CONSTRUCTION MANAGEMENT PLAN

In support of a planning application for the installation of Standalone Solar PV modules and Associated Infrastructure on land at Heywood Grange, Dilhorne, Staffs. ST10 2PL

February 2014

Prepared By

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On Behalf of

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Project Quality Control Sheet

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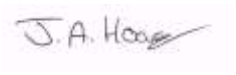
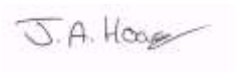
Signature			
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Contents

1 General 1
2 Public Engagement 1
3 Construction Programme 1
4 Working Times 1
5 Construction Traffic – Route to Site 1
6 Site Access 3
7 Site Compound During Construction 3
8 Deliveries 3
8.1 Anticipated Vehicle Movements 4
8.2 Traffic Summary 4
9 Lighting for Construction and Security 4
10 Storage of Oils, Fuels and Pollution Prevention 4
10.1 Oil and Fuel 4
10.2 Other Hazardous Material 4
10.3 Dust and Dirt 4
11 Construction Method for Framework 5
12 Construction Programme 5
13 Construction Signage 5
14 Site Entrance Photos 6

1 General

This Construction and Traffic Management Plan is submitted in connection with the development and installation of 8.39MWp of Solar PV modules for the generation of electricity on land at Heywood Grange, Tickhill Lane. The development includes installation of Solar PV modules on arrays, with associated electrical buildings and cables.

2 Public Engagement

The Parish Council and local highways department will be notified prior to commencement on site and provided with a copy of the Construction and Traffic Management Plan. During construction the contact details for an on-site representative will be made available.

3 Construction Programme

Construction is anticipated to commence following receipt of planning consent and discharge of any pre-commencement conditions and the construction of the development will take approximately 10-12 weeks.

An overview of the project construction programme is set out in section 12 of this report.

4 Working Times

Construction of the development will be undertaken 7 days a week.

No activities audible from the boundary of the nearest noise sensitive receptor shall take place on Sundays during the construction period or at times outside 07:00 and 19:00.

No vehicular deliveries including all Heavy Goods Vehicle (HGV) movements shall arrive, be received or despatched from the site outside the hours of 07:00 to 19:30 (or dusk if earlier) Monday to Friday and 07:00 to 17:30 on Saturdays.

5 Construction Traffic – Route to Site

The planned route for all deliveries and construction workers is from the A52 as shown on the Route Delivery Plan in figure 1 overleaf.

It is planned that major deliveries of materials will come from both the east and west along the A52 to the north of the site, exiting onto Tickhill Lane to reach Heywood Grange from the north.

Access to the site will be via the main entrance to Heywood Grange, where the farm buildings will be used for dropping off and storing deliveries. From the farm, vehicles will follow the existing agricultural track to cross Tickhill Lane to the south and enter the site via the trackway adjacent to Oak Tree Farm.

Smaller vehicles, such as construction staff transport vehicles, may use the local road network through Stoke-on-Trent and surrounding settlements, depending on their origin.

Signage will be erected along the identified route and at key junctions during the construction period alerting users of construction traffic and ensuring deliveries remain on the agreed route.

Figure 1 – Proposed delivery route for construction period

6 Site Access

The development proposes using two main access points from the Highway:

- The existing entrance to Heywood Grange; and
- An existing field access track, which requires vehicles to cross Tickhill Lane to the south of the main farm complex

Both points on the highway are considered suitable benefitting from adequate existing visibility for the direction of travel and sizes of vehicles required.

Access tracks will be created running down the western edge of each field to provide access for construction and maintenance during operation. The necessity for temporary access tracks to extend the existing access any further into the site during construction will be decided based on the ground conditions at the time of installation.

All long term access tracks will be surfaced using locally sourced hard-core.

7 Site Compound During Construction

A temporary site compound will be created in the northern extent of the proposed development area.

The following temporary buildings and provisions will be in place within the compound during the construction period:

- *Site Office - 4 containers 6/2.4/2.4m*
- *Toilets - 1 container 6/2.4/2.4m*
- *Parking area for workers*
- *Storage containers - up to 4 containers 6/2.4/2.4m*
- *Delivery and unloading area*
- *Open Storage area for plant and equipment*

Additional Information:

- *Security Fence - Heras Fence at the entrance, in front of office and welfare containers as well as around car park.*
- *Trees & Hedgerows - Existing mature trees and hedgerow boundaries will be suitably protected in line with best practice and British Standard BS5837 'Trees in relation to design, demolition and construction (2005)'.*

All the above will be removed on completion of the construction works.

8 Deliveries

The main deliveries, utilising larger vehicles, of equipment to site will be spread over the construction period.

- No deliveries before 07:00 or after 19:30 on any day
- No deliveries on Sunday.

Whilst there is a considerable length of hardcore access track from the entrance to the site to Tickhill Lane, if there are any periods of wet weather during the construction period, a temporary wheel wash will be located on site for all vehicles exiting the site onto the public highway to avoid depositing mud onto the road. Similarly, in excessively dry periods the lane immediately either side of the access could be swept if there is excessive dust.

