

**PELHAM SPRING SOLAR FARM
ENVIRONMENTAL STATEMENT
MAIN STATEMENT**

CHAPTER 4 – DEVELOPMENT PROPOSAL

On behalf of Low Carbon Solar Park 6 Limited

Date: December 2022



Document Management.

Version	Date	Author	Checked/ Approved by:	Reason for revision

4 DEVELOPMENT PROPOSAL

4.1 INTRODUCTION

4.1.1 This chapter of the Environmental Statement describes the Proposed Development subject of the detailed planning application submission. It provides a detailed description of the physical characteristics of the Proposed Development for the purpose of identifying and assessing the likely significant effects. It provides an indicative programme for the construction, operation, maintenance, and subsequent decommissioning of the Proposed Development.

4.1.2 This chapter is supported by the following figures:

- **Figure 4.1** Planning Application Drawings

4.1.3 This chapter is supplemented by the following appendices.

- **Appendix 4.1** Outline Construction Environmental Management Plan

4.2 DEVELOPMENT SUMMARY

4.2.1 The main element of the proposal is the construction, operation, maintenance and decommissioning of a ground mounted solar farm. The solar farm will include a battery storage facility. An operational lifespan of 40 years is sought after which the development will be decommissioned. A new substation compound will serve the development, and this will be required for the duration of the development. The proposed battery units are within a single compound, adjoining the substation compound.

4.3 ROCHDALE ENVELOPE

4.3.1 The need for flexibility in design, layout and technology is required to address uncertainties inherent to the development. This is very pertinent to solar development due to the rapid pace of change in module technology and commercial availability, as identified in the Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) paragraphs 2.48.1 to 2.49.16).

4.3.2 Due to the flexibility required as identified in 4.3.1, the Pelham Spring Solar Farm EIA has employed a maximum design scenario approach which reflects the Rochdale Envelope approach. The Rochdale Envelope provides a 'worst case' scenario approach to the environmental impact of a project and allows for a broad definition of the project to be framed within a number of set parameters. As technology advances, it is possible that modules could become more efficient which would result in a potential reduction in total module area required to deliver the same amount of generation. This in turn could require the micro-siting of ancillary equipment to reflect such changes, i.e., the final locations of cabling and inverters. Accordingly, a final build plan would be submitted to the Local Planning Authority as part of a pre-commencement condition. The final build plan would demonstrate how the final 'as-built' design remains within the parameters of the design principles considered by this Environmental Statement.

4.3.3 Construction work on the Proposed Development, assuming planning permission is granted, would not commence until a final investment decision has been made by the applicant and a contractor appointed. Following the award of the contract, the appointed contractor would carry out a number of detailed studies to inform the technology selection for the solar farm and also to optimise its layout and design before starting work.

- 4.3.4 It follows that it has not been possible for the applicant to fix all of the design details at this stage. The applicant has therefore sought to incorporate sufficient design flexibility. This relates to the dimensions and layout of structures forming part of the Proposed Development, including the precise layout of the site and the height of the solar panels.
- 4.3.5 The approach involved assessing the maximum (and where relevant, minimum) parameters for the elements where flexibility is required. For example, the solar panels have been assessed for the purposes of landscape and visual impact as being maximum of 3m high, which is the worst-case. It is actually possible that the panels could be lower.
- 4.3.6 The approach also involved defining development zones, rather than having a defined layout. This would allow the future contractor to optimise the layout of the solar farm following any grant of planning permission, rather than being bound to a precise layout.
- 4.3.7 The zones are shown in the Zoning Layout Plan that forms part of the planning application submission.
- 4.3.8 The zones define where certain infrastructure should be located within the Site, but there is flexibility in terms of the layout within each zone. The infrastructure that is permitted to only be located within each zone is as follows:
- Development Zone 1 – Solar panels, inverters, and battery containers.
 - Development Zone 2 – Solar panels, inverters, and battery containers.
 - Development Zone 3 – Solar panels, inverters and battery containers
 - Development Zone 4 – Solar panels, inverters and battery containers
 - Development Zone 5 – Solar panels, inverters and battery containers
 - Development Zone 6 – DNO 132kV Substation, DNO LV Substation, Transformer Compound, Customer Switchgear and Meter Kiosk

Solar Farm and Supporting Equipment

- 4.3.9 The Proposed Development comprises the construction and operation of a solar PV farm with associated infrastructure. The Proposed Development includes the construction and operation of the following equipment:
- Arrays of solar PV panels;
 - Approximately 23 containerised inverters;
 - Approximately 36 containerised battery storage units;
 - 33-132kV Substation compound to include: Transformers, DNO substation and Customer substation/switchgear and meter equipment;
 - Internal access tracks;
 - Perimeter fence and access gates; and
 - CCTV cameras.

Main Components

Solar Panels

- 4.3.10 The proposed solar panels will be laid out in rows running from east to west across the field enclosures. There will be a gap of approximately 3-4m between each row of arrays. Each Array will be mounted on a frame which will be fixed to spike foundations approximately 1-2m deep that will be driven into the ground

with a small plant rig by impactation and this will be guided by localised ground conditions.

- 4.3.11 The proposed solar panels are typically mounted in horizontal rows of four, with one row directly fixed above the other and angled at 29.5 degrees, the optimum position for absorbing year-round solar irradiation. At the lowest edge, the arrays would be approximately 0.9m above ground level, and up to 3m above ground level on the top edges of the array.
- 4.3.12 The solar photovoltaic modules will convert solar irradiance into direct current (DC) electricity. A solar PV module consists of a layer of silicon cells, an anodised aluminium frame, a glass casing, and various wiring to allow current to flow from the silicon cells. Silicon is a non-metal with conductive properties that allow it to absorb and convert sunlight into electricity. When light interacts with a silicon cell, it causes electrons to be set in motion, which initiates a flow of electric current.
- 4.3.13 The insulated DC cables from the solar modules will be routed in channels fixed on the underside of the framework. The DC string cables will run along the entire underside of each row. The electrical cabling from each array will be concealed through shallow trenches linking the modules to the inverter cabins and then to the customer switchgear and DNO substation.
- 4.3.14 Indicative dimensions of the proposed panels and frame are shown on the PV detail provided within the submitted application drawings (DWG no. SD-17) that forms part of the planning application submission.

Inverters

- 4.3.15 The proposed inverters will comprise containerised units or small cabin type structures, as shown in pink on the submitted Proposed Site Layout (DWG no. PLE-01). The proposed inverters will measure approximately 12.2m long, 2.5m wide and 2.9m high and each unit will be sited upon a hardcore base.
- 4.3.16 The proposed inverters will convert the direct current (DC) generated by the proposed solar arrays into alternating current (AC). Within the proposed inverter cabins will also be transformer units which will in turn convert the low voltage AC output from the inverters into high voltage output which is suitable for export to the local distribution network.
- 4.3.17 Indicative elevations and dimensions of the proposed inverter cabins and associated infrastructure are provided with the planning application submission.

Batteries

- 4.3.18 Approximately 36 containerised batteries will be located across the site, alongside the inverter units.
- 4.3.19 Each battery unit is made up a of a number of battery racks which have their own battery management system and interfaces with a centralised control management system.
- 4.3.20 The batteries would be available to store energy from the solar farm and release electrical energy to the local electricity network.

District Network Operator Substation and Customer Switchgear

- 4.3.21 A Customer Switchgear will be constructed adjacent to a substation compound area within the centre of the site (as shown in blue on the Proposed Site Layout), which will measure approximately 10m long, 4m wide and 3m high.
- 4.3.22 The proposed substation compound area will contain both a 132kv DNO substation and transformer which will step up the voltage of the energy before exporting it to the point of connection at Pelham Substation. The proposed substation will feature some limited vertical elements up to 6m in height, however, the substation has been carefully sited in the centre of the site within an area that benefits from significant visual containment provided by existing mature vegetation and woodland which surround it.
- 4.3.23 Also adjacent to the proposed substation compound area will be a DNO LV Substation (as shown in green on the Proposed Site Layout) which will measure approximately 8m long, 6m wide and 4.1m high.
- 4.3.24 The structures will be sited on a hardcore base. They will receive electricity directly from the proposed inverter cabins before transferring into the local distribution network via the step-up transformer compound and 132kv DNO substation.

