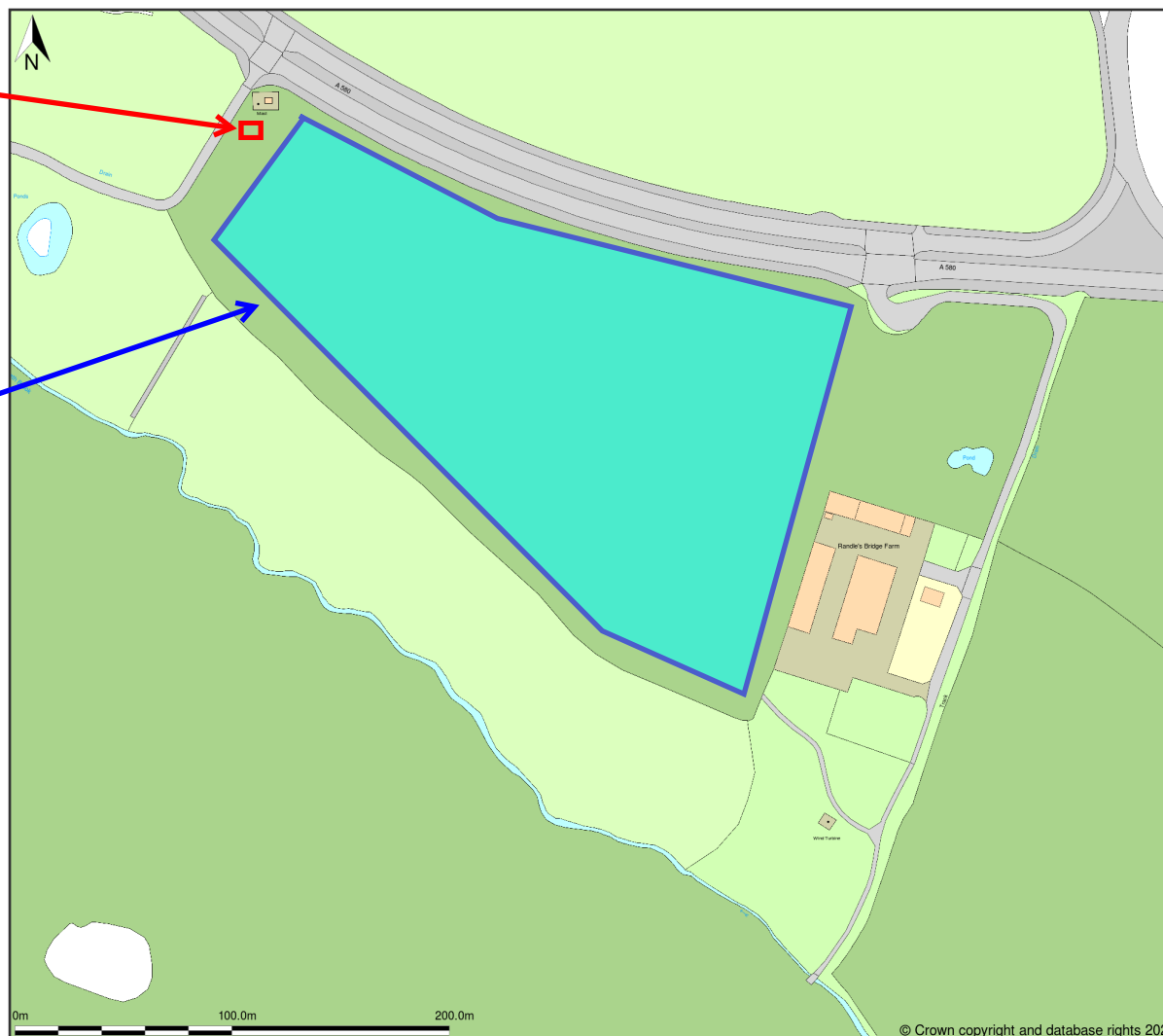


## **Appendix B Existing Site and Proposed Plans**

## Larkins Farm, Gellings Lane, Knowsley, L34 9EN

Proposed Main Point of  
Connection at Grid  
Reference SJ413963

Proposed location of Solar  
PV Panels

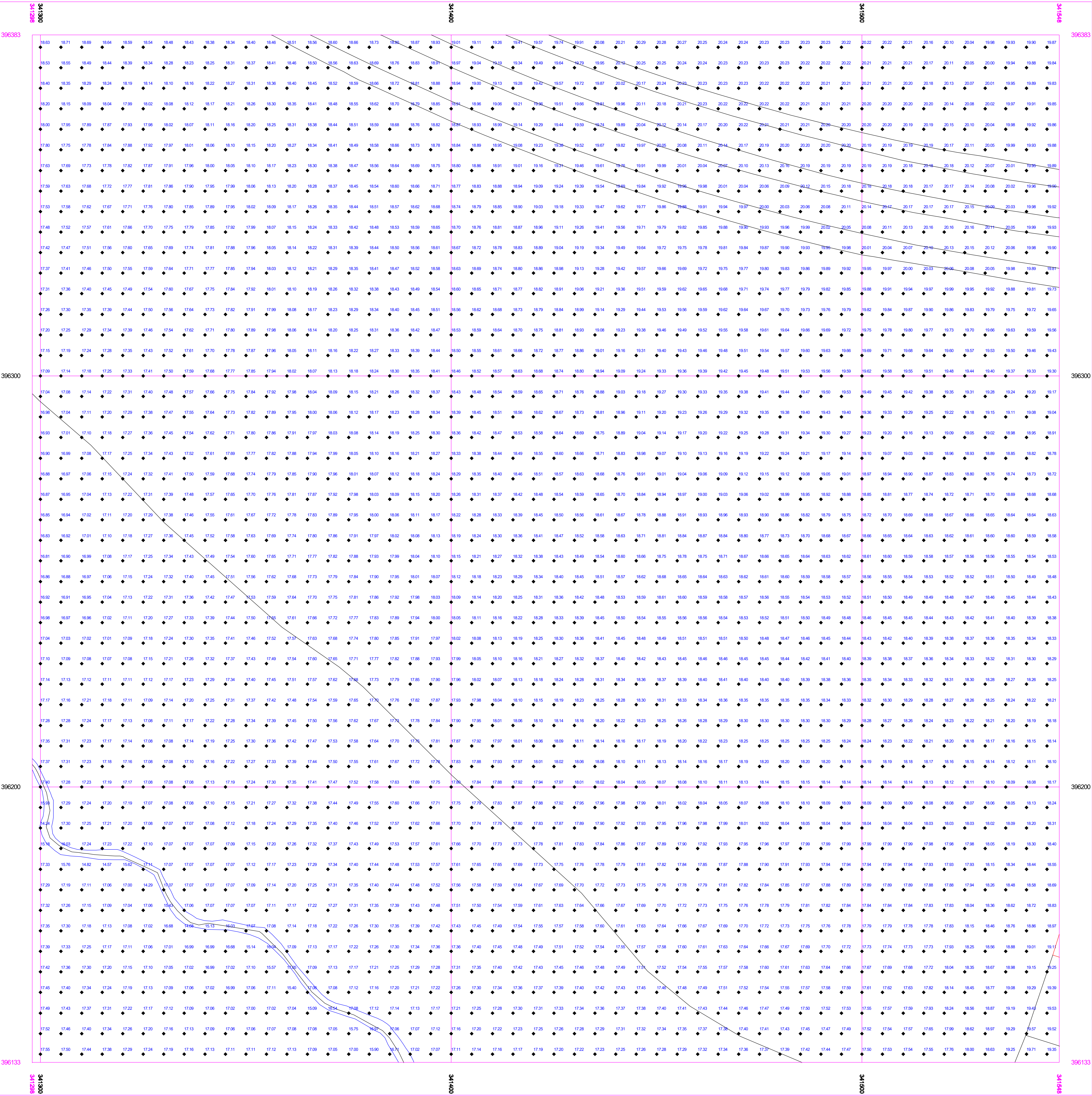


Plan shows area bounded by: 341187.9, 395968.3 341727.95, 396443.6 (at a scale of 1:), OSGridRef: SJ41459620. The representation of a road, track or path is no evidence of a right of way. The representation of features as lines is no evidence of a property boundary.

