Construction Environmental Management Plan (CEMP)

Wonder Bank Solar Farm, Brymbo Road, Brymbo, Wrexham

Planning Conditions Reference P/2024/1578 and P/2026/0212

Condition 4

The management of the Wonderbank has been in accordance with the recommendations made in section 10.5 of the Smith grant report On-going management of the Module.

- The site management have ensured that the site drainage around the cap has been monitored on a regular basis to ensure that it runs free and there is no blockage that might lead to the pooling of water.
- The surface has been inspected.
- The ecology is being managed see Condition 7 and under this guidance the vegetation growth is being managed at suitable times and in accordance with best practice.

From these it can be seen that the principle of no dig and no impedance to the water flow has been carefully built in

The panels are all ballast (weighted down) to prevent them from moving and the wind calculations are included.

The Solar farm has be maintained on a regular basis and the surround vegetation control all part of the management regime going forward

Program of Works – Construction

1. **Pre Construction activities**
    a. Topological survey

    b. Ecological monitoring

    See other conditions

2. **Site set up**
    a. Delivery of Plant

All plant and equipment is of the low ground pressure bearing type and suitable for use on the well consolidated and compacted surface of the site.

Plant is limited to

12 tonnes tracked excavator
Small dump truck
Telehandler with telescopic boom

The existing road / track from Brymbo road is already hard surfaced to the boundary of the capped area. Any areas that appear soft of make rut are protected with suitable mats to ensure that the surface disturbance is minimised



Photo showing typical protection matting in place

b. delivery of welfare units / storage unit

These are to be delivered to the adjacent Duck pond site the former materials handling yard of the steel works that was restored in 2005 and is made up of hardstanding and storage area. This will assist in minimise movements on and off the cap.

c. Delivery of waste skip

Ditto to b. above

3. **Mechanical works**
    a. Ground preparation

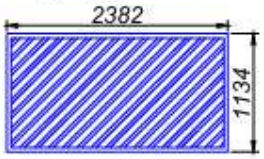
The vegetation to be reduced and cut back to ground level (see other conditions) under the supervision of the Ecology team.

Any areas that are soft or “deemed to be avoided due the nature protection” are marked and NOT entered.

Any areas that appear they may rut are protected with suitable mats to ensure that the surface disturbance is minimised.

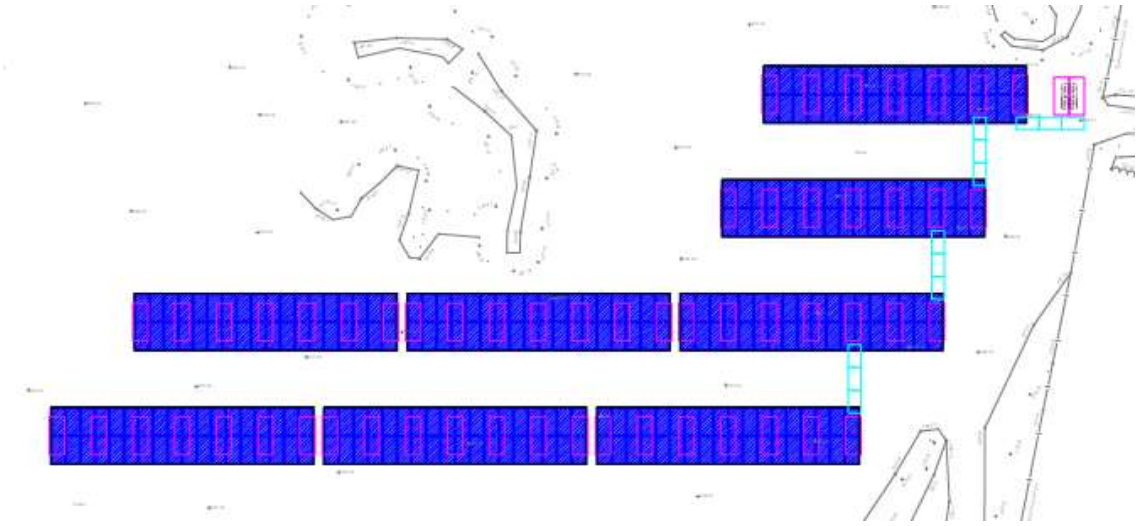
b. Installation of Ballast blocks

PV Panel Manufacturer:	*Trina*
PV Panel Model:	*TSM-NEG19RC.20*
Power Class:	*625Wp*
Width (mm)	*1134*
Length (mm)	*2382*
Thickness (mm)	*30*
Weight (kg)	*33.7*



The ballast block runs are carefully set out for alignment and level. The most suitable level for any run of blocks is carefully chosen ti ensure that there is NO DIG required. Grit Sand is then carefully levelled over the footprint of each of the concrete blocks. This is minimal in thickness but ensure that each bock is level and firm and can not rock on the existing surface. The use of the inert sand is minimised. The layout of the blocks runs the long length north south, and this is the true dip of the surface ensuring that there will be no pooling of water of the clay cap. Panels are also carefully poisoned to carry cabling between the separate arrays (Light blue)

These are lifted into place with the Tracked excavator and are very accurately placed.



c. Installation of Mounting frame

The Mounting frame is bolted to the top of each concrete panel. Uprights are added along with the diagonal at the optimum angle to catch the solar array. The mounting frame on each panel is then joined to with frame running east west. These carry the panels and all of the electrical wiring and control gear. With the exception of the ballast blocks all components can easily be lifted and fitted by two men minimising the use of mechanical plant on site.