Security

- 4.3.25 To secure the Proposed Development, stock proof perimeter fencing (open gauge mesh with wooden posts or similar) is proposed around the parcels of arrays proposed within the separate field enclosures. The proposed perimeter fencing will be installed at a height of approximately 2m along the outer edges of the separate parcels of arrays in order to restrict access. The minimum distance between the edge of the arrays and the fence would be 4.5m followed by 4.5m outside the deer fencing to the field boundary. A 30-50m buffer has been retained to the adjacent Ancient Woodland.
- 4.3.26 The distance between the proposed fencing and existing/proposed hedges would vary across the site and at its minimum distance this would be no less than 4.5m. The buffer area would be used for ecological enhancement measures and the trimming and maintenance of existing and proposed vegetation.
- 4.3.27 In addition to fencing, it is proposed that pole mounted CCTV and/or infrared security cameras would be positioned at intervals along the inside face edge of the fencing (between the fence and the arrays) at a height of 2.5m and facing into the site to protect privacy.
- 4.3.28 Badger friendly/small mammal access points will be prescribed at various locations along any fencing to allow the passage of badgers across the site.
- 4.3.29 Details of the proposed cameras and fencing are shown on the Proposed Site Layout in addition to the specific Indicative Deer Fence and CCTV elevations submitted with the planning application.
- 4.3.30 Gates will be installed at the access point to each separate parcel of arrays within the field enclosures for maintenance access. The design of the proposed gates will be of the same appearance, material and colour as the fencing.

4.4 CONSTRUCTION ACCESS

- 4.4.1 Vehicular access to the site during the construction phase is proposed via an existing agricultural access from Manuden Road to the east of the site. The access

currently serves farmland and agricultural buildings and is already in use by large and relatively slow moving vehicles on a regular basis. This access point will be improved to provide a temporary construction access.

- 4.4.2 From the construction site access, a temporary haul road will be constructed through the field to the north of Mill Cottage. It will continue to the west for around 400 metres past this field and along the southeast site boundary where it will adjoin an existing access track which is shared with PROW 39_4. The access track will continue for around 350 metres to the northwest and into the site.
- 4.4.3 Clavering Road Stables, situated immediately east of Manuden Road and north of the proposed construction access point, is served by a separate access junction from Manuden Road which lies directly to the north of the proposed construction access. It is understood that they are currently derelict but that the Stables will be subject to conversion to residential use in due course. Any movements exiting from the Clavering Stables access junction would be given priority over large HGV movements associated with the solar farm, as per the proposed construction traffic management strategy set out within the submitted Construction Traffic Management Plan.
- 4.4.4 The proposed point of temporary access for the site will be from Manuden Road, opposite Pinchpools Farm, east of the Proposed Development. The access point will be upgraded with improved visibility splays to serve construction vehicles. Internal access tracks within the field enclosures will also be created to provide access across the separate site parcels for both construction and maintenance vehicles.
- 4.4.5 Temporary signage will be erected in the vicinity of the access track during the construction phase to indicate that heavy construction vehicles are turning. Banksmen with walkie talkies will also be in place at the construction access point to assist HGVs entering and exiting the site from Manuden Road. Banksmen will not direct general traffic but will indicate to heavy and large construction vehicles when it is appropriate for them to enter and leave the site. HGVs will only be permitted to leave the site when Manuden Road is clear of traffic.

4.5 CONSTRUCTION

- 4.5.1 A temporary construction compound will be set up within the development boundary during construction. Any vehicles associated with construction will therefore be contained within the site and no unnecessary parking will occur on the local highway network.
- 4.5.2 The temporary compound will likely include: -
- Temporary portable buildings to be used for offices, welfare and toilet facilities
 - Containerised storage areas
 - Parking for construction vehicles and workers vehicles
- 4.5.3 Temporary hardstanding
- Temporary gated compound
 - Wheel washing facilities
- 4.5.4 It is anticipated that the solar farm will take approximately 20 weeks (5 months) to complete. This includes the preparation of the site, the temporary access track, erection of security fencing, assembly and erection of the PV strings, installation of the inverters and grid connection.

4.5.5 During the 20-week construction period, it is proposed that construction working hours would be as follows:

- 08:00 – 17:00 Monday to Friday; and
- 08:00 – 13:00 Saturday.

4.5.6 No work would take place on Sundays or public holidays.

4.5.7 Should work be required to be undertaken outside of these times, this would be agreed in writing in advance with the District Council.

4.5.8 If required by the highway authority construction traffic and delivery vehicles will also be limited to outside the peak hours on Monday to Friday (1000-1600) and on Saturdays between 0900-1300.

4.5.9 Please see the Construction Traffic Management Plan which supports the application submission for further details.

4.6 BIODIVERSITY

4.6.1 The Proposed Development is an example of a development which presents considerable opportunity for landscape and biodiversity mitigation and enhancement. The objectives for biodiversity are: -

- Retain and protect existing habitats of local value within and adjacent to the site during construction and operation, specifically hedgerows, woodland, trees and watercourses.
- Identify protected or notable species that may be present and potentially affected by the proposed development, and incorporate suitable avoidance, protection and mitigation measures to ensure their continued favourable conservation status;
- Provide habitat and landscape enhancements through new planting and creation of connected habitat linked to the wider area, using native species appropriate to the locality;
- Provide opportunities for wider species diversity through planting and seeding, including hedgerow creation and infilling and creation of a diverse wildflower meadow/butterfly grassland; and,
- Providing additional nesting and refuge/overwintering habitat for wildlife such as reptiles invertebrates and small mammals with habitat piles/hibernacula, as well as barn owl, bat and bird boxes where appropriate.

4.6.2 Habitat creation and ongoing management practices are proposed that will enhance the operational site for biodiversity. The design and long-term management of the land seeks to maintain and improve functionality through protecting and enhancing potentially valuable wildlife corridors through strengthening the hedgerow network within and around the site. Habitat enhancement measures include new native species hedgerow planting and gapping up of existing hedgerows, creation of extensive grassland areas to replace arable land and species diverse wildflower meadow grassland. It is proposed to enhance existing hedgerows with supplementary planting of native species where required. The landscape information submitted with the planning application provides more detail in terms of planting and species.

4.6.3 These, combined with an associated reduction in intensive agricultural management practices such as chemical spray applications and ploughing, will provide dispersal, breeding, foraging and overwintering habitat for a variety of wildlife including invertebrates, birds, small mammals, amphibians and reptiles if

present. The grassland creation will include a wildflower meadow, butterfly wildflower meadow and field margins sown with species rich seed mixes. The extensive areas of continuous new grassland habitat under and around the solar panels, linked to the wildflower meadows and species-rich field margins and habitats in the wider area, will provide improved connectivity and opportunities for a range of wildlife to forage, shelter and freely disperse across the site.

4.6.4 Overall, the proposed suite of ecological and landscape enhancements across the site is calculated to result in a biodiversity net gain of over 100%.

4.6.5 Prior to commencement of development, a final Construction Environmental Management Plan (CEMP), which builds upon the Outline CEMP (Appendix 4.1), would be submitted to and approved by the Determining Authority Local and this would be secured by condition. The Outline CEMP sets out the measures to reduce the ecological & environmental risk during construction.

4.7 OPERATION

4.7.1 An operational lifespan of up to 40 years is sought.

4.7.2 During the operational phase, the activities on site would amount to the maintenance and servicing of plant and equipment, vegetation management and grazing of the land by sheep. The solar panels will also need to be periodically cleaned to ensure efficient running of the system.

4.7.3 The operational access will be from the unnamed road to the south of the site via an existing farm access track extending to the south east of the site, adjacent to Battles Hall. This is detailed further in the Construction Traffic Management Plan. It is anticipated that under normal circumstances, no more than 4 no. vehicles would need to access the site per week, and most visits to the site would be undertaken by an operative in a van/4x4, except in rare instances where repairs or replacements are required.

4.8 DECOMMISSIONING

4.8.1 The solar farm would export renewable energy to the grid for up to 40 years. After the 40 year generation period the development would be decommissioned and the land restored back to agricultural use.

4.8.2 When the proposed solar farm is decommissioned, the solar panels and other infrastructure will be removed. Around 90% of materials can be recycled currently and research is ongoing within the industry to increase this figure. Due to the limited quantity of foundations, hard surfacing and heavy infrastructure, combined with the fact that the majority of the site will be retained as grassland, the land will be easier to restore than more intrusive development with more significant foundations.

4.8.3 The restoration process is intended to ensure that the site is restored to the same quality as existing and it is anticipated that this can be secured through the use of a suitably worded planning condition.

4.9 STATUTORY UNDERTAKERS

4.9.1 The provision of easements for the existing services that traverse the site, such as overhead powerlines, are incorporated into the layout design.

4.10 DRAINAGE

4.10.1 The surface water drainage design has considered the use of SuDS appropriate to the development and suitable solutions discussed in the previous section. It is proposed to allow the site to drain as close as naturally possible to the existing situation with run-off intercepted by a series of shallow swales / filter trenches adjacent to the proposed new internal access roads and swales located at the low parts of the site to collect and slow surface water run-off prior to discharging to the existing watercourses previously named.

4.11 ALTERNATIVES

4.11.1 EIA regulations (Schedule 4, part I(2)) require for inclusion in an ES "A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects".