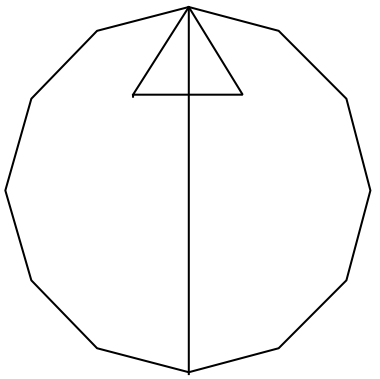
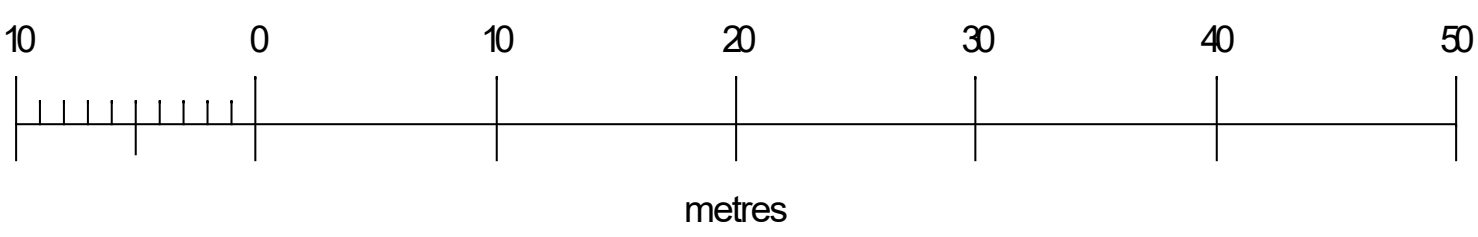
Produced on 30th Aug 2022 from the Ordnance Survey National Geographic Database and incorporating surveyed revision available at this date. Reproduction in whole or part is prohibited without the prior permission of Ordnance Survey. © Crown copyright 2022. Supplied by

