|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.N.** | **ACTIVITY** | **HAZARD** | **CAUSES OF HAZARD** | **CONSEQUENCES/ IMPACT** | **RISK EVALUATION** | | **RISK LEVEL** | **IMPLEMENTED CONTROL MEASURES** | **RESIDUAL RISK** | | | **ACCEPT Y/N?** |
| **P** | **S** | **H/M/L** | **P** | **S** | **H/M/L** |
| 1 | Earth work Excavation; i.e.  Detection of under ground services,  Access, regress and barricading,  Provision of shoring,  Disposal of excavated material,  Dewatering,  Use of machines for excavation,  Transport of excavated materials. | Fire, Electrical, Falling, Collapse of excavation, Space constrain, Blocking of access, egress and equipments, Flood, Noise, Oil Spillage, Fall of excavated material, Soil eruption, Dust pollution, Road Accidents, Exhaust emission. | Improper use of PPEs.  Unqualified workers.  Failure to follow safe working instructions. | Property damage, lost of assets, personnel injury, fatality, death, Accident, explosion, Environmental nuisance, Health impact, Soil & water contamination, Environmental pollution. | 3 | 3 | 9 | Work Permit shall be provided before work commencement.  Appropriate PPE should be provided.  Induction training and  Tool Box Talk should be carried out on regular basis before commencement on work.  Proper engineering control should be carried out.  Direct supervision of supervisor.  Define and provide stable barricades.  Exclusion zone should be provided.  Safety Warning signs shall be in place.  Provision of designed and approved shoring.  Adequate sloping and benching of sides.  Planned / Defined storage of equipments and safe routes for equipments.  Post flagman / banksman to control vehicle movements.  All equipments to have reverse alarms.  Provision of stand by pump.  Maintenance programme should be implemented.  Ensure Maintenance of Equipments will be carried out on regular basis.  Employ trained, competent and experienced operators.  Operation manuals in place.  Avoid overloading of material.  Define Obstruction free access and egress.  Cover transported material.  All personnel to use dust mask and goggles. | 1 | 3 | L | Y |

|  |
| --- |
| Persons in danger |
| * Workers undertaking the work |
| * Persons passing the site location/ truck routes, e.g. members of the public and persons in the Vehicles. |
| Personal protective equipment |
| * Safety Helmet, Gum Boot, Proper Gloves & Safety Goggles |
| Information, instruction and training |
| * All personnel in the team are to be made aware of the safe systems of work. |
| * Ensure that good housekeeping standard is maintained throughout. * Training and experience for personnel to use electrical equipments and vibratory equipments. * Educate the personnel to handle chemicals such as concrete… |
| Emergency procedures |
| * Site emergency procedures should make provision for the rescue of individuals from heights. |
| * First-aid facilities should be available to cope with any significant injuries that may arise from the work. |
| Monitoring and review |
| * Work should be monitored by Foreman and charge hand who are trained to ensure that any additional precautions or equipment required are provided. |

**RISK ASSESSMENT COMMITTEE**: Project Manager/ Project Engineer

Safety Manager/ Safety Officer

**Reviewed by:** (Safety Officer) **Approved by:** (Project Manager)

**RISK MATRIX**

**Risk Rating (RR) – Severity x Likelihood**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **LIKELIHOOD**  **(PROBABILITY)**  **(P)**  **SEVERITY**  **(IMPACT)**  **(S)** | | **Rare**  Remote possibility (once every 3 years or more)  **1** | **Unlikely**  Could happen but rare (typically once in a year)  **2** | **Possible**  Could happen occasionally (on average quarterly)  **3** | **Likely**  Could happen often (on average once a month or more)  **4** | **Almost certain**  Could happen frequently (once a week or more)  **5** |
| **Insignificant** | **1** | **Low**  **1** | **Low**  **2** | **Low**  **3** | **Low**  **4** | **Medium**  **5** |
| **Minor** | **2** | **Low**  **2** | **Low**  **4** | **Medium**  **6** | **Medium**  **8** | **Medium**  **10** |
| **Moderate** | **3** | **Low**  **3** | **Medium**  **6** | **Medium**  **9** | **Medium**  **12** | **High**  **15** |
| **Significant** | **4** | **Low**  **4** | **Medium**  **8** | **Medium**  **12** | **High**  **16** | **High**  **20** |
| **Major** | **5** | **Medium**  **5** | **Medium**  **10** | **High**  **15** | **High**  **20** | **High**  **25** |

**RISK BASED CONTROL PLAN**

|  |  |
| --- | --- |
| **RISK LEVEL** | **ACTION AND TIMESCALE** |
| **1-4**  **Low** | Quick, easy controls should be implemented immediately and further action planned for when resources permit. Monitoring required ensuring controls are maintained. Manage through routine procedures. Go for economic improvements where possible. Incident report must be completed. |
| **5-12**  **Medium** | Aim to reduce risks but costs of prevention may be limited. Undertake a risk assessment of the situation / task and implement the appropriate actions. Actions should have a timescale and should be monitored. Where the risk involves work in progress undertake a risk assessment as soon as possible to ensure the safety of the situation or task. **Work should not start until the risk is reduced to an acceptable level.** Considerable resources may have to be allocated. Contact your Manager and Risk Manager by telephone about the actions that should be taken to reduce the risk/s. incident report must be completed. Incident must be added to service risk register. |
| **15-25**  **High** | **Do not commence the activity until** a risk assessment has been completed to ensure the safety of the situation or task. If it is not possible to reduce or eliminate the risk even with unlimited resources, work must remain prohibited. Inform your relevant Director, your Manager and the Risk Manager immediately by telephone. Incident report must be completed. Incident must be added to service risk register. |