4.11.2 In response to the above, the alternatives to the proposed development which the applicant has considered are

- No development alternative - 'do nothing'.
- Alternative sites, and
- Alternative designs

Do Nothing

4.11.3 It is regarded as best practice within the EIA to consider the 'do nothing' alternative. The 'do nothing' option would entail leaving the development site in its current condition and it is assumed that the current land use would remain as it is, that is, available for agricultural use. It is an obvious statement that any impacts associated with the proposed development would therefore not occur. However, the 'do nothing' option will result in the loss of potential renewable energy source proposed by the development proposal. Other benefits that would not be secured are farm diversification and biodiversity enhancements as well as the balancing support to the National Grid that will be provided by the battery storage.

Alternative Sites

4.11.4 The UK Solar PV Strategy Part 1: Roadmap to a Brighter Future (UK Solar PV Roadmap) provides four guiding principles that form the basis of the Government's strategy for solar PV. Principle III (see page 14) states "Support for solar PV should ensure proposals are appropriately sited, give proper weight to environmental considerations such as landscape and visual impact, heritage and local amenity, and provide opportunities for local communities to influence decisions that affect them". Accordingly, the principal methods of considering alternatives is through the site selection process.

4.11.5 The first step, and requirement, is for the identification of suitable and a secured grid connection point which has spare capacity to enable a connection to be made and allow the export of renewable energy generated. As short a cable route as possible is required to allow the development to be economically viable as well as

to minimise energy losses in the cabling which will be wasted ('transmission losses') for sites located further away from the grid connection point.

4.11.6 The Applicant proposes to connect to the transmission rather than distribution network. As such potential sites are required to be proximate to National Grid substations with spare capacity. The grid connection costs vary dependant on scheme size; grid capacity and local grid infrastructure. Typically; large scale ground mounted solar schemes must be located within circa 4km in order for the scheme to be financially viable. The applicant has carried out an alternatives site assessment and this document supports the application submission. To summarise, the specific land-take and land characteristics guiding this large scale ground mounted solar park makes the application site the sequentially preferred site within the defined area of search. The alternatives site search report has established: -

- There are no brownfield sites of adequate size that can accommodate the proposal.
- There are no 'non-agricultural' sites available to accommodate the application proposal.
- The provisional agricultural land classification map shows no areas of lower grade land (grade 4 or 5) within the area of search.
- There is limited grade 3 land available in the area of search. It would be unreasonable to test all of these areas to establish whether any areas contain grade 3b, non BMV land. Overall, no reasonable alternative sites of appropriate size have been identified which could accommodate the development proposal within 4km of the point of connection. Accordingly, there is no alternative which would be capable of delivering similar benefits.
- Consideration at a wider District level has also found no evidence that a suitable area of lower quality non-BMV land exists.

4.11.7 Given the technical constraints in choosing a suitable site adjacent to the point of connection to the Pelham Substation, no reasonable alternative sites of appropriate size have been identified by the Applicant which could more suitably accommodate the development proposal within close proximity of the point of connection. Accordingly, there is no alternative which would be capable of delivering similar benefits. In terms of alternatives, there are no brownfield sites of adequate size that can accommodate the development proposal within 4km of the point of connection; there are no 'non-agricultural' sites available that could accommodate the development proposal within 4km of the point of connection.

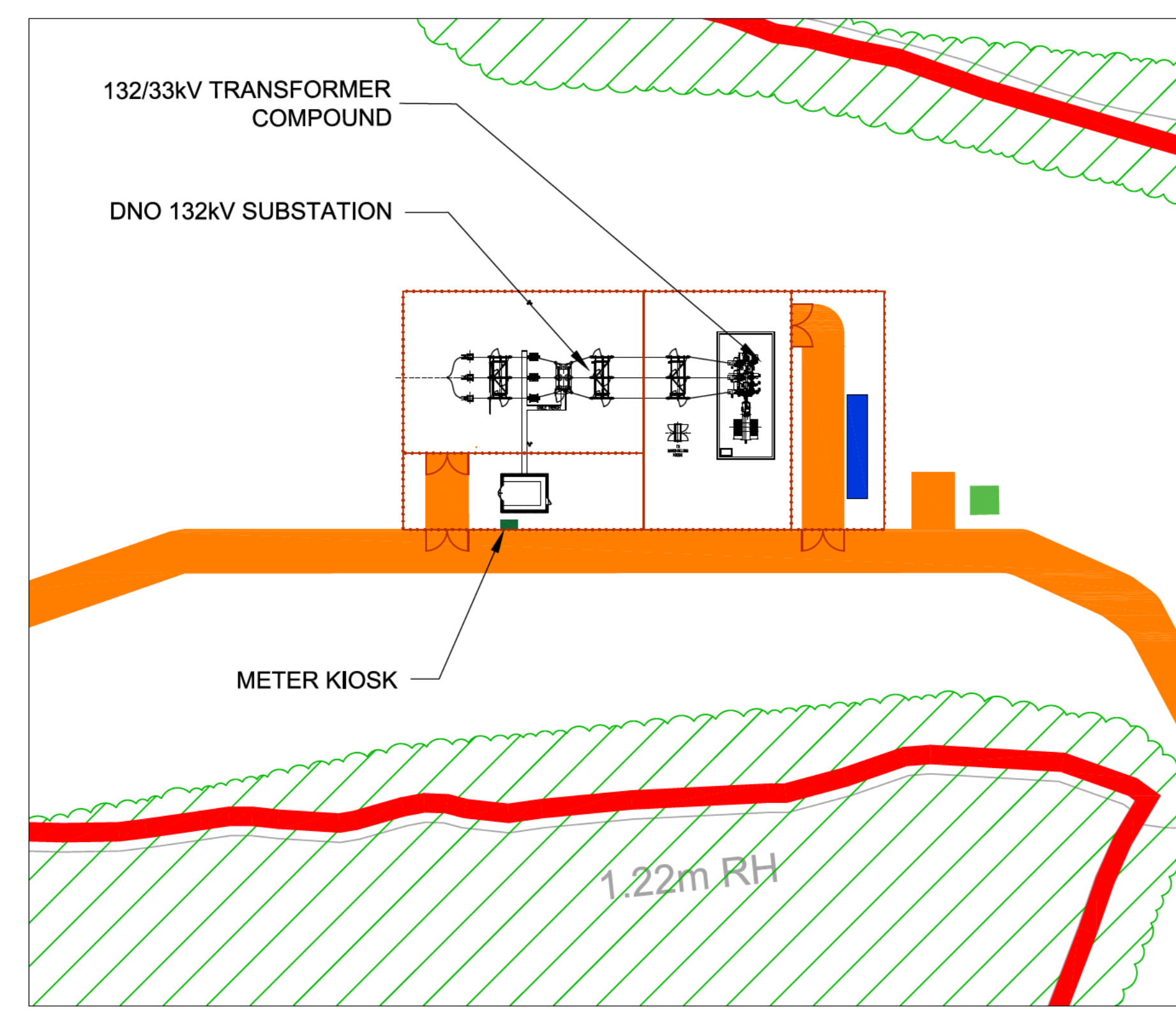
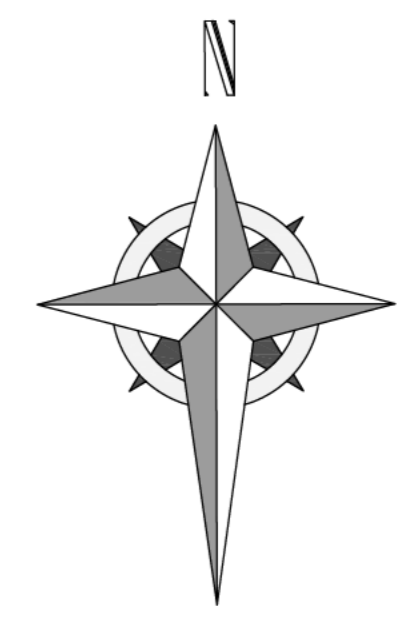
Alternative Design

4.11.8 Over the course of the design process, the project design team have continuously refined the scheme design to encompass stakeholders' feedback at numerous junctures. As stated in Chapter 3, this application forms a refinement and resubmission of a previously refused scheme (Decision Notice UTT/21/3356/FUL) which was submitted to Uttlesford District Council in November 2021 and subsequently refused on 24 January 2022. The application was determined by the Council within the statutory 13-week period. A number of holding objections subject to requests for further information were raised by statutory consultees during the determination period, however, the Council did not allow an extension of time to provide the requested information.

