

SAFE WORK PROCEDURE

(Performance criteria – perfection in job, no injury to persons or damage to property)

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|---------------------|---------------------------------|------------------------|-------------------|
| 1. DEPARTMENT | : Town Engineering | DOC. No. | : JUS /TEP/SWP/02 |
| 2. SECTION/LOCATION | :PH#3 Road & Drain | Name of Working Agency | : |
| 3. JOB TITLE | : Manual Excavation/Backfilling | Work Order No. | : |
| 4. JOB DURATION | : 6 months | Start Date: | End Date : |

Sl. No.	Job steps Trial trench/Manual Excavation	Hazards	Initial Risk Level	Identified Controls	Final Risk Level	Responsible person	Reference to document/Standards /Criteria and Remarks
1	Inspection of site for work Mobilize	1. Physical injury	I	1. Before an excavation begins, the construction engineer must consider specific site conditions such as Six direction hazards & Excavation Standard checklist. – presence of a competent person, traffic, vibrations in the vicinity of the worksite, proximity of structures and their conditions, soil, surface water and groundwater, chemical contamination of soil or water, overhead and underground utilities, weather etc. 2. Use adequate PPE's like Safety Shoes, Helmet, Reflective Jacket, Hand gloves, Goggle	M	JUSCO Engg. / Supervisor	JUS_SS_ENGG_05 WORK PERMIT SYSTEM – JUS-SS-GEN 19 LOOSE CLOTHING- JUS-SS-GEN 02 FOOT PROTECTION- JUS-SS-GEN 03 HAND PROTECTION- JUS-SS-GEN 04 EYE PROTECTION- JUS-SS-GEN 05 HEAD PROTECTION- JUS-SS-GEN 06 BARRICADING- JUS-SS-ENGG. 02
		2. Fall, trip and slip	I	2.1. Only skilled helpers are to be deployed for the job with surveyor. 2.2. Always follow the safest approach. 2.3. Do not take short cuts.	M		
		3. Biological Hazard like Insect/Snack bite		3.1. Before start the job remove /clean the bushes and if required sprinkle carbolic acid. 3.2. Gum boot to be used if required.	M		
		4. Hit/dash by vehicle		4.1. While crossing the road care to be taken. 4.2. Do not stand beside the road, keep safe distance from the vehicle rich area.	M		
2	Barricading the area where manual excavation/trial trench to be done	1. Fall of Person/Traffic into the excavation pit due to Open excavated area/pit	I	1. Open excavated area /Pit must be barricaded by using rigid Protective barricading Material Like CGI Sheet by providing both side rod (20-25 mm Dia) of the sheet, Frame firmly grouted/nailing & pegging minimum 250 mm into the ground. 2. Minimum Height of Barricading from the ground level to be 1 M . 3. Projected part of Rod to be covered by using Bar cap, or ant suitable material. 4. The hard barricading shall be 1 m distance from the edge of excavated pit/trench. 5. If the excavation is beside the road, white paint as well as fluorescent tape to be put on the hard barricading for proper visibility during day & night.		Vendor supervisor	

