



Little Crow

Solar Park

Little Crow Solar Park, Scunthorpe

APPENDIX 4.1

OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

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OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

LAND TO THE EAST OF THE STEELWORKS, SCUNTHORPE

ON BEHALF OF INRG SOLAR (LITTLE CROW) LTD

Pegasus Group

First Floor | South Wing | Equinox North | Great Park Road | Almondsbury | Bristol | BS32 4QL
T 01454 625945 | **F** 01454 618074 | **W** www.pegasusgroup.co.uk

Birmingham | Bracknell | Bristol | Cambridge | Cirencester | Dublin | East Midlands | Leeds | Liverpool | London | Manchester | Newcastle | Peterborough

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1. INTRODUCTION

- 1.1 This Outline Construction Environmental Management Plan (CEMP) sets out the construction principles to be applied during the build out of the Little Crow Solar Park, Scunthorpe.
- 1.2 This document sits alongside the Outline Construction and Ecological Management Plan for Biodiversity prepared by Clarkson and Woods Ecological Consultants and the Outline Soil Management Plan prepared by Daniel Baird Soil Consultancy Ltd. The purpose of this document is to demonstrate the measures that could be used during the build out phase to adequately protect the environmental resources including potential impact upon human receptors.

2. Purpose of Document

- 2.1 This Outline CEMP details the appropriate pollution protection techniques that will be adopted by the appointed contractor team. Post-consent, the Outline CEMP will require updating in accordance with the proposed phasing of development.

3. Description of Works

- 3.1 The project consists of the construction of a ground mounted solar park with a design capacity over 50MWp (megawatts peak) together with a single main substation, battery energy storage system, landscaping, ecological measures, access, car parking, temporary construction compound and associated development.
- 3.2 The proposal comprises seven land use zones or works zones, these are: -
- Work No. 1: Arrays of Ground Mounted Solar Panels
 - Work No. 2A: Battery Energy Storage System
 - Work No. 2B: Battery Energy Storage System (alternative location)
 - Work No. 3: Formation of Ecological Corridors
 - Work No. 4: Substation Building and Compound
 - Work No. 5: Upgrade to Main Access Track
 - Work No. 6: Perimeter Development Buffer

- Work No. 7: Temporary Construction and Decommissioning Compound

- 3.3 These work zones are presented on the Works Plan (Document Ref 2.8 LC DRW).
- 3.4 An operational lifespan of 35 years would be sought linked to the first export date from the development. The development will progress in accordance with a phasing plan. A single substation compound will serve the whole development, and this will be required for the duration of the development and retained thereafter. The substation compound would be located near the northern boundary of the application site and to the east of the existing double row of 132kV overhead electricity pylons which traverse the site.
- 3.5 The development may not commence until a Phasing Plan setting out the proposed phases of construction of the development has been submitted to and approved by the relevant planning authority.
- 3.6 Prior to commencement of any phase of development a Construction Environmental Management Plan and Construction Traffic Management Plan for that phase of development would be submitted to and approved by the relevant planning authority.
- 3.7 During the construction phase one main construction compound will serve the development and this will be located off the main site entrance, thus reducing the distance delivery vehicles will need to travel after reaching the site's entrance.
- 3.8 The temporary construction compound would comprise: -
- Temporary portacabins providing office and welfare facilities for construction operatives
 - Parking area for construction and workers vehicles
 - Secure compound for storage
 - Temporary hardstanding
 - Wheel washing facilities
 - Temporary gated compound
 - Storage bins and skips for the segregation of waste arisings

- Passing bays would be provide between the compound and site access.

3.9 All construction vehicles will exit through the wheel wash area in order to reduce the spread of mud and dirt onto the local highway network. Temporary roadways may be utilised to access parts of the development site and this would be guided by weather conditions at time of construction. The objective would be to use temporary matting to avoid excessive soil disturbance or compaction. The temporary construction compound would be removed after the completion of works or each phase of works if development is constructed in phases.

4. Construction Principles

4.1 The site will be set up and managed with consideration to the principles laid out below:

- **Considerate:** All work is to be carried out with positive consideration to the needs of local businesses, neighbours, site personnel, visitors, and the public.
- **Environment:** Be aware of the environmental impact of the site and minimise the effects of dust, noise, light and air pollution. Attention will be paid to waste management to reuse and recycle materials where possible.
- **Cleanliness:** The site will be kept clean and in good order at all times. Site facilities, offices, toilets and drying rooms will be maintained to a good standard. Surplus materials and rubbish will not be allowed to accumulate on the site or spill over into the surroundings and dirt and dust from construction operations kept to a minimum.
- **Good Neighbour:** General information regarding the works will be provided for all neighbours affected by the work. Full and regular communication with neighbours, including adjacent residents, farmsteads and businesses, regarding programming and site activities to be maintained from prestart to completion.
- **Respectful:** Respectable and safe standards of dress to be maintained at all times. Pride in the management and appearance of the site and the surrounding environment shown at all times.