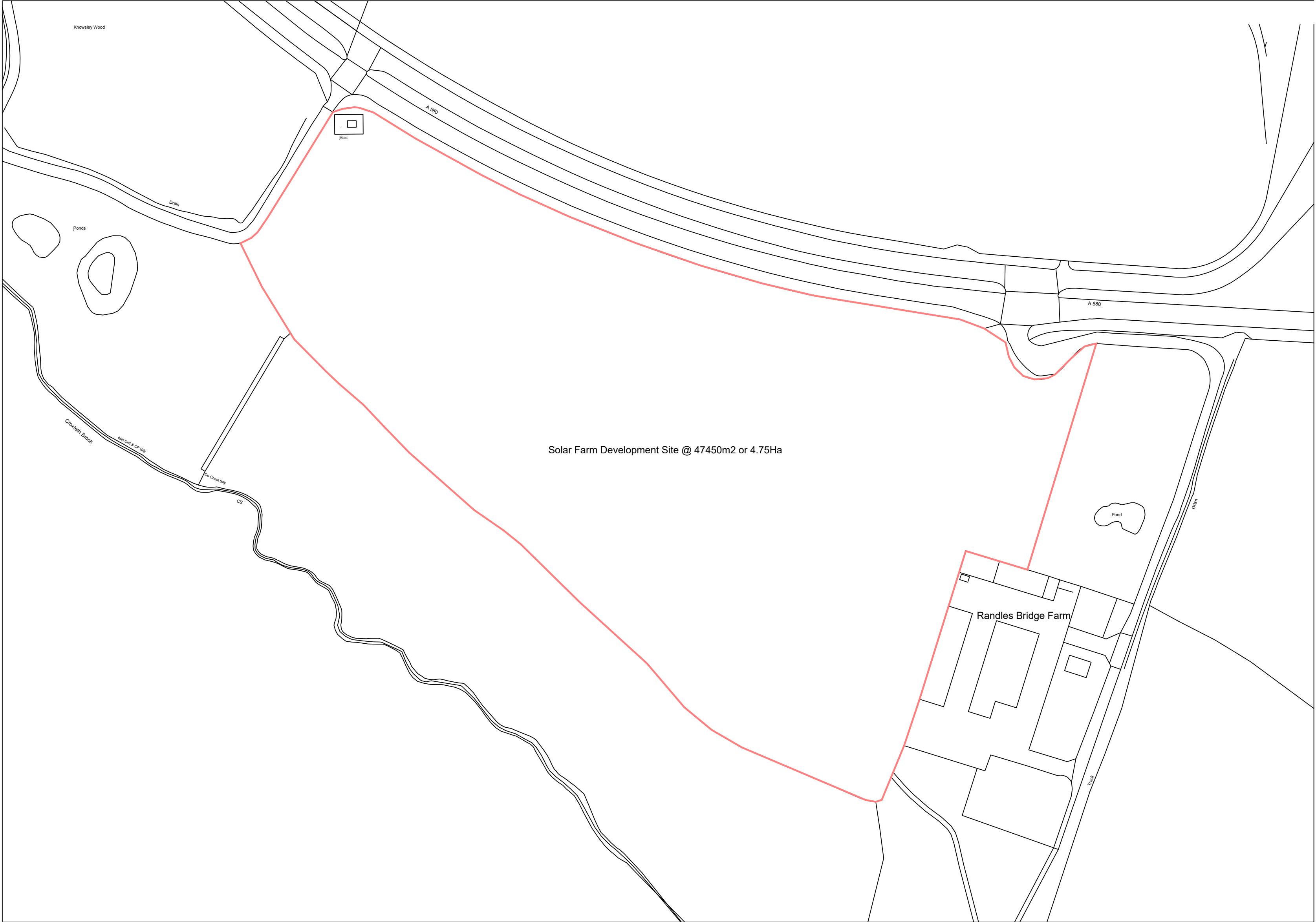
Topographic Map

Ordnance Survey  
Ukmapcentre.com



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0mm 2500mm 5000mm

SCALE BAR 1:50

0mm 5000mm 10000mm

SCALE BAR 1:100

| Rev | Description | Date |
|-----|-------------|------|
|-----|-------------|------|

