative Controls:Ensure emergency procedures are explained to the task team .Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	3	6	Low	
			Inadequate Rest Breaks	increased risk of reporting psychological fatigue, physical fatigue, and sleep problems, and a decreased risk of psychologically detaching from work and experiencing adequate rest	staff	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Establish regular rest break schedules. 2.Implement a rest break reminder system. 3.Provide comfortable rest areas. 4. Educate workers on the importance of rest breaks. 5. Encourage workers to take short walks. 6. Conduct worker surveys to assess break preferences. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	3	6	Low	
			Vibration Exposure	Hand-Arm Vibration Syndrome	staff	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Use anti-vibration tools and equipment. 2.Implement vibration-absorbing flooring solutions. 4. Provide training on proper tool usage. 5. Conduct regular health assessments for vibration exposure. 6.Rotate workers to reduce vibration exposure. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	3	6	Low	
36	Weigh Bridge Operations	Routeen Activity - Vehicle approaching weighbridge	Collision, pedestrian struck	Collision, pedestrian struck	workemens/staff	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Marked lanes. 2.speed limit signs. 3. traffic marshal. 4. CCTV monitoring. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	3	6	Low	
		Routeen Activity - Vehicle on weighbridge platform	Fall from height (driver), platform slip	Minor to moderate injury	Drivers	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Anti-slip coating. 2.side rails. 3.driver to remain in vehicle. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	2	4	Low	
		Routeen Activity - Weighing process (operator in cabin)	Electrical hazards, equipment failure	Electric shock, equipment damage	Staff	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Use surge protectors. 2.proper earthing. 3.maintenance schedule. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	2	4	Low	
		Routeen Activity - Night-time weighing	Poor visibility, increased error/collision risk	Moderate to serious injury	Staff/Driver	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1. Provide flood lighting. 2.reflective markings. 3.reflective PPE. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	2	4	Low	
		Routeen Activity - Unauthorized access to weighbridge area	Trespass, tampering	Security breach, accidents	Visitor/Workman	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Fencing. 2.signage. 3.restricted access. 4. surveillance. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	2	4	Low	
		Routeen Activity - Access to MCC room	Unauthorized personnel	Electric shock, equipment tampering	Staff/Workmen	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Restricted access with lock. 2.authorized personnel only. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Routeen Activity - Operation of MCC panel	Exposed terminals, arc flash	Electric shock, arc flash injury	Staff	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls :1.Flame-resistant PPE. 2.insulated gloves. 3. trained operator Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	

37	MCC (Motor Control Center Room) Electrical	Routeen Activity - Maintenance/repair	Live circuit exposure	Electrocution, burns	Staff/Workmen	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Strict LOTO procedure.2.insulated tools. 3.isolation verification Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Routeen Activity - Grounding issues	Improper earthing	Electric shock, stray voltage	Staff/Workmen	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Regular earth pit testing.2.visual inspection of grounding system. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Routeen Activity - Environmental condition	Dust, moisture, heat, Water leakage, humidity	Electrical hazard, corrosion, Short circuit, equipment damage	Staff/Workmen/Propei	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.HVAC or exhaust fans.2.dry condition maintenance. 3.proper sealing. 4.regular checks. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Routeen Activity - Emergency readiness	Inadequate fire extinguisher or signage	Fire spread, confusion during emergency	Staff/Workmen	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Install CO_2 extinguishers.2.emergency lights. 3.signage. 4.fire alarm.5. clear emergency exits and signs. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
38	Transformer Yard	Entry to transformer yard	Unauthorized access	Electrocution, sabotage	Staff/Workmen	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Secure fencing.2.access control. 3.danger signage. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Maintenance of transformers	Contact with live parts, hot surfaces	Burns, electric shock	Staff/Workmen	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Lockout-Tagout (LOTO).2.isolation confirmation. 3.thermal gloves. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Transformer oil leakage	Oil spill on ground	Fire hazard, environmental pollution	Staff/Workmen/Environment	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Spill kits.2.oil drain tanks. 3.regular inspections. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Fire outbreak	Oil fire, electrical fire	Explosion, injury, equipment damage	Property	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Install fire detectors.2. CO_2/DCP extinguishers. 3. fire suppression. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Grounding system	Improper earthing	Step/touch voltage hazards	Staff/Workman	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Periodic earth resistance testing.2. bonding checks. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		High noise during operation	Transformer hum	Hearing damage over time	Staff/Workman	2	3	6	Low	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Provide ear protection if prolonged exposure. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	2	4	Low	