- **Safe:** Construction operations and site vehicle movements are to be carried out with care and consideration for the safety of site personnel, visitors, the public and the environment.
- **Responsible:** Ensure that everyone associated with the site understands implements and complies with this code.

4.2 The health, safety and environmental expectations are as follows:

- To have no accidents or dangerous occurrences on site
- To have no occupational ill health arising from the project
- To ensure no environmental damage occurs from the project
- To ensure the least disruption to the local community from the project, and
- To exclude as far as is reasonably practicable all unauthorised persons from the project

5. Site Establishment

5.1 During the mobilisation period of development, or each phase of development, a security cabin will be placed within the area designed for the temporary construction compound. If the development is constructed in phases then the temporary construction compound will be removed from site between each phase of development.

5.2 The construction compound is positioned at an appropriate distance into the site to prevent the likelihood of any construction traffic having to queue on the adjacent public highway during busy periods.

- A project notice board would be installed at the main entrance to the construction site.
- Site welfare facilities and offices will consist of linked "Portakabin" type units.
- The facilities will have hot and cold running water, with a clean drinking water supply. Washing facilities and showers will be provided for the

duration of the works, to include soap and towels or other suitable means of drying.

- All units will always be kept clean, tidy, and hygienic.
- First aid facilities will be provided together with a trained first aider during working hours.
- The temporary construction compound will be equipped with Fire Points and a wireless evacuation alarm system. Designated Fire Marshall and Fire Coordinator would be appointed as part of a Construction Phase Health and Safety Plan.

5.3 Construction works will be carried out Monday to Friday 07:00-18:00 and between 08:00 and 13:30 on Saturday, unless otherwise agreed by the relevant planning authority. The following works may occur outside these hours: -

- emergency works; and
- works which do not cause noise that is audible at the boundary of the Order limits.

5.4 Any emergency works carried out under sub-paragraph must be notified to the relevant planning authority within 72 hours of their commencement.

6. Dust and Emission Mitigation

6.1 It is considered that employment of construction best practice should ensure that no problematic dust or PM10 concentrations occur during the construction process.

6.2 IAQM guidance outlines a number of site specific mitigation measures based on the assessed site risk. The measures are grouped into those which are 'highly recommended' (i.e. should be employed) and those which are 'desirable' (i.e. should be considered under best practice).

6.3 As the site is classed as low risk the following mitigation measures are highly recommended:

6.4 With respect to communications:

- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
- Display the head or regional office contact information.

6.5 With respect to site management:

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.

6.6 With respect to monitoring:

- Carry out regular site inspections to monitor compliance with the CEMP, record inspection results, and make an inspection log available to the local authority when asked.
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

6.7 With respect to preparing and maintaining the site:

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- With respect to operating vehicle/machinery and sustainable travel:
- Ensure all vehicles switch off engines when stationary - no idling vehicles.

- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.

6.8 With respect to operations:

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and conveyors and covered skips.
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.

6.9 With respect to waste management:

- Avoid bonfires and burning of waste materials.
- Additionally as the site is classed as low risk the following mitigation measures are desirable:

6.10 With respect to communications:

- Develop and implement measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. In London additional measures may be required to ensure compliance with the Mayor of London's guidance. The measures may include monitoring of dust deposition, dust flux, real time PM10 continuous monitoring and/or visual inspections.

6.11 With respect to monitoring:

- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100m of site boundary, with cleaning to be provided if necessary.

6.12 With respect to preparing and maintaining the site:

- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
- Cover, seed or fence stockpiles to prevent wind whipping.
- With respect to operating vehicle/machinery and sustainable travel:
- Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).

6.13 With respect to operations:

- Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
- As the site is classed as low risk for earthworks no mitigation measures are required with respect to earthworks.
- As the site is classed as low risk for trackout the following mitigation measures are desirable:

- All site access roads are to be assessed daily in terms of transient dust, with roads to be dampened down where required.
- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Record all inspections of haul routes and any subsequent action in a site log book.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).

7. Local Community Responsibility

- 7.1 The Site Manager will manage and co-ordinate on-site environmental activities and act as a point of contact for local residents. Liaison between the Construction Contractor and local residents will seek to ensure that any concerns are resolved quickly.
- 7.2 The Site Manager will be responsible for briefing the Construction Environmental Management Plan to construction staff; fulfilling environmental obligations on site; attending to any on-site environmental incidents or concerns; reporting and monitoring any environmental incidents; and ensuring waste management procedures are followed.

