RWE

RISK ASSESSMENT AND METHOD STATEMENT FOR EXCAVATION AND INSTALLATION OF TRENCHES AND CABLES

Site Manger	TBC	Project Manager	Kamil Giza
Site Supervisor	TBC	Project Manager 2	Rebecca Clingan
Location of work		Wick Solar Farm	
JOB DESCRIPTION			
A contractor will be carrying out the trenching and ducting works for the MV, LV & DC cable routes at Wick Solar Farm. Included in the works will be: - Cable trenching and backfilling. - Supply and laying of all duct works. - Cable pull of the entire route. Works must be carried out in accordance with the following publications – • HS(G) 47 – Avoiding Danger from Underground Services. • CIS 08 'Safety in Excavations'. • NRSWA Street works (If Applicable)			
Start date	TBC	End date	TBC
Duration	26 weeks	Working hours	As per the planning Decision Notice. (M-F 8-6pm, Saturday 8 – 1pm).
Access			
Vehicle access for the site is off the public highway and into the works area.			
Welfare			
Welfare facilities will be provided by the Principal Contractor at the main site compound.			

Assembly Points			
The main assembly point will be at the main site compound and as directed by the Principal Contractor during the site induction.			
No of employees	~15	Emergency Contact	Kamil Giza 07426 446 587
Equipment to be used		Safety Precautions Required	
Cable Trenching: - 14tn Excavators - 8tn Excavators - 5tn Excavator (All above with toothless buckets) - 4 x 6tn swivel dumpers - 2 x compactor plates for 8tn Exc - 1000ltr fuel bowser (Spill kit incl.) - 4x4 120bph Tractor - 28ft twin axle flat bed trailer Cable pulling: - 5tn Grundowinch - Capstan winch - Twin/Single axle Cable trailers - Van & hand tools Hand tools include: - Submersible pumps - Generators - Insulated hand tools - Cobra reels		• All machines must be checked daily and logged daily check sheets • Operation permitted only by trained personnel with relevant licence – copies of licences to be held by operatives and made available to Principal Contractor during induction. • All relevant valid certification to be in possession of and held on S site file where relevant. • If plant is supplied by a hire company copies of certification will be supplied on delivery and should be kept in the site file.	

- Rope / draw chord - Cable pulling equipment e.g. Rollers / Socks / Lubricant - CAT 4+ and generator - Rubber mallets - Trench measurement depth sticks - Spray paint - Cable ties - PVC tape	

PPE	
TYPE	To protect against
Steel Toe Cap Boots / Wellington boots	Damage to feet
Hi-Viz vests/t Shirts	To alert movements to other site users
Long trousers	Protection lo lower limbs
Safety Glasses	Damage to eyes
Helmet w/chin strap	Damage to head
Gloves	Hands from cuts, abrasions and chemicals

COSS			
Substrate	Where it will be found	Risk	Controls
Diesel / grease	Plant and machinery	Irritation	Gloves and glasses to be worn

Technical Content
1. Mobilise to site, undertake any necessary site inductions. 2. Works to be carried out as per Client's specification.

3. On arrival to site all staff will familiarise themselves with the site layout and emergency plan and will report for a site induction.

4. Point of work Risk assessment (POWRA) is to be carried out and communicated to the whole team and signed.

5. A permit to dig will be obtained before any excavation works commence. All works areas will be surveyed, and cat scanned for services before any ground is broken.

6. The working area will be CAT scanned by operatives and any services found will be marked using spray paint.

7. A "start of shift" briefing will be given by the site manager to all staff, clients and contractors on site each day so that all parties are aware of the particular works being undertaken on that day. An opportunity for discussion and feedback will be provided. Any safety issues will be reported back to the necessary parties.

8. All machinery will have pre-start defect sheets filled out to ensure they are all in working order.

9. All vehicle defect sheets/pre start check sheets will be filled in weekly and handed to the relevant person on site.

10. A spill kit will be located in the van.

11. Deliveries should follow the access points as detailed in documentation provided and the Principal Contractor must be advised of the delivery schedule prior to vehicles arriving. Ensure that a banksman is present to receive and offload the deliveries.

12. Before work commencing all employees will have read and be familiarised with the RAMS provided for the job.

13. Regular discussion will be held when required to ensure all work carried out is communicated openly. Close communication will take place between contractors, working on / near our area of work.

14. WHERE UNDERGROUND SERVICES ARE PRESENT. UNDERTAKE EXCAVATION IN ACCORDANCE WITH HSG47, PILOT HOLES TO IDENTIFY THE SERVICE. REFER TO CURRENT DRAWINGS AND PROCEED WITH CAUTION AT ALL TIMES.

15. IF WORKS ARE UNDERTAKEN NEXT TO A LIVE HIGHWAY AND FOOTPATH, ENSURE ADEQUATE SEGREGATION FROM PUBLIC AND PASSERS BY IS IN PLACE. TRAFFIC

MANAGEMENT, BARRIERS & SIGNS ARE TO BE ERECTED PRIOR TO COMMENCEMENT OF WORKS (ALL OF THIS NECCESSARY IF NEEDED).

16. ENSURE GS6 GUARDIAN GOALPOSTS ARE ERECT IN AREAS OF OVERHEAD POWER LINES IF REQUIRED.

17. An engineer will have marked out the exact required cable route so that teams know exactly the route they are to follow.

18. The excavation work will commence and will be continuously monitored by the team to ensure that the trench remains stable. If there appears to be any form of instability or collapse of the trench, then the Site Supervisor will inspect and report back to the client. The trench will be adequately supported where necessary.

19. The trench will be dewatered routinely if needed due to weather conditions or ingress from groundwater. This will be monitored continuously throughout the project.