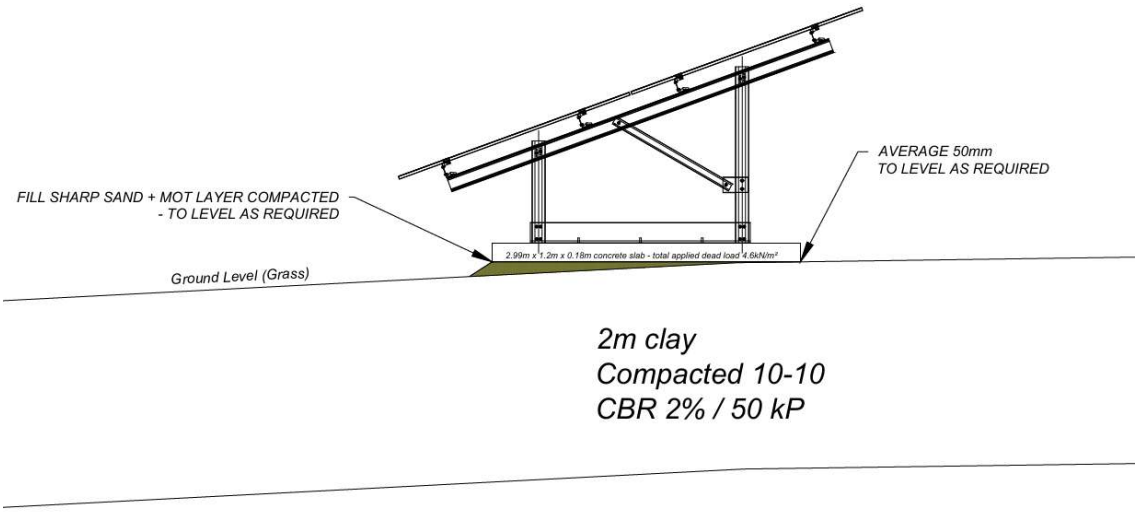


Photo showing Typical support structure for no dig Solar installations



d. Installation of Panels

These are bolted to the supporting frames

e. Stringing of DC cabling and all control gear

All electrical wiring is clipped to the supporting structure

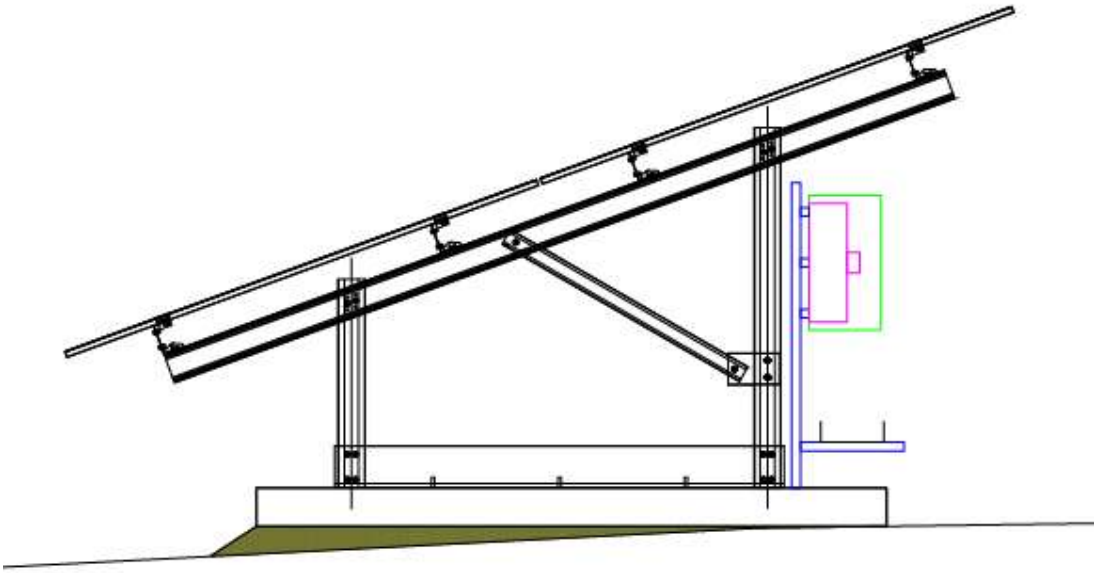


Photo showing typical installation of additional slabs carrying cabling between arrays

A similar arrangement of concrete panels is to be used to carry the main supply cable off the protective cap to the edge of the wonder bank to where the the top of main access ramp (constructed during the reclamation of the site and provided access to construction of the cap). From this point the supply cable was trenched to a minimum depth of 700mm. It was and protected with sharp sand cover and plastic tape and backfilled this will run 500m to the Heritage buildings where the solar power will be used .

f. Battery / invertors installation

These are installed on concrete additional plinths that float above the existing cap material



ROW 1

4. Commissioning testing

a. Site Tidy

All delivery wrappings construction materials not used and any other rubbish is to be removed from the site and cleared away.

Where the perimeter ditch is cross at the entrance this is to be checked that it is free flowing and functioning properly.

All access mats to be removed and any ruts to be shown the back of a suitable ditching bucket and smoothed out

Welfare units and all plant and equipment will be removed

b. Commissioning

This will then take place along with the full maintence schedule and site managements as detailed in the ecology reports