8. Control of Lighting

- 8.1 Depending on the time of year, some artificial lighting maybe required to facilitate safe working environment during the working hours as set out in Section 5.3. Any artificial lighting would be limited to the winter to reflect the shorter daylight hours.
- 8.2 Any lighting will be deployed in accordance with the following recommendations:-
- Use of lighting will be minimised to that required to achieve safe site operations;

- Use of any portable lighting will utilise downward directional fittings to minimise outward light glare. Construction vehicles will use dipped headlights.

9. The Management and Movement of Concrete

9.1 Ready-mix concrete will be used for the substation and transformer foundations and as such concrete will not be batched on site. If the truck cannot discharge directly into the works then transport to move the concrete from the delivery truck to the works must be provided. On completion of discharge and before the truck returns to public highway the discharge chute will be cleaned. The contractor will provide suitable facilities, such as lined skip, within the construction compound. The ready-mix concrete delivery lorries will then return to the batching plant for washout. Excess concrete will be sent back to the batching plant. To prevent pollution, it is important that all concrete pours are planned in advance and that specific procedures are adopted where there may be a risk of surface water or groundwater contamination.

10. Hydrocarbon Contamination

10.1 Machinery, plant and vehicles have the potential to cause pollution via hydrocarbon contamination. All vehicles and plant used for construction must be maintained to good working order to ensure that there is minimal risk for potential fuel or oil leaks within the site. Refuelling of any plant and site-based vehicles will be carried out by a suitable qualified person to ensure that potential pollution incidents are prevented, and a quick response plan is implemented should a spill occur. Fuel delivery and refuelling will take place in the construction compound(s).

11. Soil Management Plan

11.1 Key threats to the soil resource at construction sites are trafficking of vehicles/plant and incorrect handling, which can cause damage to soil structure through compaction and smearing. These effects compromise the ability of the soil to perform its functions, such as providing adequate amounts of water, air and nutrients to plant roots. The risk of compaction and smearing increases with soil wetness. To minimise the risk of damage to soil structure, the generic guidance for construction sites is as follows:

- no trafficking of vehicles/plant over in situ or banded soils to occur outside demarcated working areas;

- no trafficking of vehicles/plant on reinstated soil (topsoil or subsoil);
- Where practicable soil handling when soil moisture content is above the plastic limit (the moisture content at which soil begins to behave as a plastic material and the soil is deemed too wet to handle without causing damage to the soil structure), will be avoided. Where operational constraints require the disturbance of plastic soil material, suitable remediation should be specified for instance the wind rowing of loose tipped material;
- soil handling should be by excavator and dump truck as per sheets 1 to 4 of the Defra Good Practice Guide for Handling Soils
- avoid handling of soils to be carried out during periods of prolonged, heavy rainfall;
- no mixing of topsoil with subsoil, or of soil with other materials;
- soil only to be stored in designated soil storage areas to be agreed as part of the approved CEMP;
- plant and machinery only work when ground or soil surface conditions enable their maximum operating efficiency (i.e. when machinery is not at risk of being bogged down or skidding causing compaction or smearing);
- all plant and machinery must always be maintained in good working condition to ensure that the soil is stripped correctly, for example to ensure that the depth of the strip can be accurately controlled, and to minimise the risk of contamination through spillages.

12. Management of surface water run-off and ditches during construction

12.1 During construction there is a risk of silt runoff especially if construction continues during wet weather.

12.2 The following precautions should be considered by the Contractor: -

- Planning the construction work to minimise repeated trips over the ground;
- Forming the permeable tracks early in the process;
- Using machines with low pressure tyres – e.g. farm type machinery;

- Monitoring the weather and being alert to the implications of wet weather;
- Inspecting surfaces to identify areas at risk of causing silt pollution to watercourses;
- Restricting operations in areas vulnerable to causing pollution, especially in wet weather;
- Keeping a store of straw/hay bales and geofabric fence equipment to delay and filter runoff;
- Being ready with trained staff to deploy the equipment if a risk of silt pollution arises;
- Early preparation, seeding and protection to encourage vegetation to establish on all bare areas as soon as possible after construction.

13. Waste Management Plan

13.1 Key environmental consideration for construction sites include the reduction of waste and the re-use of recycling of waste materials. Waste such as packaging, plastic, pallets, metal, general waste, etc, will be segregated on site and removed from site by an appointed waste contractor(s) for either reuse, recycling or disposal. All equipment associated with Little Crow Solar Park would be manufactured off site and delivered to the development site in appropriate packaging.

Implementation

13.2 Prior to the commencement of the Proposed Project a member of the on-site construction management staff will be assigned the role of Construction Waste Manager. The Construction Waste Manager will be in charge of preparing and implementation of the objectives of the WMP, ensuring that all hired waste contractors have the necessary authorisations and that the waste management hierarchy, waste segregation arrangements and waste collection arrangements are adhered to. The person nominated must have sufficient authority so that they can ensure everyone working on scheme adheres to the WMP. The WSP will form part of the final Decommissioning Plan.

