

Terms & Condition for laying:

Mandatory requirements:

Route Approval and Horizontal gap from Electrical cables & Water Line: -

1. Route will be decided in such a way that at all points of time, there will be minimum gap of 1m to be maintained from electrical utilities at all point of time. In case where, 1 m clearance is not available due to space constraint/ presence of multiple cables by the side of Road, a joint meeting will be organised with, Ext. Agency and Tata Steel UISL (Road, Water and TE department) & Tata Steel and decision will be taken for new route (new route may include excavation thru road also)
2. In case route diversion is not possible (decision remains with Tata Steel UISL only), Engineering control to be implemented at trench for protection of existing utilities and new utilities by external agency and the same must be verified by Tata Steel UISL
3. Wherever, any Electrical Cable or Water Line connecting to Tata Steel Works, is found on the route, Utility Clearance will also be taken from Steel Works (Electrical T&D) separately.

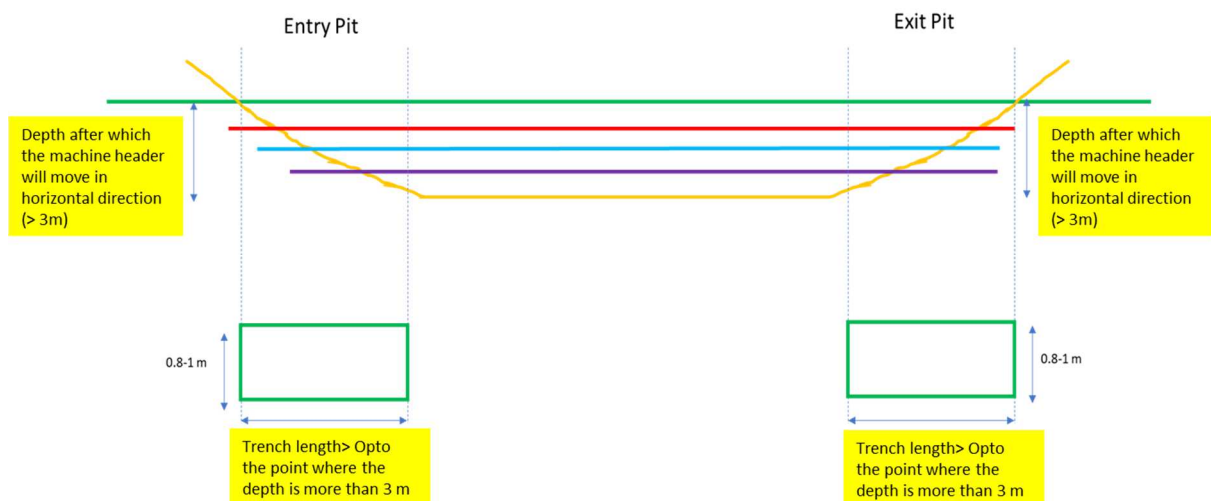
Prestart up activity:

1. GIS team of Tata Steel UISL will identify the position/path of electrical cables along the route at every 2 m distance. Ext. Agency will organize necessary resources for marking the entire route at 2 m distance (2 labours with lime and peg {bamboo peg of 2 ft with red flag})
2. Daily declaration of jobs (Work Plan for the day) to be given in common WhatsApp group mentioning following parameters:
 - a. Site location name
 - b. Type of excavation (Manual. /HDD)
 - c. Name of Ext. Agency's Safety Officer and Mobile Number.
 - d. Site Supervisor name and mobile number
 - e. Numbers of workers involved
 - f. GIS clearance number
 - g. Site Picture
3. Electric Cable Locator (ECL): Ext. Agency will arrange for the ECL for its excavation team and ensure that the trench route is re-tested by them again before allowing workmen to excavate. Ext. Agency will communicate/ show the presence of electric cable in the vicinity of the route and its hazard to all its workmen on everyday basis at site prior to start of trenching work.
4. Trenching/ Excavation should be done at least 500 mm from any electrical cable of water pipeline.
5. Site clearance to Ext. Agency's vendor should be issued only after (1) GIS Clearance for the route from system & (2) Physical Utility Clearance marking before starting of the work. **(Ext. Agency Site Clearance format is enclosed in Annexure-1)**

Excavation activity: -

1. **Relatively Slower Pace of Work near Electric Cable:** Ext. Agency will give declaration that they will take enhanced care by adopting relatively slower pace (say 30% of normal pace) of trenching work near power cable, in addition to checking the presence of Electric Cable by ECL to avoid accidental damage of electric cables.