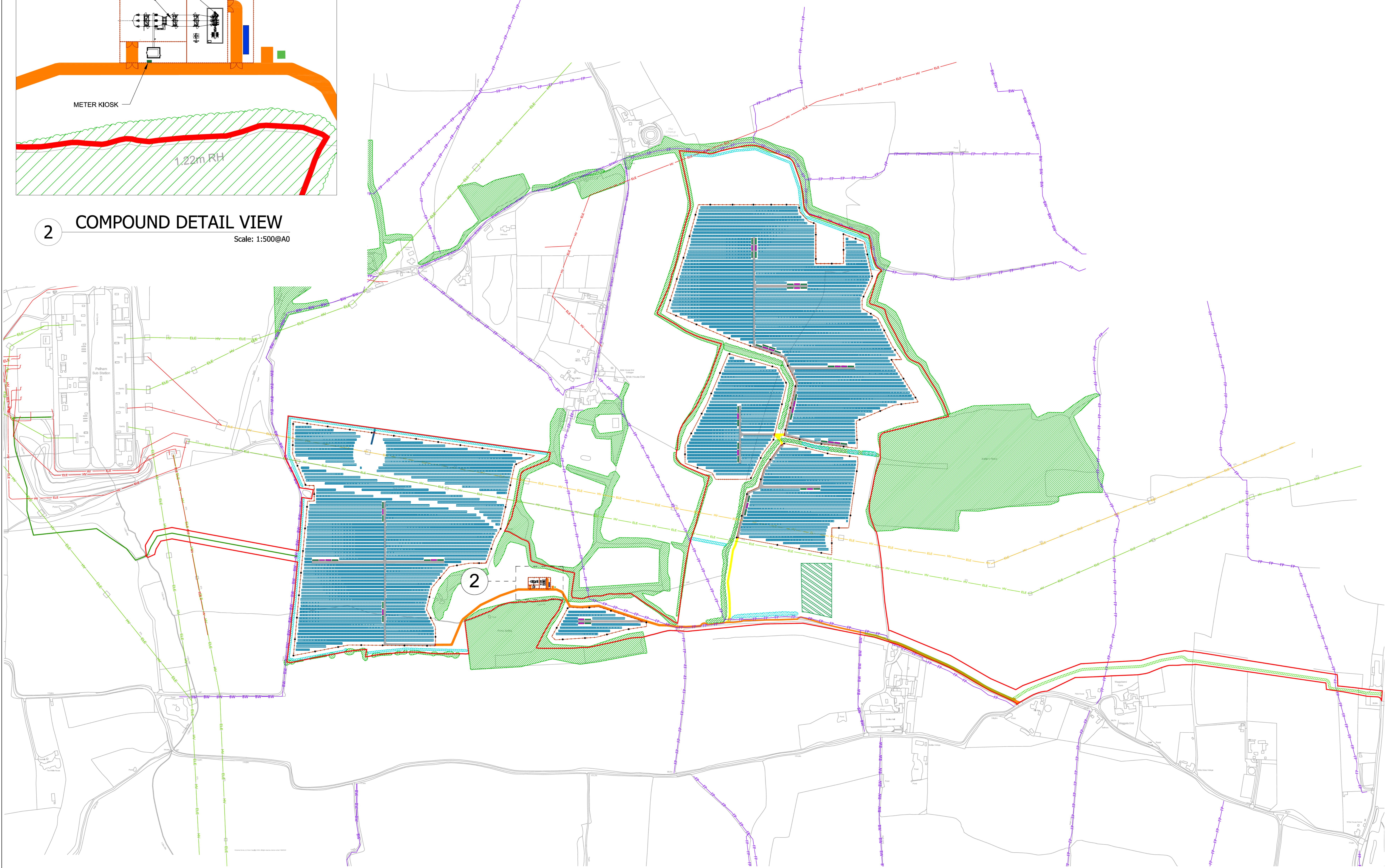
4.11.9 Following the refusal of the previous planning application, the applicant submitted a pre-application advice request to Uttlesford District Council (Ref: UTT/22/0679/PA) on 14th March 2022 to obtain constructive feedback on a redesign of the proposals to achieve a revised application which would be capable of receiving officer support. Following detailed engagement from the Council's planning, conservation, landscape and archaeology officers, it was considered that a revised design which removed PV arrays from the southern, south eastern and northern part of the eastern parcel of the site could be considered appropriate when one applies a tilted planning balance.

4.11.10 In addition to the above, the Applicant has also held separate pre-application discussions with Essex County Council's Highways Authority to jointly agree a suitable construction access strategy for the scheme. The proposals subject to this planning application have subsequently been revised to take on board the pre-application advice received.

**FIGURE 4.1
PLANNING APPLICATION DRAWINGS**



2 COMPOUND DETAIL VIEW
Scale: 1:500@A0



1 PELHAM SPRING SOLAR FARM INDICATIVE SITE LAYOUT
Scale: 1:3000@A0

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Revisions:				
Revision	Date	Revision Notes	Drawn	Inspected
01	23.11.2023	Final Issue	PL	LM
02	16.03.21	Revised	PL	LM
03	23.03.21	Revised	PL	LM
04	16.03.21	Revised	PL	LM
05	23.03.21	Revised	PL	LM
06	23.03.21	Revised	PL	LM
07	23.03.21	Revised	PL	LM
08	23.03.21	Revised	PL	LM
09	23.03.21	Revised	PL	LM
10	23.03.21	Revised	PL	LM
11	16.04.21	Revised	PL	LM
12	07.08.21	Additional Percol Included	PL	LM
13	23.09.21	Updated to add comments	PL	HJ
14	23.09.21	Revised	PL	HJ
15	23.09.21	Revised	PL	HJ
16	23.09.21	Revised	PL	HJ
17	23.09.21	Revised	PL	HJ
18	23.09.21	Revised	PL	HJ
19	23.09.21	Revised	PL	HJ
20	23.09.21	Revised	PL	HJ
21	18.11.21	Soils Updated	PL	HJ
22	18.11.21	Revised	PL	HJ
23	12.01.22	Revised	PL	HJ
24	01.05.22	Amendment to Red Line	PL	HJ
25	31.05.22	Red Line & Construction Access Amendment	PL	HJ

LEGEND:

- PROPOSED SITE
- DNO ACCESS
- CONSTRUCTION AND MAINTENANCE ACCESS
- CONSTRUCTION ACCESS
- SITE ACCESS
- NATIONAL GRID ACCESS
- PERMETER FENCING LINE
- PROPOSED CABLE ROUTE
- TEMPORARY COMPOUND AREA

SOLAR SITE INFRASTRUCTURE:

- DNO LV SUBSTATION
- CUSTOMER SWITCHGEAR
- SOLAR PANEL MODULES (PITCH 7m) P:3 x S:5m
- METER KIOSK
- SECURITY GATE
- CCTV CAMERA
- INVERTER
- BATTERY

ENVIRONMENT

- EXISTING VEGETATION
- PROPOSED VEGETATION
- BRIDLEWAY
- FOOTPATH
- BYWAY
- BYWAY

SERVICES:

- OH ELEC CABLE
- UG ELEC CABLE
- UKPN WAYLEAVE

Status: **PLANNING**

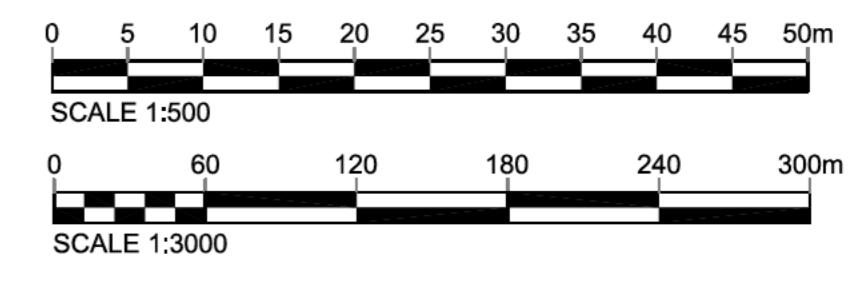
Project: **Pelham Spring Solar Farm**

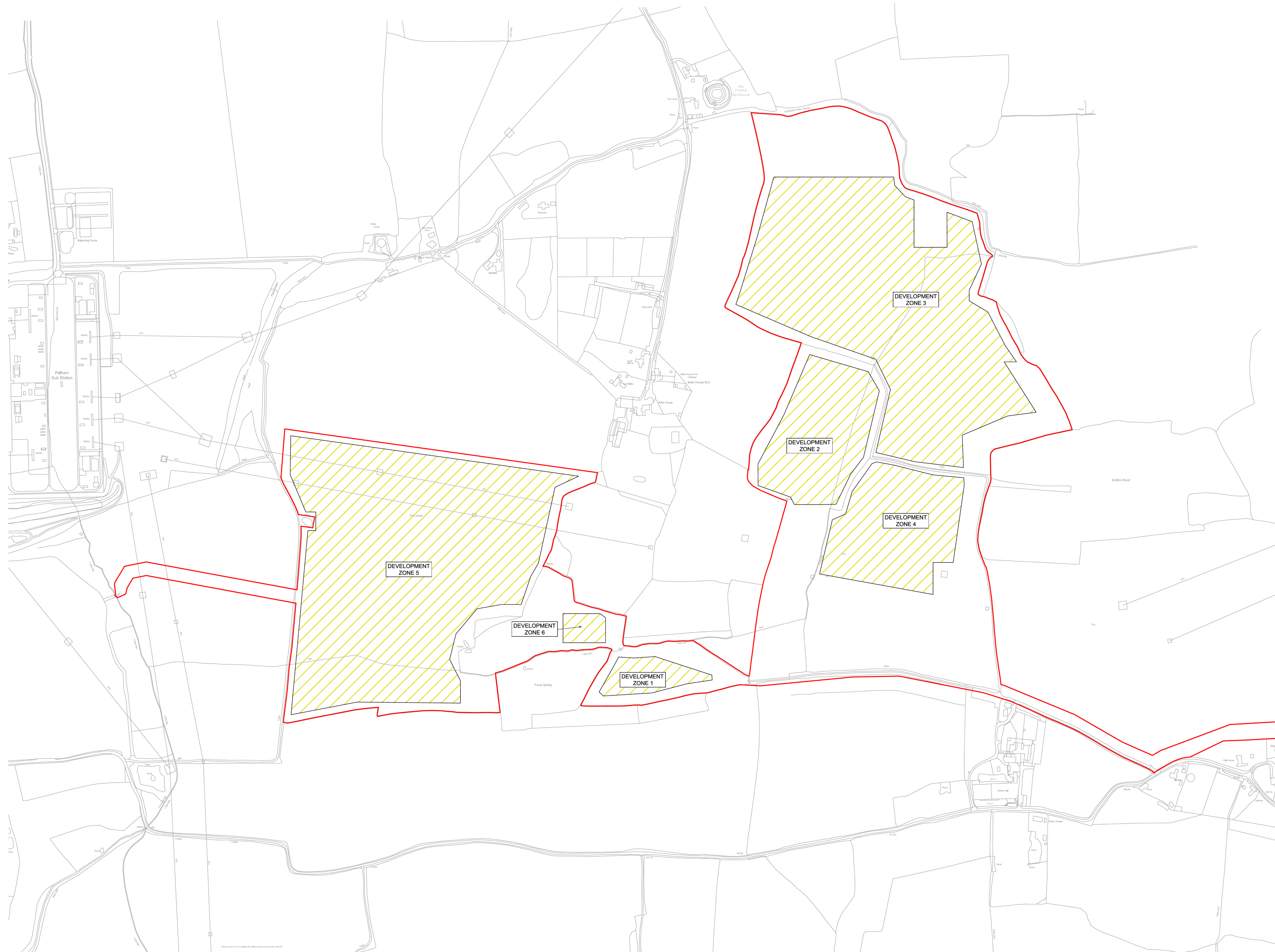
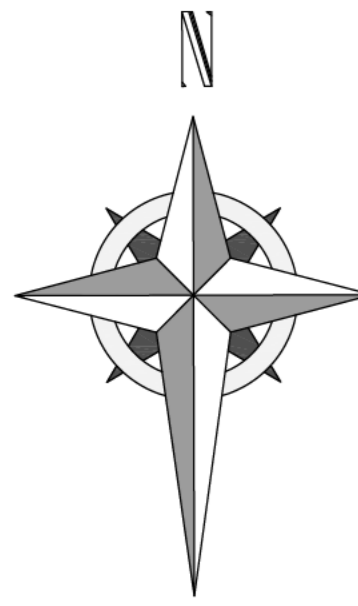
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Drawn: **PL** Checked: **LM** First Issue: **23.11.2020**

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Revision	Date	Revision Notes	Drawn	Checked	Inspector
01	23.07.20	Final Issue	PL	TS	R
02	23.08.20	Revised	PL	TS	R
03	23.11.20	Revised	PL	TS	R
04	02.01.21	Revised	PL	TS	R
05	02.01.21	Updated Zones	PL	TS	LM
06	15.02.21	Revised	PL	TS	LM
07	23.03.21	Updated Zones	PL	TS	LM
08	23.03.21	Updated Zones	PL	TS	LM
09	23.03.21	Updated Zones	PL	TS	LM
10	02.07.21	Updated Zones	PL	TS	LM
11	02.07.21	Updated Zones	PL	TS	LM
12	02.07.21	Updated Road Lines	PL	TS	LM
13	23.08.21	Updated Road Lines, Updated Zones	PL	TS	LM
14	02.09.21	Updated	PL	TS	LM
15	15.10.21	Amendments to Road Line	PL	TS	LM
16	15.10.21	Updated Zones	PL	TS	LM
17	15.10.21	Development Zone 6 Added	PL	TS	LM
18	23.08.22	Road Line Amended	PL	TS	LM
19					
20					

LEGEND:

PROPOSED SITE

DEVELOPMENT ZONE

Status: **PLANNING**

Project: **Pelham Spring Solar Farm**



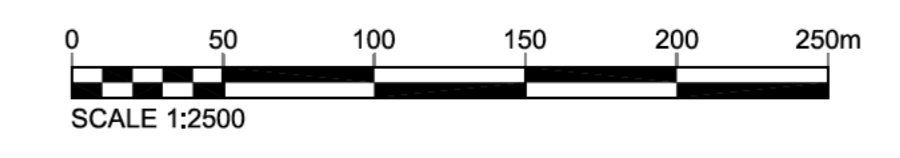
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Drawing Title: **Pelham Spring Development Zone Plan**

Drawn: PL Checked: TS First Issued: 22.07.2020

Project Code: LCS032- DZ-01 Drawing Number:

Sheet Size: A0 Scale: 1:2500 Revisions: 20

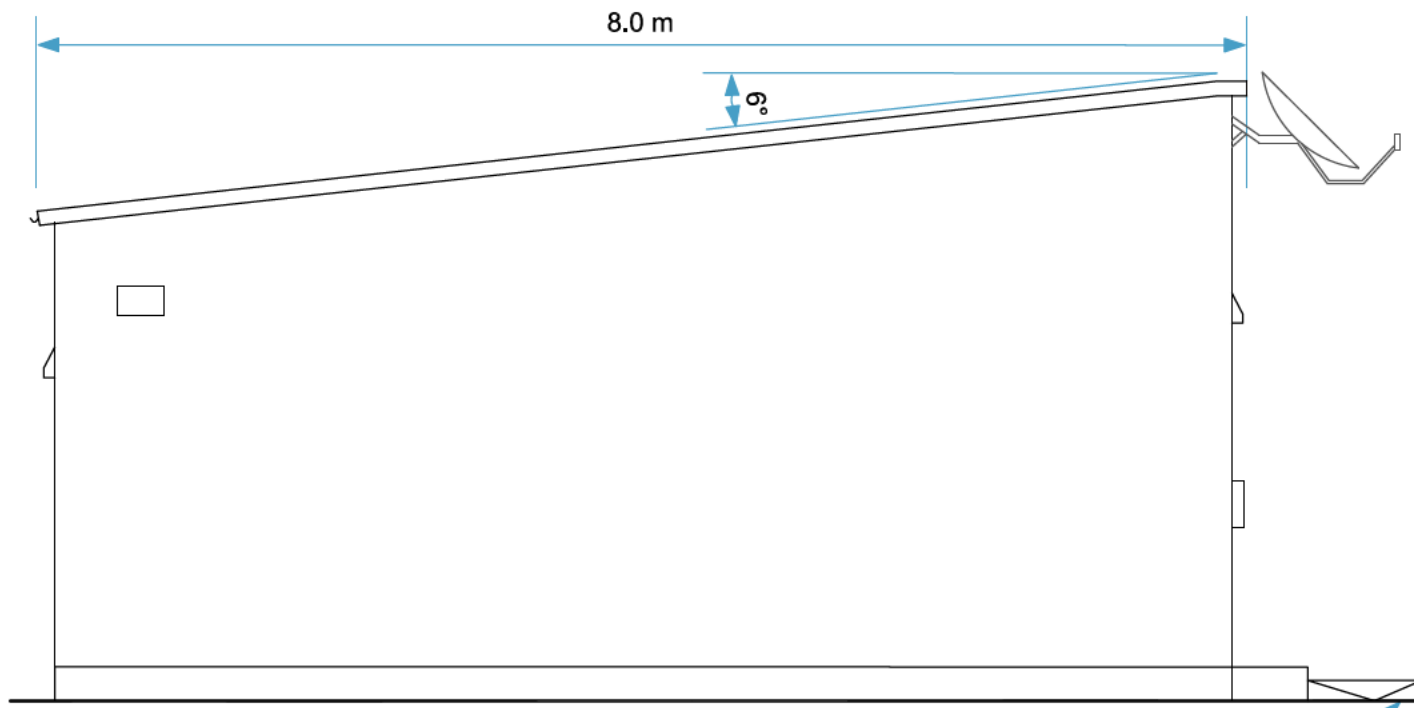


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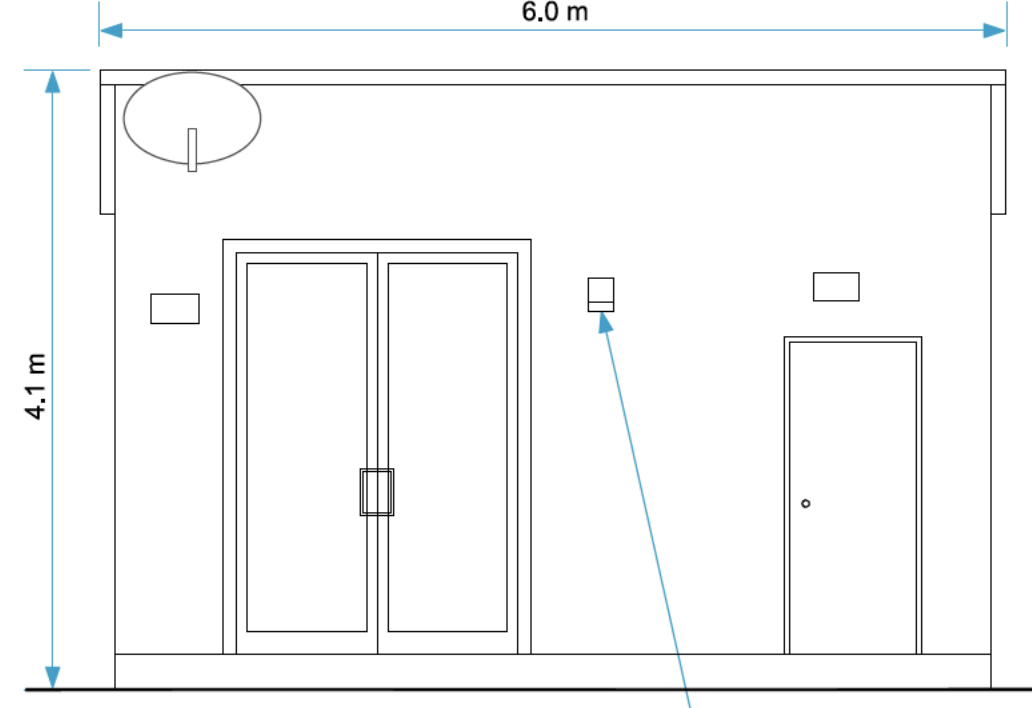
Revisions:				
Revision	Date	Revision Notes	Drawn	Inspected
01	23.07.20	First Issue	HN	IL
02	10.08.20	Revised	HN	IL

NOTES:

NB: DNO cabin dimensions will vary, dependant on network operator design requirements, selected at the detailed design stage. Measurements are indicative only.