		Weather impact	Rain, flooding, corrosion	Short circuit, slipping, flashover	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Elevated equipment pads. 2. drainage system. 3.waterproof enclosures. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
39	Fire Pump Room	Entry to fire pump room	Unauthorized access	Accidental operation or damage	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Restricted access with locks and signage. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Operation of fire pumps	Noise, vibration, high pressure	Hearing damage, pipe burst, mechanical injury	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Use hearing protection. 2. routine equipment inspection. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Maintenance activity	Contact with moving parts	Cuts, entanglement	Staff/Workman	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Lockout-tagout (LOTO). 2.machine guards. 3.PPE Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Fuel handling (for diesel pump)	Spillage or improper storage	Fire, explosion, inhalation of fumes	Staff/Workman	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Store in approved containers. 2.proper ventilation. 3.spill kit available. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Water leak/spill	Slippery floor	Slip and fall injury	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Anti-slip flooring. 2. drain system. 3.housekeeping. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Emergency lighting	Power failure	Poor visibility during emergency	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Install emergency backup lights and test regularly. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
40	Cylinder Storage Area	Cylinder handling	Dropping or falling cylinders	Explosion, fire, injury	Staff/Workman	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Use trolleys/cylinder carts. 2. trainedhandlers. 3.wear gloves and shoes. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	4	1	4	Low	
		Improper segregation	Storing flammable & oxidizing gases together	Fire, explosion	Staff/Workman	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Segregate by gas type with barriers. 2. proper labeling. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	4	2	8	Medium	
		Valve damage or leakage	Gas leakage (toxic, flammable, oxygen-rich)	Fire, explosion, asphyxiation	Staff/Workman	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Regular leak tests. 2. Valve protection caps. 3.proper fitting. 4. Cylinder caps provision. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	4	2	8	Medium	
		Fire or heat exposure	Flammable gas ignition	Explosion, burns	Staff/Workman	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.No smoking signage. 2. fire-rated room. 3.Place fire extinguisher (DCP, CO_2) . Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	4	1	4	Low	
		Storage condition	Direct sunlight, poor ventilation	Cylinder rupture, pressure buildup	Staff/Workman	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Seperate storage location. 2. well-ventilated. 3.cool dry area . Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	4	1	4	Low	
		Emergency response	No plan or equipment in place	Uncontrolled fire or leak event	Staff/Workman	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Emergency SOPs. 2. fire alarm. 3.evacuation drills. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	4	2	8	Medium	
41	Extruder Machine	Machine operation	Moving components (auger, compaction rollers)	Crushing, entanglement, amputation	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Fixed guards. 2.trained operator only. 3.emergency stop switches. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Concrete feeding	Contact with rotating parts or hopper	Entrapment, falling material	Staff/Workman	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Use feed hoppers with grid, 2.no manual intervention during operation. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Maintenance/cleaning	Accessing blades/augers without isolation	Serious injury from residual movement or pressure	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Lockout-tagout (LOTO). 2.clean only when power is off. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Noise and vibration	Prolonged exposure during operation	Hearing damage, fatigue	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Hearing protection. 2.vibration-damping gloves. 3. regular breaks. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Machine movement on bed	Unexpected start, poor signaling	Collision, injury to bystanders	Staff/Workman	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Use visual/audible alarms. 2operator signaling. 3.restricted area. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	3	9	Medium	
		Concrete spillage	Wet mix around work area	Slip, fall hazard	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Maintain housekeeping. 2. use anti-slip mats or drainage. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs	3	2	6	Low	
		Working platform around machine	Uneven surface or poor lighting	Trip, fall hazard	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Adequate lighting. 2. safe access platforms with guardrails. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Manual handling of inserts/tools	Heavy tools, awkward posture	Strain, musculoskeletal injury	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Use lifting aids. 2. ergonomic practices. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Blade cutting operation	Rotating blade, contact with operator	Severe laceration, amputation	Staff/Workman	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Blade guard in place. 2. operate by trained personnel only. 3. emergency stop switch. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	3	9	Medium	
		Blade breakage	High-speed rotating blade	Flying fragments, impact injuries	Staff/Workman	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Use approved blades. 2. pre-check blade condition. 3. Face shield PPE. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	3	9	Medium	