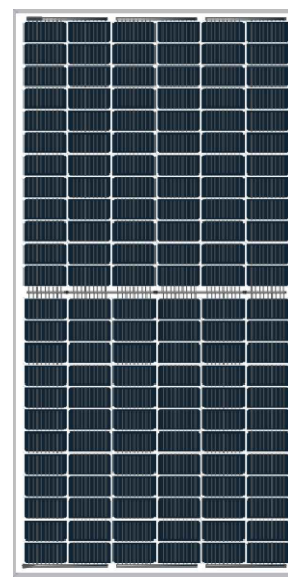
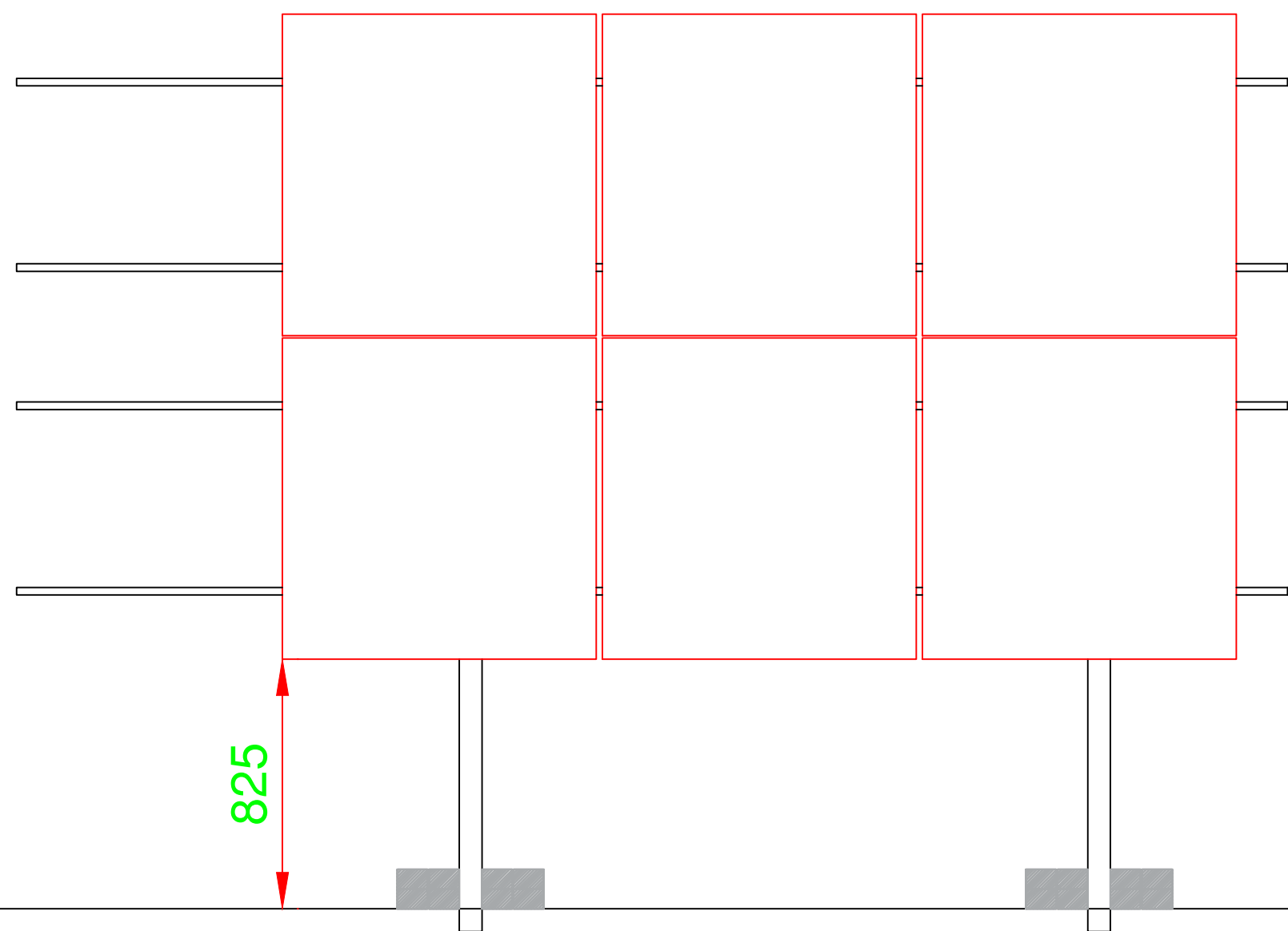
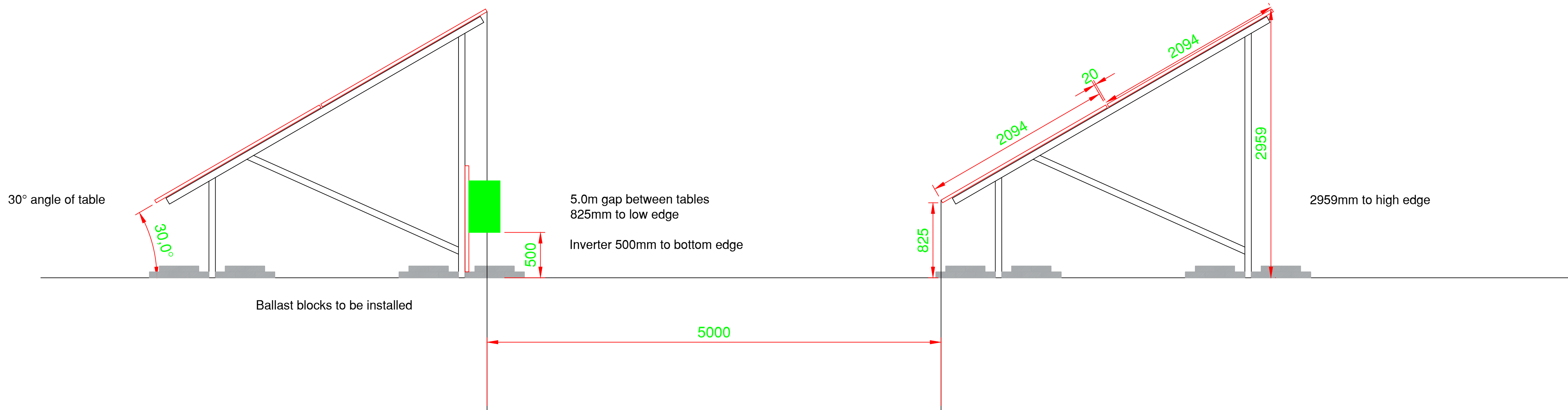
|                                                                                                                                                                |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <b>Project</b><br>FORMATION OF A SOLAR PANEL FARM TO<br>PROVIDE 1.5 MEGAWATT GREEN ENERGY ON<br>LAND AT RANGLES BRIDGE FARM, SCHOOL LANE,<br>KNOWSLEY. L34 9EN |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|