2. Ext. Agency's Supervisors will not force labours working to work faster near electric Cables.
3. Ext. Agency's supervisor & Safety Officer must be present at site during the trenching work.
4. Trial trenching: - To be done for manual excavation
 - A. **Trial trench type 1:** - For excavation width within 1 m (laying of pipes, FO, cable etc.) manual trenching upto maximum depth of 1.5m perpendicular to the route to be done along the route at every 15 m distance.
 - B. **Trial trench type 2:** - For excavation width more than 1 m- Manual trial trench around all the side of the excavation area to be done upto depth of 1.5 m max.
5. After trial trench activity, again site visit to be done jointly by external agency and Tata Steel UISL. Based on the site condition found after trial trenching, Tata Steel UISL have the authority to change or divert or cancel the clearance.
6. If permission for HDD is given, then entry and exit pits to be done as shown in the picture and every such pits is to be inspected first by Tata Steel UISL representatives and then only boring job should start.



7. In case any utility gets damaged by Ext. Agency the same must be repaired up to the satisfaction and quality standard of Tata Steel UISL. The primary supervision responsibility for repairing the job will be on External agency only. For repairing of damaged utility, Tata Steel UISL may ask for deputation of quality vendor for some critical utility repairing job.
8. As Tata Steel UISL resources will be engaged in restoration, till such time the same is restored, all other work of trenching by Ext. Agency will remain suspended.

Post excavation Activity: -

1. As built site drawing of Ext. Agency pipelines should be submitted to Tata Steel UISL for updating the same in GIS system within 2 weeks of job completion for verification. If the drawing is not submitted, no further approval of GIS will be issued.
2. Ext. Agency will ensure that post laying of work, the area will be restored to original condition.

Maintenance by Ext. Agency in future: -

1. In future if any requirement of maintenance of existing pipelines be required, the same process starting from GIS clearance till site finishing to be followed.

2. Any utility cut/damage during maintenance will have to be repaired up to the satisfaction and quality standard of Tata Steel UISL.

Process for excavation by Tata Steel UISL in future: -

1. In future, during excavation / trenching work by Tata Steel UISL, if any utilities of Ext. Agency are accidentally damaged by Tata Steel or Tata Steel UISL, or its Contractor; Ext. Agency will not initiate any legal actions on Tata Steel or Tata Steel UISL or its Workmen or its contractor at any point of time.
2. For re-excavation in future in the area having gas pipelines, separate process will be made after joint discussion.

Note: No job should be carried out without declaration as per above.

Special requirements (Non-Mandatory):

Training on trenching/ excavation: -

1. Name of Ext. Agency Engineer, Supervisor, Safety person, Contractor Supervisor and Workmen will be shared with Tata Steel UISL and Ext. Agency will train them on Safe Trenching/ Excavation method & Precautions **(Work Instruction is enclosed in Annexure-2)**. Evidence of Training shall be provided to Tata Steel UISL. **Or** – External agency should give training on Safe Trenching/ Excavation method & Precautions to its workers and site supervisor and the record of the same should be maintained at every site. Copy of the same to be shared with Tata Steel UISL common group. (may be thru mail, WhatsApp etc.)
2. External agency must ensure that they will depute these trained work personnel only.
3. No workmen, Supervisor, Engineer should be deployed at site unless they are provided with the Training on Safe Excavation/ Trenching and the same is communicated to Tata Steel UISL.

Annexure: 1 Ext. Agency Site Clearance format

Annexure:2 Safe Trenching/ excavation method & Precautions

Annexure:1

M/S _____					
Add: _____					
SITE CLEARANCE OF UNDER GROUND UTILITIES					
Description of Job					
GIS Clearance from TSUISL	Number		Date		
Location:					
Start Date	End Date	Start Time	End Time	Pipe Laying Method	Length
				HDD / Manual	
Under Ground Utility Clearance by Tata Steel UISL					
Safety Precautions					
1	Cable to be detected by using CABLE Detector (ECL) before any excavation				
2	Marking by lime powder is necessary for open trench route.				
3	Trail trench to be done perpendicular to the identified cable route to find out the position of the cable inside the ground				
4	Proper barricading is necessary for trail pit / open trenches				
5	In case of HDD, minimum 3-meter depth is to be maintained				
6	Work to be carried out under direct supervision during excavation near underground utilities				
7	During trial trench or any excavation near identified cable rout, work to be done slowly i.e. 20 to 30 % of full pace of work.				
Under Ground Utility Clearance by Tata Steel UISL	Electrical Department		Water Department		TSL (If Required) *
	Name				
	Signature				
Undertaking AGENCY Representative	I understand & ensure to abide by the above precautions before & during excavation activity. Any deviation to above process, leading to any damaged to underground utilities & unwanted incident will be our sole responsibility.			Signature	
				Name	
Work Permit Clearance By AGENCY					
Name of Requester (Vendor working under AGENCY)			Name of issuer (AGENCY's Representative)		
Signature of Requester (Vendor working under AGENCY)			Signature of issuer (AGENCY's Representative)		
Suggestion, if any:					