		Slab cutting (dry/wet)	Dust inhalation / water spill	Respiratory problems / Slip hazard	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. EC-Engineering Controls:1.Use wet cutting with drainage. 2. wear dust mask or respirator. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	

42	HCS Cutting Machine	Machine movement on bed	Unexpected movement	Crushing, collision with personnel	Staff/Workman	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. Controls:1. Use audible alarm. 2. flashing light during movement. 3. restricted access zone. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	3	9	Medium	
		Blade alignment or maintenance	Accessing machine while energized	Injury from moving parts	Staff/Workman	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. Controls:1. Lockout-tagout (LOTO). 2. isolate power before adjustment. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	3	9	Medium	
		Noise from cutting operation	High decibel level	Hearing damage	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1. Use ear protection. 2. display warning signage. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Poor visibility or lighting	Inaccurate cuts, operator error	Material damage, injury	Workman/Property	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1. Ensure well-lit cutting area and emergency lighting backup. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
43	Elematic - Bed Cleaning Machine	Machine startup and operation	Contact with moving parts (brush/scraper)	Major injury (cuts)	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1. Pre-start checks. 2. interlocks & guarding. 3. only trained operators. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Machine movement along rails	Crush between machine and structures	Fatal/Crush injury	Staff/Workman	2	5	10	High	E-Elimination:Nil. SB- Substitution:Nil. Controls:1. audible warning. 2. emergency stop. 3. restricted access. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	3	6	Low	
		Manual cleaning/maintenance	Entanglement, cuts, dust exposure	Moderate injury	Staff/Workman	4	4	16	High	E-Elimination:Nil. SB- Substitution:Nil. Controls:1. Machine powered off (LOTO). 2.PPE (gloves, respirator). 3.proper lighting. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	4	2	8	Medium	
		High pressure air/water jet use	Eye or skin injury from jet or particles	Moderate injury	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1. Use face shield. 2.trained operator. 3.proper direction control. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Noise from equipment	Hearing damage from prolonged exposure	Moderate injury	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1. Hearing protection. 2.limit exposure time. 3.routine noise checks. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
44	Elematic - Frame Caster	Machine operation on bed	Contact with moving components (auger/vibrators)	Major injury	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Machine guarding. 2.trained operators only. 3.interlock safety system. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Concrete discharge	Splash of wet concrete causing eye/skin irritation	Minor injury	Staff/Workman	4	3	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Use of goggles. 2.gloves. 3. Cover all. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to thetask team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE::Ensure use of mandatory and task specific PPEs.	4	1	4	Low	
		Manual cleaning	Exposure to cement dust / trapped hands	Moderate injury	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.LOTO during cleaning. 2.use of dust masks. 3. proper cleaning tools. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Hopper blockage / material jam	Overexertion or injury during clearing	Moderate injury	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Only trained personnel to clear jams. 2. lockout procedures. 3. mechanical clearing tools. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Electrical maintenance	Electric shock	Fatal shock	Workman	1	5	5	High	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.LOTO System. 2. authorized electricians only. 3. insulated gloves/tools. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	3	3	Low	
45	Elematic - Concrete Skip Bucket	Lifting skip using EOT crane	Falling skip due to sling failure or hook disengage	Fatality/crush injury	Staff/Workman	2	5	10	High	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Use tested lifting gears. 2. safety latch hooks. 3. certified riggers only. 4. TPI EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	3	6	Low	
		Transporting skip overhead	Falling concrete or skip over workers	Serious injury/fatality	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.No work under load policy. 2. exclusion zone below skip. 3.spotters used. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Discharge of concrete	Splash on skin/eyes, slip hazard on floor	Minor injury	Staff/Workman	4	2	8	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.PPE (goggles, gloves). 2.controlled discharge. 3.clean-up team on standby. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	4	1	4	Low	
		Cleaning the skip	Cement residue exposure, hand injuries inside bucket	Moderate injury	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Use long-handled tools. 2. PPE (gloves, masks). 3.LOTO. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Maintenance/inspection	Electrical or mechanical failure	Moderate to major injury	Staff/Workman	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Maintenance log. 2. inspections before every shift. 3.competent personnel only. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	3	9	Medium	