|                                                                          |  |  |
|--------------------------------------------------------------------------|--|--|
| <b>Client</b><br>MR S SCULLY - SCS LIGHTING & RENEWABLES<br>ON BEHALF OF |  |  |
|--------------------------------------------------------------------------|--|--|

| Contract. No. | Drg. No. | Revision | Scale | 1:1250 | @ A1     |
|---------------|----------|----------|-------|--------|----------|
|               | <b>2</b> |          | By    | MCC    | Date     |
|               |          |          | Chkd  |        | NOV 2022 |

|                                            |  |  |
|--------------------------------------------|--|--|
| <b>Drawing Title</b><br>SITE LOCATION PLAN |  |  |
|--------------------------------------------|--|--|

|                                                                 |  |  |
|-----------------------------------------------------------------|--|--|
| <b>MIKE CARR - MSc MRTPI</b><br><b>Town Planning Consultant</b> |  |  |
| 17 BROOKSIDE AVE<br>ECCLESTON<br>ST. HELENS<br>WA10 4RN         |  |  |
| Telephone:078502034482<br>E-mail:miketa@blueyonder.co.uk        |  |  |



Longi 450W Mono Module



Galvanised steel mounting frame

Drawing Review

As Built

General Notes

|                   |             |      |
|-------------------|-------------|------|
|                   |             |      |
|                   |             |      |
|                   |             |      |
| No.               | Description | Date |
| DRAWING REVISIONS |             |      |



Project Name  
**Saltayre Sports Centre Solar**  
Client  
**North West Solar Ltd**  
Architect  
**Hyperion Zero Ltd.**  
Drawing Title  
**Aspect Layout**

|                                       |                                   |                      |
|---------------------------------------|-----------------------------------|----------------------|
| Project Number<br><b>HZ-NWS-036</b>   | Drawing Number<br><b>SSCS-003</b> |                      |
| First Issue Date<br><b>28/07/2021</b> | Drawn<br><b>GD</b>                | Revision<br><b>~</b> |
| Scale<br><b>Custom</b>                | Checked<br><b>GD</b>              |                      |

## Design 1 Hyperion 2, I349en

### Report

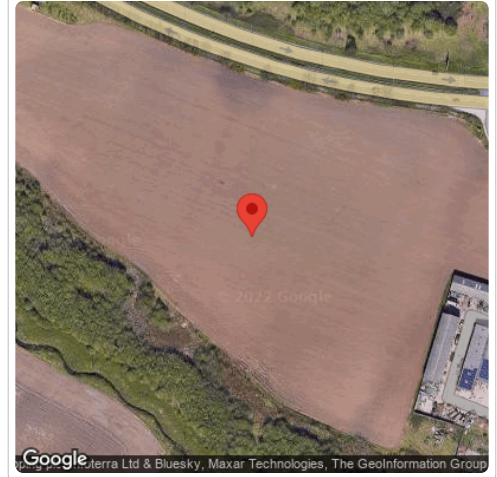
|                 |                                        |
|-----------------|----------------------------------------|
| Project Name    | Larkins Farm 2                         |
| Project Address | I349en                                 |
| Prepared By     | Greig Dyet<br>greig@hyperionzero.co.uk |