				<p>6. Red light/Reflector sticker and illumination to be provided as per requirement and as per the instruction of site supervisor</p> <p>7. Area Illumination to be ensured for good visibility during night /night work.</p> <p>8. Cautionary display board to be provided to alert traffic as well as public.</p>		
3.	Bringing tools & tackles for manual excavation/Backfilling at site	1. Injury due to damaged or wrong quality tool & tackles	I	<p>1. All tools & tackles must be checked before use.</p> <p>2.No damaged or defect tools & tackles to be used.</p>		
4.	Manual/Trial Trench Cutting For Identification of Underground Utilities	1. Damaged of Under Ground Utilities, Like PIPE line, Electrical Cable, Telephone Cable, etc		<p>1. Work area to be demarcated by lime or something for excavation.</p> <p>2. Work area to be checked by ECL/EPL (Cable detector) to identification of Under Ground Utilities.</p> <p>3. GIS Clearance must be obtained from the concern agency with site layout/Drawing of underground utilities.</p> <p>4. No Trial trench to be done by JCB or any means of Mechanical.</p> <p>5. While working if any obstruction is found like tree Roots/Bolder Men hole etc then inform to site engineer and wait for further decision.</p> <p>6. Workers shall be instructed to be careful if any Sand, slab, and brick observed as electrical cables/ pipeline etc immediately inform to Concern persons.</p> <p>7. If electrical cables are detected, then it should be exposed carefully. If required cables to be covered with split Hume pipes which will be supported to keep the cables in their original position.</p> <p>8.Trial Trench Box Cutting/Zig Zag Cutting to be done 200 MM more than desire level</p>		
		2.Collapse of soil	I	<p>1.Excavated Soil to be stacked at safe distance (min 1.5 m away from the edge</p> <p>2.Shoring shall be done depending on the soil condition and depth of excavation and It will be ensured by TEP & Contractor engineer.</p> <p>3. All trenches in soil more than 1.5 m deep shall be securely shored and timbered. In case of extremely loose soil shoring may be required even for depth less than 1.5 m.</p> <p>4. Adequate protection to be provided to protect employees from loose rock or soil</p>	M	

				<p>that could pose a hazard by falling or rolling from an excavation face. Such protection shall consist of scaling to remove loose material; installation of protective barricades at intervals, provision of nets as necessary on the face to stop and contain falling material; or other means that provide equivalent protection.</p> <p>5. Cutting shall be done from top to bottom. No undercutting of side of excavation to be allowed.</p> <p>6. Where the stability of adjoining buildings, walls, or other structures is endangered by excavation operations, support systems such as shoring, bracing, or underpinning shall be provided to ensure the stability of such structures for the protection of employees.</p> <p>7. Excavation below the level of the base or footing of any foundation or retaining wall that could be reasonably expected to pose a hazard to employees shall not be permitted without approval of site in charge.</p> <p>8. Sidewalks, pavements, and appurtenant structure shall not be undermined unless a support system or another method of protection is provided to protect employees from the possible collapse of such structures.</p> <p>9. Six direction hazard must be identified and accordingly action to be taken to prevent incident.</p>			
		3. Hazards associated with water accumulation	I	<p>1. Employees shall not work in excavations in which there is accumulated water, or in excavations in which water is accumulating, unless adequate precautions have been taken to protect employees against the hazards posed by water accumulation.</p> <p>2. The precautions necessary to protect employees adequately vary with each situation, but could include special support or shield systems to protect from cave-ins, water removal to control the level of accumulating water, or use of a safety harness and lifeline.</p> <p>3. If water is controlled or prevented from accumulating by the use of water removal equipment, the water removal equipment and operations shall be monitored by a</p>	M		

				competent person to ensure proper operation.			
5.	Disposal of earth from pit	1. Physical injury/Neck Injury	I	1. All required PPE (safety shoes, goggles, helmet, and fluorescent jacket) should be used. 2. Head Load Not allowed.	M		
		2. Dust Hazards	I	4.5.1) Dust mask must be worn.	M		
		3. Injury due to slip, fall, Stumbled & Unsafe approach	S	1. If the excavated pit depth is more than 1 meter then proper safe approach, (Steel/Aluminum ladder with handrail) to be provided also ladder extended 1 m from the height of upper level. 2. Ramp with wooden button for better grip to be ensured also hand rail to be provided at both side if required.	M		

Prepared By:
JUSCO Line Engineer

Approved By:
Line Manager

Checked By:
Safety Officer

I have read and understood the safe working procedure and I commit to follow it while executing the job. I will ensure that all my workmen are trained on this SWP before starting the job.

Signature of the Contractor

Note

- 1: This Safe work procedure shall be prepared by owner department countersigned by contractor's representative and safety department.
- 2: All possible hazards including proximity hazards shall be identified. Site specific hazards in six directions shall also be identified and fixed.
3. With the change of working condition the procedure shall be amended & persons shall be trained accordingly.
4. Job will not be done unless everybody involved in the job have been trained on this SWP.
5. All applicable PPEs shall be used. Minimum PPE are Helmet, Safety Shoe, Safety Goggles and Reflective jacket.