Waste Management Hierarchy

13.3 The waste management hierarchy sets out the most efficient way of managing waste in the following order:

- Prevention and Minimisation -The primary aim of the WMP will be to prevent and thereby reduce the amount of waste generated at each stage of the project.
- Reuse of Waste - Reusing as much of the waste generated on site as possible will reduce the quantities of waste that will have to be transported off site to recovery facilities or landfill, for example reusing wooden pallets.
- Recycling of Waste: There are a number of established markets available for the beneficial use of construction waste such as using waste aggregate as fill for new access roads.

13.4 At all times during the implementation of the WMP, disposal of waste to landfill will be considered only as a last resort. The expected waste types arising during the construction phase are expected to be: -

Materials type	Example	Waste Classification Code
Cables	Electrical wiring offcuts	
	i) copper	17 04 01
	ii) aluminium	17 04 02
Cardboard	Boxes and cartons	15 01 01
Composite packaging	For transportation to site.	15 01 05
Metals	Copper, aluminium, iron and steel (mixed metals)	17 04 07
Inert materials	Sand, stone, aggregates	17 01 07

Mixed municipal waste	Daily canteen waste from construction workers, miscellaneous	20 03 01
Plastic packaging	Packaging with delivery of equipment	15 01 02
Wooden packaging	Boxes and pallets	15 01 03
Soil & stone	Soils and subsoils	17 05 04
Staff welfare facilities	Foul water / waste	20 03 04
Street-cleaning residue	Cleaning of local roads	20 03 03

Waste Arisings

13.5 Construction waste will arise on the project mainly from unavoidable construction waste including material surpluses and damaged materials and packaging waste.

13.6 Appropriate measures will be taken to ensure excess waste is not generated during construction, including;

- Ordering of materials will be on an 'as needed' basis to prevent over supply to site. Co-ordination is required with suppliers enabling them to take/buy back surplus stock.
- Purchase of materials pre-cut to length to avoid excess scrap waste generated on site.
- Request that suppliers use least amount of packaging possible on materials delivered to the site.
- Ensuring correct storage and handling of goods to avoid unnecessary damage that would result in their disposal

- Ensuring correct sequencing of operations.
- Use reclaimed materials in the construction works.

Waste Storage, Containment and Segregation

13.7 The waste materials will be segregated into reuse, recyclable or general waste in clearly identified skips or stockpiles in designated areas within the temporary construction compound. Materials to be reused or recycled will be sorted on-site and stockpiled for collection. All waste will be stored in an appropriate container to prevent escape of material. The site will be left in a clean and tidy condition at the end of each day. Areas around the canteen, offices and skip will be clean and tidy. Food waste will be collected regularly to avoid attracting vermin to the site.

Anticipated Quantities

13.8 The predicted quantities are set out below and are based on the construction waste management records of a 25MW solar scheme.

Category	Type	Waste arising recorded from a 25MW solar scheme.	Predicted estimates for a 200MW scheme
General Waste Exchange	12yard skip	12	96
General Waste Exchange	RoRo - 20 yard skip	23	184
Timber Exchange	RoRo- - 20 yard skip	33	264
Card / Paper exchange	RoRo - 20 yard skip	12	96

Metal waste exchange	RoRo - 20 yard	6	48
Recyclable plastics	12 yard skip	2	16
Total skips	-	88	704

14. Crushing / Screening of Materials On-Site

14.1 Construction does not involve the use of a mobile unit for crushing / screening of material on site.

15. Unexpected Contamination

15.1 During the groundworks phase a designated representative of the main contractor will be responsible for regular inspections of all excavations and cleared formations.

15.2 If any materials suspected of significant contamination (visual, staining, odour or deleterious materials) are identified, the areas should be segregated, or temporarily stockpiled on bunded hardstanding or impermeable sheeting and suitably covered to prevent leaching, run-off or airborne contamination. Further investigation should determine the need for additional remedial measures or removal.

15.3 The details of such measures or removal will be submitted to the LPA, and if appropriate the EA, for agreement prior to finalising construction in such areas

16. Recommendations

16.1 The purpose of this Outline CEMP is to detail appropriate pollution protection techniques that will be adopted by the appointed contractor team. The purpose of this document is to demonstrate the measures that could be used during the build out phase to adequately protect the environmental resources including potential impact upon human receptors. Post-consent, the CEMP will require updating in accordance with approved documentation by the appointed contractor prior to any construction commencing onsite. A detailed CEMP should be submitted to both North Lincolnshire Council and the Environment Agency, as specified consultee, for approval prior to the start of construction specifying the details of the persons

/ bodies responsible for the activities associated with the CEMP and emergency contact details.