**HyperionZero**

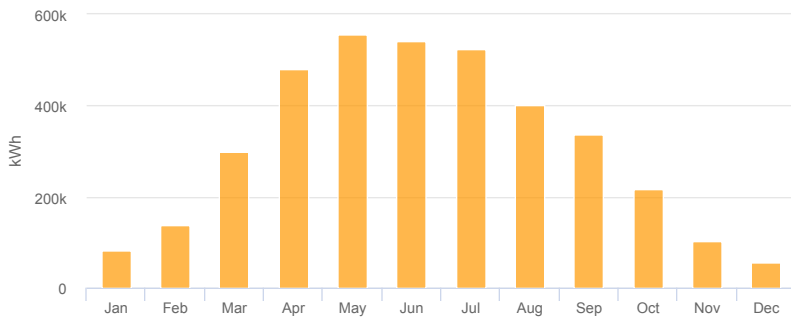
### System Metrics

|                       |                                             |
|-----------------------|---------------------------------------------|
| Design                | Design 1                                    |
| Module DC Nameplate   | 4.49 MW                                     |
| Inverter AC Nameplate | 3.00 MW<br>Load Ratio: 1.50                 |
| Annual Production     | 3.731 GWh                                   |
| Performance Ratio     | 81.6%                                       |
| kWh/kWp               | 830.3                                       |
| Weather Dataset       | TMY, 10km Grid, meteonorm (meteonorm)       |
| Simulator Version     | 564ee0cdc4-623802da71-ee32b20c60-f7827927af |

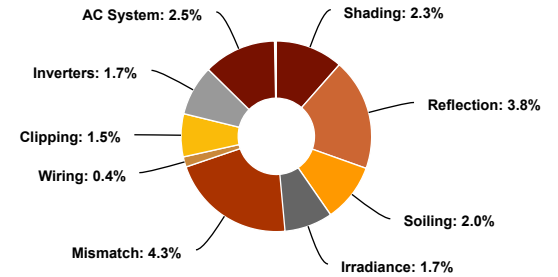
### Project Location



### Monthly Production



### Sources of System Loss



| ⚡ Annual Production         |                                     |             |         |
|-----------------------------|-------------------------------------|-------------|---------|
|                             | Description                         | Output      | % Delta |
| Irradiance (kWh/m²)         | Annual Global Horizontal Irradiance | 912.8       |         |
|                             | POA Irradiance                      | 1,018.1     | 11.5%   |
|                             | Shaded Irradiance                   | 994.5       | -2.3%   |
|                             | Irradiance after Reflection         | 956.4       | -3.8%   |
|                             | Irradiance after Soiling            | 937.3       | -2.0%   |
|                             | Total Collector Irradiance          | 937.2       | 0.0%    |
| Energy (kWh)                | Nameplate                           | 4,212,659.3 |         |
|                             | Output at Irradiance Levels         | 4,140,900.8 | -1.7%   |
|                             | Output at Cell Temperature Derate   | 4,143,315.0 | 0.1%    |
|                             | Output After Mismatch               | 3,965,531.1 | -4.3%   |
|                             | Optimal DC Output                   | 3,951,595.9 | -0.4%   |
|                             | Constrained DC Output               | 3,893,541.2 | -1.5%   |
|                             | Inverter Output                     | 3,826,364.4 | -1.7%   |
|                             | Energy to Grid                      | 3,731,161.9 | -2.5%   |
| Temperature Metrics         |                                     |             |         |
| Avg. Operating Ambient Temp |                                     | 12.5 °C     |         |
| Avg. Operating Cell Temp    |                                     | 17.3 °C     |         |
| Simulation Metrics          |                                     |             |         |
| Operating Hours             |                                     |             | 4580    |
| Solved Hours                |                                     |             | 4580    |