20. All excavated material will be placed to one side of the excavation in separate piles as work progresses, and any surplus material will be transported to a temporary stockpile agreed in advance.

Excavation of trench scope of work

1. On arrival to site, report to the principal contractor, receive a site induction and read and sign the appropriate method statements and pertinent permits (Permit to dig, Maps, Drawings ETC).

2. Following arrival on site, area of works is to be walked and marked out.

3. Service plans will be provided from the client prior to commencement. If there are overhead lines that we are aware of, sufficient protection will need to be put in place.

4. RWE contractor will have a 14tn excavators that will excavate down to the required depth and width of the trenches being excavated. All drawings will be referenced below in the RAMS.

5. All operatives will carry to correct tickets/documentation required to operate the machines that they are assigned to.

6. These operatives are then in charge of ensuring their machines are in good working order, clean and fit to do the job they are there for.
7. All dumper drivers will also hold correct certification and work with others on site to ensure the process goes smoothly and we do not receive any delays whilst working.
8. Contractors will also have a tractor and trailer present on site to taxi around ducting from job to job. The tractor operative will also hold the correct documentation and again, work in accordance with others on site.
9. The length of excavation required will have been clearly marked out so that contractor operatives know exactly where they are going.
10. The trench will be continually monitored by a skilled banksman throughout the excavation process to ensure the correct depth and width is being obtained.
11. Following along behind the excavator digging out there will be a gang of men laying the ducts and backfilling the trench.
12. Ducting will vary in size and spacing depending on the trench specification (All referenced to in drawings) contractor labourers will lay all ducting in accordance with the correct trenching drawing provided.
13. The backfilling excavator will place a bedding of selected sand into the foot of the trench, before skilled labourers then lay the ducting before the excavator will then surround the ducting with the backfill of choice which is washed sand and tapetile/warning tape placed on top of the sand fill which will have been approved.
14. Selected backfill will then be laid carefully over the sand and compacted neatly in a bund and allowed to settle.
15. IF THERE ARE UNDERGROUND SERVICES PRESENT IN THE WHOLE OF THE WORKS AREA, UNDERTAKE HAND DIGGING IN ACCORDANCE WITH HSG47. REFER TO AVAILABLE DRAWINGS AND PROCEED WITH CAUTION AT ALL TIMES.
16. The trench will be dewatered routinely if needed due to weather conditions or ingress from groundwater. This will be monitored continuously throughout the project.
17. All permits to be signed off and cancelled.
18. All plant equipment will then be removed from the area and placed in a safe location until required or removed from site. Secure all equipment by removing the ignition keys and isolated where possible.

19. All waste material produced from the required works is to be removed from site.
20. Make good all areas.

Cable pulling the Entire Route

1. Cable will be collected using a 4x4 and cable trailer from the main site compound and taken to the location of works ready for pulling. Before detaching the trailer from the towing vehicle ensure the handbrake is on and wheels are chocked. At the other end of the pull the cable winch will be towed into position.
2. All employees have cable pulling qualifications and are all trained in using the winches that will be on site, all of these tickets will be provided prior to cable pulling works commencing.
3. Cable will be pulled to the required DNO specifications. A copy of the cable specification including maximum pulling tension is to be provided by the Smith Brothers site manager prior to commencing the cable pull.
4. The duct will firstly be cleaned using a foam pig which will be pulled from one end to the other before attaching the cable to the winch line using a stocking. Rollers will be used to guide the cable in to and out of the ducts and cable lubricant will be applied by brush as required.
5. Winching operations will be controlled by the cable pulling supervisor and communicated to the site team by two-way radios. The cable will be pulled at the correct speed and tension as per the cable specification.
6. Any cable tails are to be coiled and left in a safe / stable position. Shrink fit caps must be fitted to all cut ends by the cable jointing team working behind.
7. On completion of the work, equipment will be removed from the area. The site manager or supervisor will carry out a final visual inspection of the site to ensure RWE is satisfied that any health and safety issues are addressed.
8. The Site Project manager will closely liaise with RWE representative and other stakeholders and at the end of the works to ensure all parties are satisfied with the completed works.
9. When all works have been completed any live permits will be closed out before leaving site.

Sequence of Work

1. Contractor to identify area of work.
2. Contractor to Cat Scan area using cable avoidance tool.
3. Contractor will carry out required works.
4. Contractor to sign off all permits on completion of project.

IF IT'S NOT SAFE DON'T DO IT

Environmental Risk Assessment

Hazard	Risk	Mechanism of release	Controls
Diesel	Ground Contamination	Transportation across site, refuelling	Drip Tray / Spill Kit to be used
Petrol	Ground Contamination	Transportation across site, refuelling	Drip Tray / Spill Kit to be used
Hydraulic Fluids	Ground Contamination	Transportation across site, maintenance activities	Drip Tray / Spill Kit to be used
Dust	Air pollution	Transportation across site, trenching works	Use common sense if dust is an issue and operate at lower speeds
Light	N/A	N/A	N/A

Reptiles	Endangered species become harmed	Entering site due to a break in the newt fence	Ensure new fence is well looked after and any damage or breakages fixed immediately and reported to site manager.
Chemicals	N/A	N/A	N/A
Hot Tarmac (When Required)	Ground Contamination	Fumes	Correct PPE
Effluent	N/A	N/A	N/A
Pedestrian Roller	Dust / Vibration	Dust	Monitoring
Noise	Air pollution	Heavy Plant Operation	Engine silencers to be in good working order

RWE Aktiengesellschaft
RWE Platz 1
45141 Essen, Germany
Germany
www.rwe.com