8.1 Anticipated Vehicle Movements

Solar Panels are delivered in palletised form on 40 tonne articulated goods vehicles. Each lorry will carry approximately 630 panels. This equates to 51 deliveries of modules to the site. Switchgear and transformers are also delivered on HGVs; there will be approximately 10 deliveries. Another 30 HGVs will be used to transport mounting systems and electrical equipment to the site. There will be 4 HGV deliveries of inverters.

Therefore construction traffic for this scheme is calculated as follows:

- Number of panels = 32,270
- Number of trailer visits to deliver panels = 51
- Total 40 tonne semi-trailers = 95
- Employee vans during construction = 10 per day.

During the initial phase of the construction period there will approximately 6-8 six wheel lorry loads of hard core for trackways and foundation bases for electrical buildings. During the second week there will be 2 or 3 deliveries of site offices and site facilities temporary buildings.

8.2 Traffic Summary

The peak construction rate of the project would be 15-20 traffic movements a week for the delivery of modules, mounting systems and electrical balance of plant. These deliveries would take place over a period of around 6-8 weeks of the installation and construction phase of the project (see construction programme below).

Given the scale of construction activity proposed it is considered that the local road network will be readily able to accommodate the small number of additional vehicles during the construction of the solar array.

9 Lighting for Construction and Security

External lighting will be used during the construction period only between the hours of 07:00 and 19:00 if required.

10 Storage of Oils, Fuels and Pollution Prevention

10.1 Oil and Fuel

All oil and fuel will be stored in 1m³ fuel containers in accordance with specific UK Regulations e.g. The Control of Pollution (Oil Storage) (England) Regulations 2001 (OSR England).

10.2 Other Hazardous Material

No other hazardous material will be stored on site.

10.3 Dust and Dirt

The ground works contractor will be responsible for maintaining the existing highway free from any soil spillage and causing mud on the road during the wet period. The contractors will be instructed to

ensure and take all necessary steps to control mud or dust from all their operations associated with this project.

11 Construction Method for Framework

The poles for mounting the PV modules and substructure will be assembled first. This involves driving of galvanised steel posts into the ground and subsequent assembly of the substructure.

The PV modules are mounted on a steel substructure and fixed through their frame to the steel rails. Modules are designed as shatter proof and will be lifted into position to be mounted in a landscape orientation with four modules arranged above each other in rows. A total of 32,270 modules will be mounted.

During construction a number of ground work installation teams will work on the site to establish the posts in the ground using tracked pile driving vehicles, each team expecting to erect 300 posts a day. Other teams will then assemble the substructure and fix the PV panels onto the structure.

The substructure will be assembled using battery operated power tools and hand tools. The noise created by the pile driving will not exceed 80 decibels. Vibration is only very local and will not exceed an area of 5m².

12 Construction Programme

The proposed construction timeline is set out below and the construction of the site is anticipated to take approximately 8-10 weeks. This may vary dependent on weather and other constraints unknown at this stage. Construction of the development will be undertaken 7 days a week. No activities audible from the boundary of the nearest noise sensitive receptor shall take place on Sundays during the construction period or at times outside 07:00 and 19:30. No vehicular deliveries including all HGV movements shall arrive, be received or despatched from the site outside the hours of 07:00 to 19:30 (or dusk if earlier) Monday to Friday and 07:00 to 17:30 on Saturdays.

Stage 1	Formation of temporary access track, cable trenches	Weeks 1-3
Stage 2	Installation of ground piles	Weeks 3-5
Stage 3	Erection of mounting framework, fixing panels and routing of cables	Weeks 6-8
Stage 4	Commissioning	Week 8
Stage 5	Reinstatement of temporary tracks, hard standing and open storage areas	Weeks 8-9
Stage 6	Operation	Week 10

13 Construction Signage

The following construction traffic signage will be erected and retained throughout the construction and installation phases of the project.

Direction signs for construction traffic:

- Rigid plastic 1000mm across

- Attached to posts of existing directions signs
- To be attached to existing directions signs at junctions with the purpose of directing traffic to the site along the agreed delivery route. The proposed size and format is intended to be clearly visible and understandable to drivers heading to the site.

Red Warning Signs – Caution Lorries Turning:

- Rigid plastic 600mm x 450mm
- Attached to a metal frame or equivalent
- To be placed along Tickhill Lane at an appropriate distance in either direction from the junctions at Heywood Grange and opposite the main site entrance to warn road users of HGVs liable to be turning into or emerging from the site.

Red Warning Signs – Caution Construction Traffic:

- Rigid plastic 600mm x 450mm
- Attached to a metal frame or equivalent
- To be placed along Tickhill Lane at an appropriate distance in either direction from the junctions at Heywood Grange and opposite the main site entrance with the purpose of warning road users of construction traffic entering or emerging from the site access.

14 Site Entrance Photos

Main Entrance to Heywood Grange on Tickhill Lane

Entrance to development site on Tickhill Lane (vehicles will enter and exit from the trackway on the opposite side of the lane)

Existing track leading to site