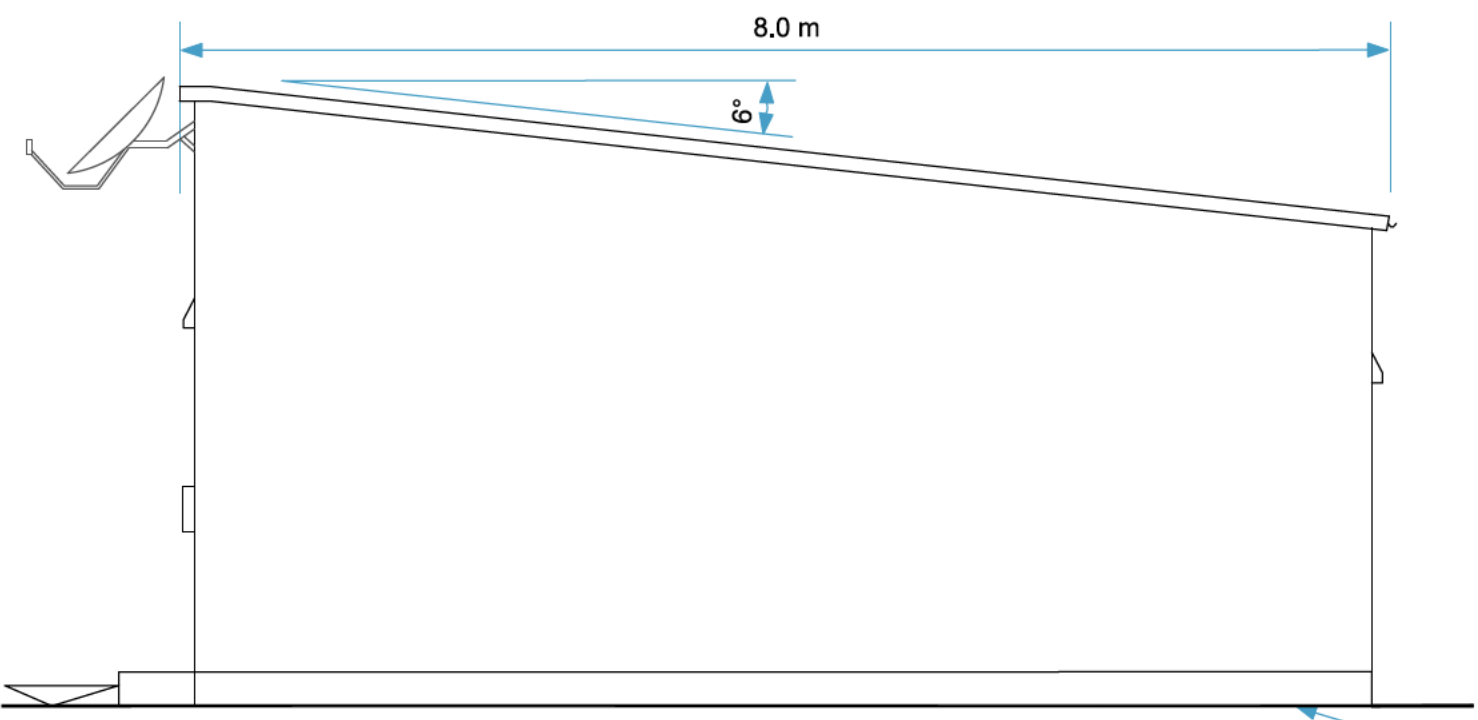


Left Elevation

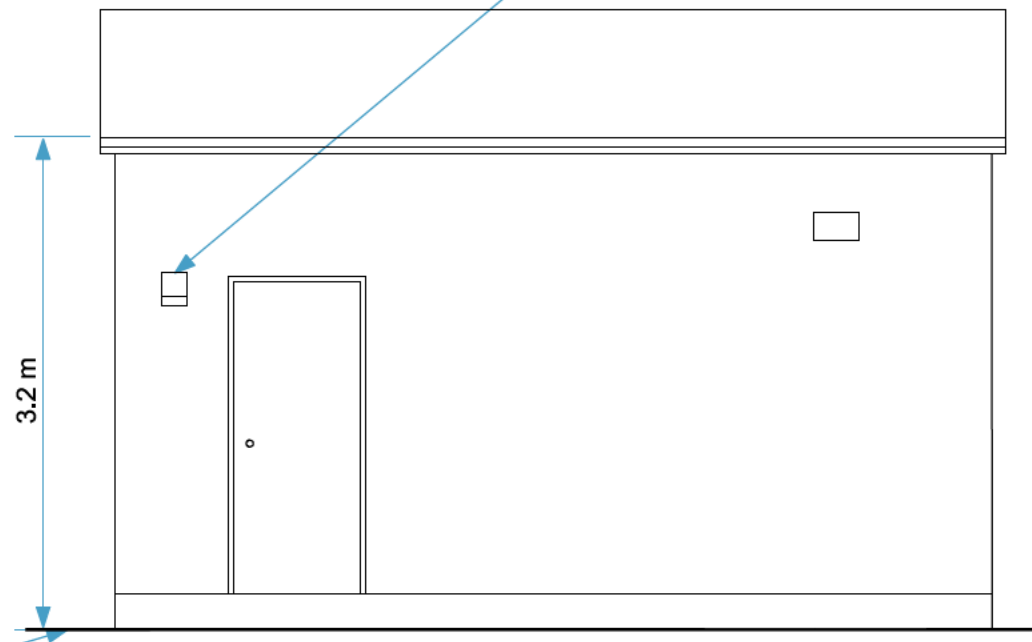


Front Elevation

Bulk Head Light



Right Elevation



Rear Elevation

Status: **FOR PLANNING**



13 Berkeley Street, London W1J 8DU
 Tel: +44(0)207 4090700
 enquiry@lowcarbon.com www.lowcarbon.com

Drawing Title: **DNO Substation Elevations and Dimensions Plan**

Drawn: HN Checked: IL First Issued: 23.07.2020

Project Code: LCS- Drawing Number: SD-01

Sheet Size: A3 Scale: 1:50 Revision: 02



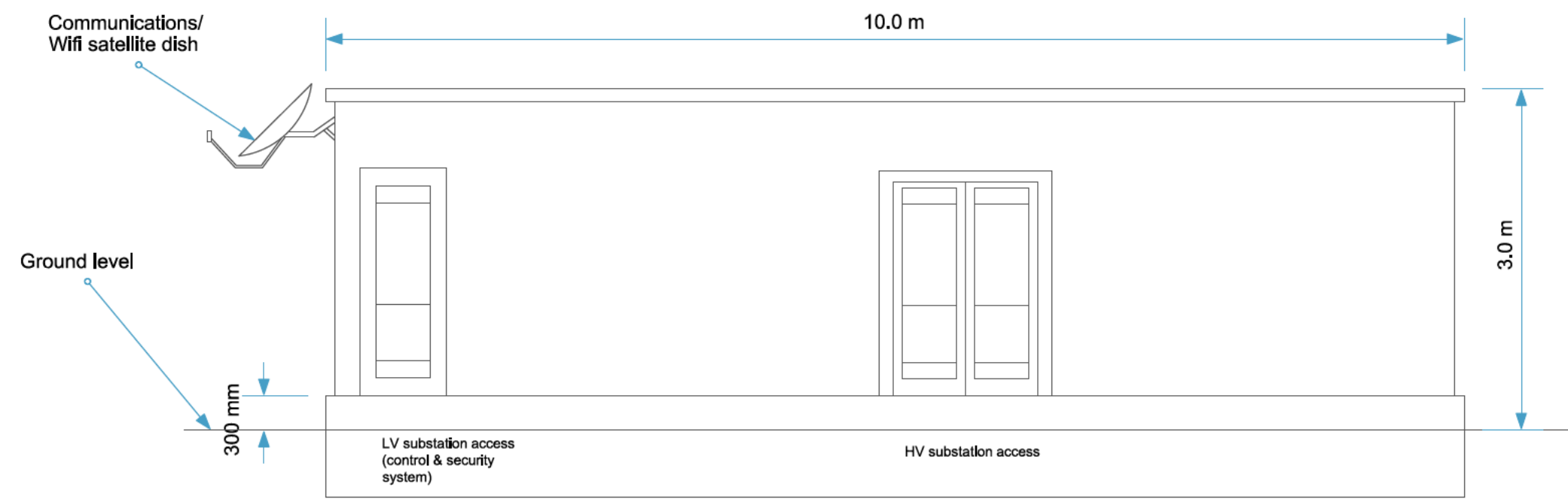
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Revisions:

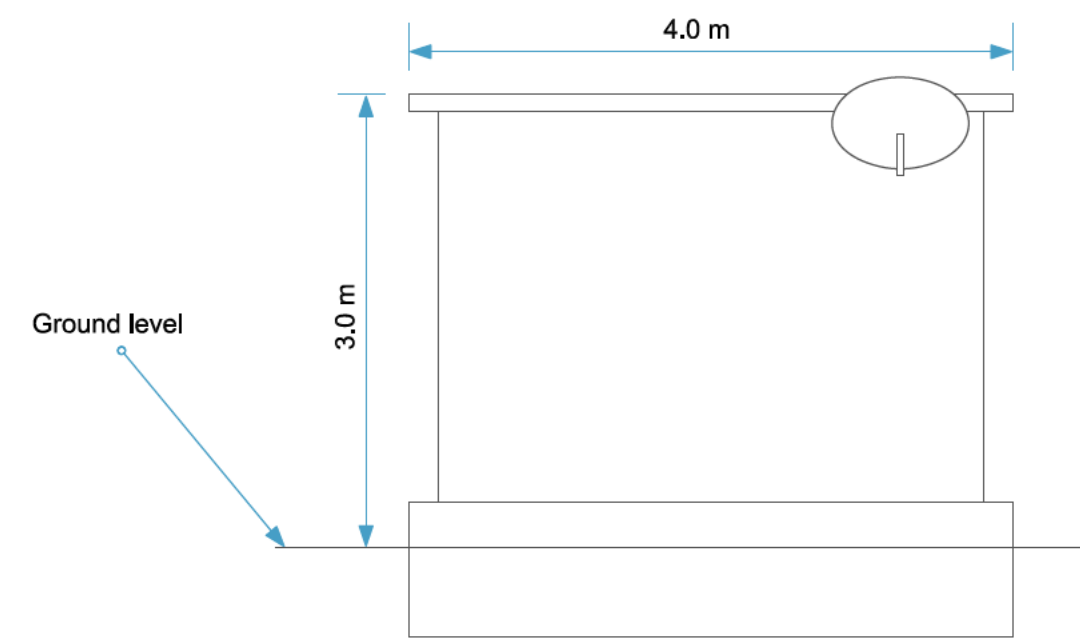
Revision	Date	Revision Notes	Drawn	Inspected
01	23.07.20	First Issue	HN	IL
02	10.08.20	Revised	HN	IL

NOTES:

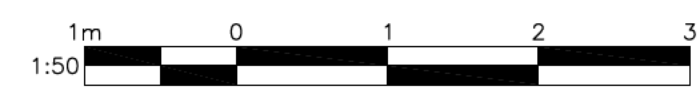
NB: Customer Substation dimensions will vary, dependant on manufacturers selected at the detailed design stage. Measurements are indicative only.



Front Elevation



Side Elevation



Status: **FOR PLANNING**



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Drawing Title: **Customer Substation Elevations and Dimensions Plan**

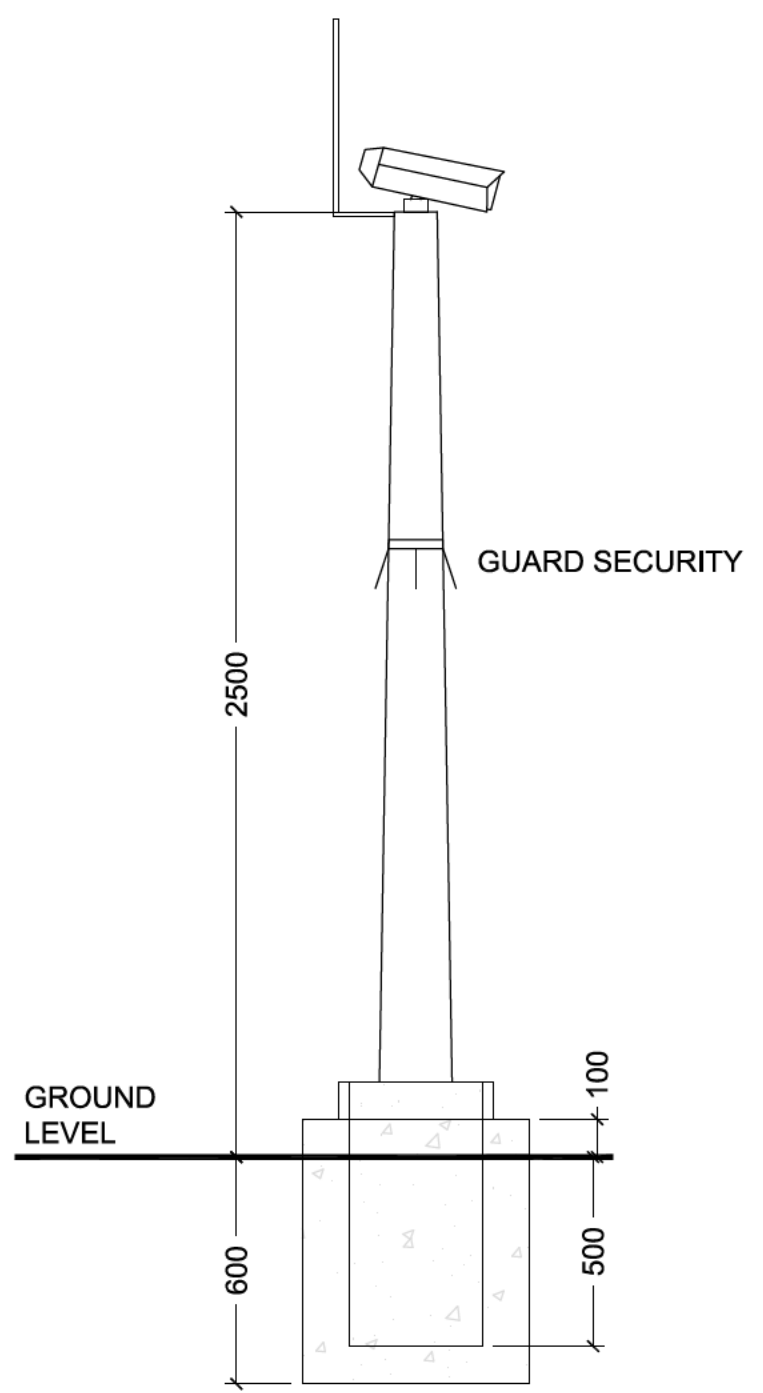
Drawn: HN	Checked: IL	First Issued: 23.07.2020
Project Code: LCS-	Drawing Number: SD-02	
Sheet Size: A3	Scale: 1:50	Revision: 02