| ☁ Condition Set              |                                       |   |             |   |         |             |                   |                                  |   |   |   |   |
|------------------------------|---------------------------------------|---|-------------|---|---------|-------------|-------------------|----------------------------------|---|---|---|---|
| Description                  | Condition Set 1                       |   |             |   |         |             |                   |                                  |   |   |   |   |
| Weather Dataset              | TMY, 10km Grid, meteonorm (meteonorm) |   |             |   |         |             |                   |                                  |   |   |   |   |
| Solar Angle Location         | Meteo Lat/Lng                         |   |             |   |         |             |                   |                                  |   |   |   |   |
| Transposition Model          | Perez Model                           |   |             |   |         |             |                   |                                  |   |   |   |   |
| Temperature Model            | Sandia Model                          |   |             |   |         |             |                   |                                  |   |   |   |   |
| Temperature Model Parameters | Rack Type                             |   | a           |   | b       |             | Temperature Delta |                                  |   |   |   |   |
|                              | Fixed Tilt                            |   | -3.56       |   | -0.075  |             | 3°C               |                                  |   |   |   |   |
|                              | Flush Mount                           |   | -2.81       |   | -0.0455 |             | 0°C               |                                  |   |   |   |   |
| Soiling (%)                  | J                                     | F | M           | A | M       | J           | J                 | A                                | S | O | N | D |
|                              | 2                                     | 2 | 2           | 2 | 2       | 2           | 2                 | 2                                | 2 | 2 | 2 | 2 |
| Irradiation Variance         | 5%                                    |   |             |   |         |             |                   |                                  |   |   |   |   |
| Cell Temperature Spread      | 4° C                                  |   |             |   |         |             |                   |                                  |   |   |   |   |
| Module Binning Range         | -2.5% to 2.5%                         |   |             |   |         |             |                   |                                  |   |   |   |   |
| AC System Derate             | 0.50%                                 |   |             |   |         |             |                   |                                  |   |   |   |   |
| Module Characterizations     | Module                                |   |             |   |         | Uploaded By |                   | Characterization                 |   |   |   |   |
|                              | LR5-66HBD-500M (Longi Solar)          |   |             |   |         | HelioScope  |                   | Spec Sheet Characterization, PAN |   |   |   |   |
| Component Characterizations  | Device                                |   | Uploaded By |   |         |             |                   | Characterization                 |   |   |   |   |
|                              |                                       |   |             |   |         |             |                   |                                  |   |   |   |   |

| 📦 Components |                                    |                  |
|--------------|------------------------------------|------------------|
| Component    | Name                               | Count            |
| Inverters    | S5-GC50K (380V) (Solis)            | 60 (3.00 MW)     |
| AC Home Runs | 70 mm2 (Copper)                    | 60 (64,731.7 m)  |
| Strings      | 6 mm2 (Copper)                     | 432 (33,931.2 m) |
| Module       | Longi Solar, LR5-66HBD-500M (500W) | 8,988 (4.49 MW)  |

| 🔌 Wiring Zones |                |             |                    |
|----------------|----------------|-------------|--------------------|
| Description    | Combiner Poles | String Size | Stringing Strategy |
| Wiring Zone    | -              | 5-22        | Along Racking      |

| 🏠 Field Segments |            |                        |      |         |                  |            |        |         |         |
|------------------|------------|------------------------|------|---------|------------------|------------|--------|---------|---------|
| Description      | Racking    | Orientation            | Tilt | Azimuth | Intrarow Spacing | Frame Size | Frames | Modules | Power   |
| Field Segment 1  | Fixed Tilt | Landscape (Horizontal) | 15°  | 180°    | 3.0 m            | 4x1        | 2,247  | 8,988   | 4.49 MW |

 Detailed Layout