46	QC Lab	Handling chemical admixtures	Skin or eye burns, inhalation of vapors	Moderate injury	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Use of gloves. 2. face shields. 3.chemical aprons. 4. MSDS availability. EC-Engineering Administrative Controls :1. Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce. 2. Calibration Reports. 3. SOP's TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Concrete cube compression testing	Finger crush or impact from cube or platen movement	Major injury	Staff/Workman	3	4	12	High	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Machine guarding. 2. trained personnel. 3.operate with hands away from platen. 4. Calibration Test. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Sieve analysis of aggregates	Dust inhalation, eye irritation	Minor to moderate injury	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Dust masks. 2. eye protection. 3.proper ventilation. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement &training to be provided to the workforce & SOP. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Oven operation for moisture content	Burns from hot surfaces or steam	Moderate injury	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Warning signage. 2.PPE (gloves, goggles). 3.keep face away from door. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Sampling of concrete or aggregates	Manual handling injury, slip on spilled material	Minor injury	Staff/Workman	4	2	8	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Proper lifting technique. 2.anti-slip shoes. 3.spill cleanup protocol. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	4	1	4	Low	
		Use of weighing balances	Electrical shock (due to faulty cord)	Moderate injury	Staff/Workman	1	3	3	Low	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Electrical inspection. 2. use of grounded plugs. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	1	3	3	Low	
		Water/cement testing (chemical use)	Acid/base reaction exposure	Major injury	Staff/Workman	2	4	8	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Use of chemical-resistant PPE. 2. eyewash station available. 3. Exhaust fan. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	2	4	Low	
		Handling steel items (rebar, strands)	Cuts, pinch points, back strain	Moderate injury	Workman	4	3	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Use gloves. 2. safety shoes. 3. proper manual handling technique. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	4	1	4	Low	
		Stacking precast molds/tools	Collapse or fall of materials	Major injury	Staff/Workman	3	5	15	High	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Limit stacking height. 2. use stable racking. 3. regular inspection. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Hydraulic Pallet Trolley	Collision, tipping, run-over	Major injury	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Trained operators. 2. dedicated pathways. 3. spotter usage. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Lifting gear and slings storage	Failure or damage leading to lifting accidents	Fatal or major injury	Staff/Workman	2	5	10	High	E-Elimination:Nil. SB- Substitution:Nil. Controls:1.Regular inspection, 2. certification tag system. 3.proper storage. EC-Engineering Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	2	3	6	Low	

47	Stores	Chemicalstorage (admixtures, diesel)	Fire hazard, spill, inhalation of fumes	Major injury/fire	Staff/Workman	3	5	15	High	E-Elimination:Nil. Sb- Substitution:Nil. EC-Engineering Controls:1.Proper segregation. 2. MSDS available. 3. spill kits, ventilation. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	3	9	Medium	
		Receiving-deliveries	Injuries from unloading or falling items	Minor to moderate injury	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. Sb- Substitution:Nil. EC-Engineering Controls:1.Trained staff for unloading. 2.safety shoes. 3. proper stacking. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Housekeeping and layout	Trip hazards, blocked walkways	Minor injury	Staff/Workman	4	2	8	Medium	E-Elimination:Nil. Sb- Substitution:Nil. EC-Engineering Controls:1.Marked walkways. 2.regular cleanup. 3. clear labeling. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	4	1	4	Low	
		Use of laaders for higher shelves	Fall from height	Major injury	Staff/Workman	3	4	12	Medium	E-Elimination:Nil. Sb- Substitution:Nil. EC-Engineering Controls:1.Use platform ladders. 2.3-point contact. 3.trained staff. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
		Documentation/stocktaking	Eye strain, awkward posture	Minor injury	Staff/Workman	3	3	9	Medium	E-Elimination:Nil. Sb- Substitution:Nil. EC-Engineering Controls:1.Ergonomic setup. 2.take screen/posture breaks. Administrative Controls:Ensure emergency procedures are explained to the task team.Emergency rescue arrangement & training to be provided to the workforce & SOP, Work Methodology. TP- Training & PPE:Ensure use of mandatory and task specific PPEs.	3	2	6	Low	
	Prepared by & date:											Reviewed by & date:					

MY HOME GROUP	MYHOME CONSTRUCTIONS PRIVATE LIMITED	Doc. No.	MHCPL-HIRA-PP
	Project Name: HYMA PRECAST PLANT	Rev. No.	2
	HAZARD IDENTIFICATION & RISK ASSESSMENT (HIRA) - QUALITATIVE MATRIX	Date:	15.04.2025

LIKELIHOOD		SEVERITY	**Physical discomfort & Insignificant damage/Loss**	**Non Reportable Requiring First Aid & Minor Damage to Property**	**Reportable Temporary disability, sever illness & Moderate Damage Property**	**Permanent disability & Major Damage/Loss**	**Fatal/ Total Permanent disability & Huge Damage/Loss**
			(Nuisance and Irritation) & Insignificant Damage/Loss	(Superficial injuries, Minor cuts, bruises, temporary ill health, Eye irritation from dust) & Loss/damage	(Dermatitis, Asthma, Work related upper limb disorders, Lacerations, burns, Minor fractures, Sprains, Moderate Damage to property)	(Amputations, Multiple injuries, Major fractures) & Damage/Loss	(Severe life shortening diseases, Occupational cancer) & Damage/Loss
			1	2	3	4	5
Certain (Very Likely)	(Typically experienced no. of times daily or whenever performing the activity)	5	5	10	15	20	25
Quite possible (Likely)	(Typically experienced at least daily once or occasionally while performing the activity)	4	4	8	12	16	
Unusual but possible (Unlikely)	(Typically experienced at least weekly once)	3	3	6	9	12	15
Remote (Very unlikely)	(Less than 1% chance of being exposed during monthly performing activity)	2	2	4	6	8	10
Improbable	Never happen/ Unlikely	1	1	2	3	4	5

1 to 6	--->	Low Risk
8 to 12	--->	Medium Risk
15- 25	--->	High Risk