Annexture-2

Work Instruction

Brief Description of Work :
Location of work :
Start Date :
End Date :

Sl. No.	Activity	Responsible Person
1.	Six direction hazards to be identified and measures to be taken to mitigate the hazards.	Executing agency
2.	Only trained & Skilled persons shall be deployed for the job.	Executing agency
3.	Before starting of the job daily safety talks (TBT) shall be conducted to describe the associated hazards & their control measures in the job.	Executing agency
4.	Person found under intoxicated condition (Alcohol and other hard drink) shall not be allowed at site for work.	Executing agency
5.	Loose cloth shall not be allowed.	Executing agency
6.	Adequate illumination (100 Lux) shall be provided during night work.	Executing agency
7.	First aid box, Fire extinguisher shall be kept readily available at site for any emergency.	Executing agency
8.	No job shall be executed in absence of supervisor.	Executing agency
9.	Excavated soil/ silt/ slurry/ material/ pipe etc. shall not be kept on road / public access.	Executing agency
10.	Proper back filling & compaction shall be ensured to avoid settlement/ stuck of soil throughout the trench.	Executing agency
11.	Before trench cutting/excavation utilities clearance/GIS shall be ensured.	Executing agency
12.	Identified route & clearance instruction shall be followed at workplace as mentioned during GIS clearance.	Executing agency
13.	Minimum 400 mm gap shall be maintained from existing underground utilities. In cases where, 400 mm clearance is not available due to space constraint/ presence of multiple cables by the side of the Road, a joint site meeting will be organised to decide the route.	Executing agency

	in case of extreme exception), the minimum distance between Gas pipeline and Electric Cable or Water Line or sewage line becomes less than 300mm, appropriate engineering protection will be provided	
14.	Without information diversion, change in depth is strictly prohibited. Identified route & clearance instruction shall be followed at workplace.	Executing agency
15.	Strict supervision shall be ensured.	Executing agency
16.	Protective/ hard barricade (height 1 meter from EGL & 1.5mtr from excavation edge) by using of sheet shall be ensured with red reflective tape and red light shall be provided around the excavated Pit for night vision.	Executing agency
17.	Caution board & flag man shall be deployed to control the traffic.	Executing agency
18.	All excavated earth shall be kept at 1.5 m away from the edge of excavated pit.	Executing agency
19.	Before start the excavation work, based on soil type & condition excavation plan shall be prepared & get approved from clearance dept.	Executing agency
20.	Trench box shoring shall be used if the depth is more than 2mtr.	Executing agency
21.	Proper access shall be provided to reach inside the excavation pit.	Executing agency
22.	Road site area must be barricaded with caution board during manual back filling work	Executing agency
23.	Before mechanized excavation, trial trench up to 1.5mtr shall be ensured to identify the UG utilities.	Executing agency
24.	Max. 1.2 mtr depth mechanized open excavation shall be done against 1.5mtr depth trial trench. If depth is more than 1.5 mtr. then again trial trench and repeat the above-mentioned procedure.	Executing agency
25.	Skilled, experience, medically fit poses with eye test certificate operator shall operate the excavator.	Executing agency
26.	Distance (min.3m. up to 50Kv) should be maintained from overhead live conductor and distance shall be increased based on increase of voltage.	Executing agency
27.	Proper attention shall be taken during mechanized excavation.	Executing agency
28.	Shoring shall be done depending on the soil condition and depth of excavation. In case of loose soil, mica type soil (Type-C soil) trench box shoring shall be used wherever applicable.	Executing agency
29.	Movement of heavy vehicle beside or nearby excavated pit shall be restricted if required.	Executing agency
30.	Nobody shall be allowed to stand near the swing area of excavator and area shall be barricaded with caution board.	Executing agency

31.	Flagman shall be deployed to maintain the coordination with operator while excavation.	Executing agency
32.	During HDD, sensor shall be used through the demarcated route.	Executing agency
33.	For HDD depth shall be maintained minimum 3mtr. or as mentioned in clearance record.	Executing agency
34.	Working area (excavation or boring) shall be hard barricaded with caution board. The barricaded area should have light emitting florescent tape all along the barricading. A signboard also to be fixed at site written with executing agency's name and mobile nos. (at least two supervisor's names). Start and End date of execution should also mention on it.	Executing agency