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Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	23.07.20	First Issue	HN	IL

NOTES:



STANDARD CAMERA POST



Status: **FOR PLANNING**



13 Berkeley Street, London W1J 6EU
 Tel: +44(0)207 4080700
 enquiries@lowcarbon.com www.lowcarbon.com

Drawing Title: **Indicative CCTV Post - Standard Drawings**

Drawn: HN	Checked: IL	First Issued: 23.07.2020
Project Code: LCS-	Drawing Number: SD-03	
Sheet Size: A3	Scale: 1:20	Revision: 01

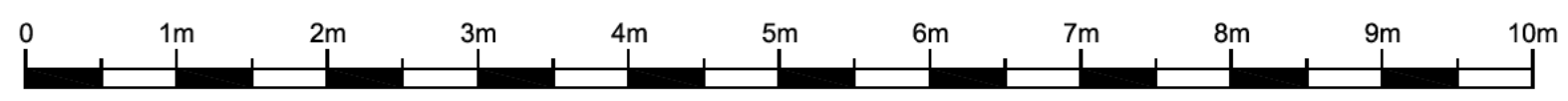
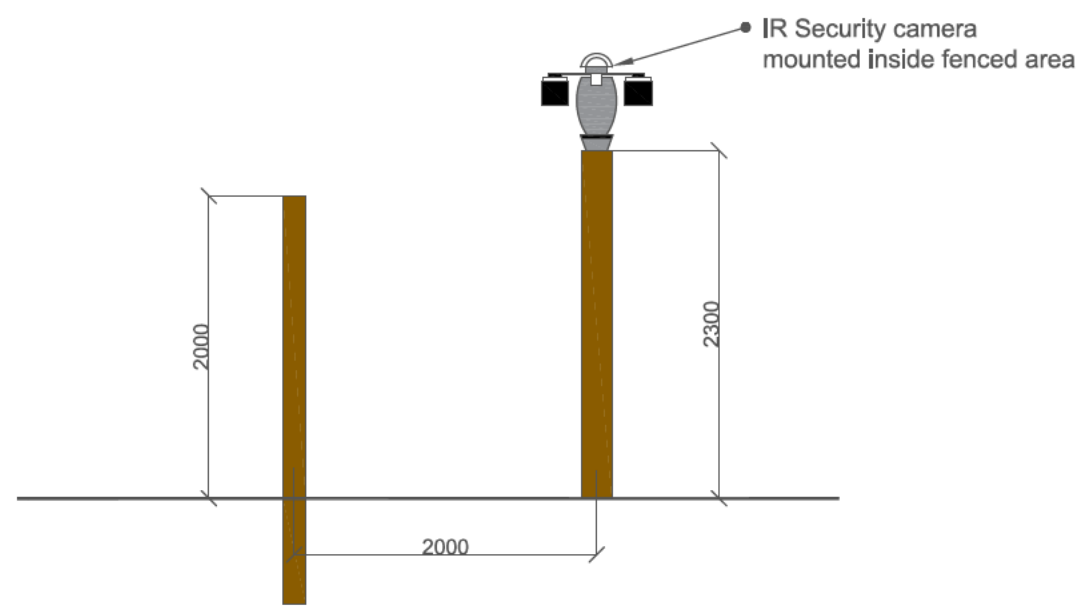
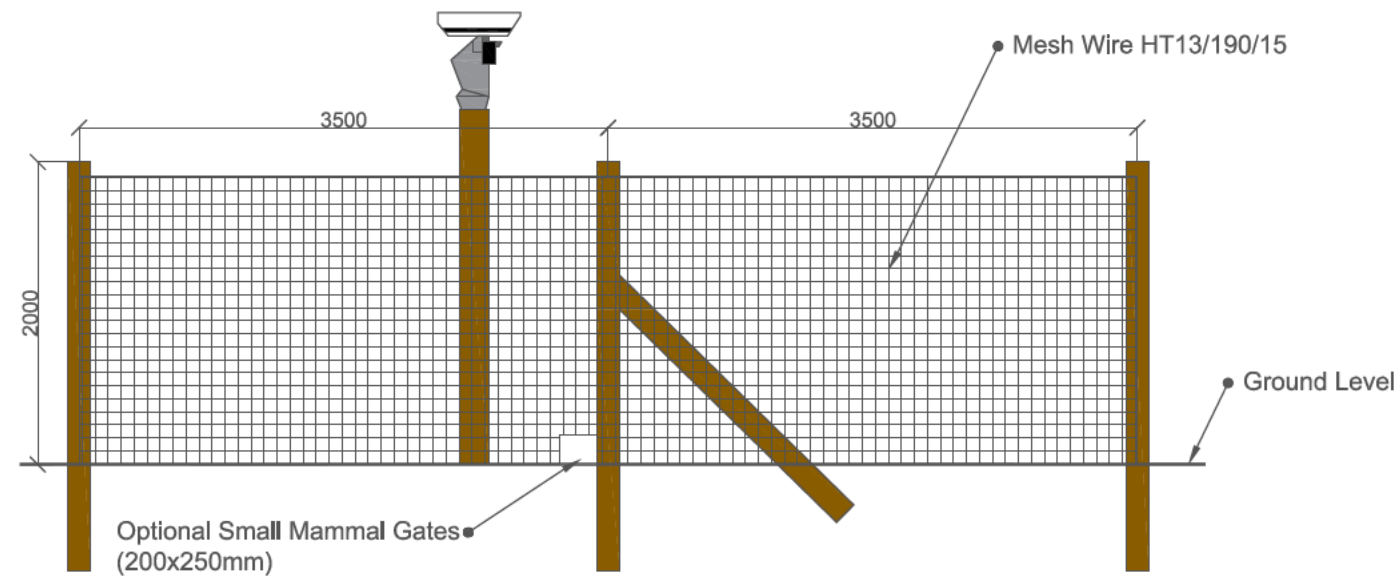
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Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	05.06.20	First Issue	PL	IL
02	10.08.20	Revised		

NOTES:

- The colour of the cabins and components on site will be painted RAL 6005 Moss Green, or to the LPA preference.
- Cameras to either be placed inside fence line or mounted on directly onto fence posts. To be confirmed in the final EPC contract.



SCALE 1:50

Status: **FOR PLANNING**



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Drawn Title: **Security Fence and CCTV Standard Detail**

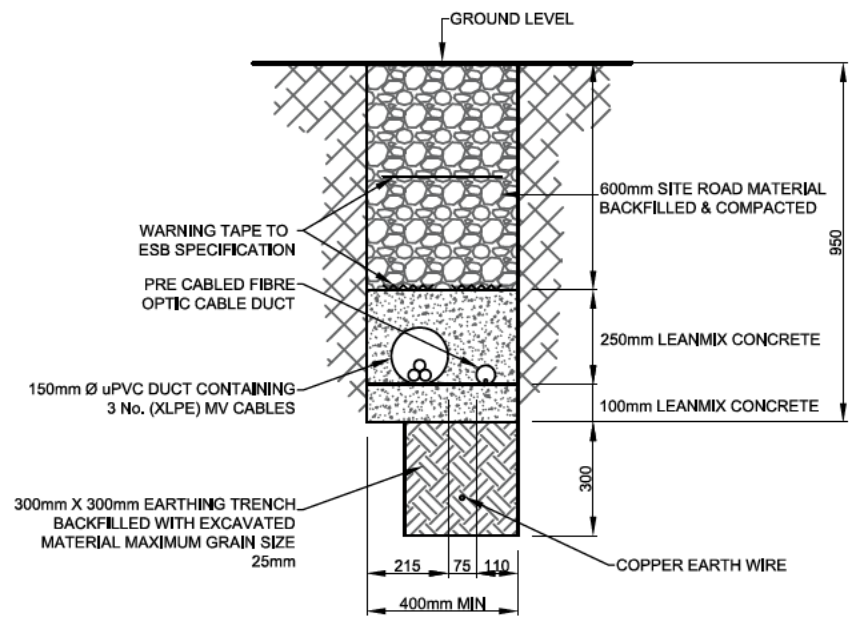
Drawn: PL	Checked: IL	First Issued: 05.06.20
Project Code: LCS-	Drawing Number: SD-04	
Sheet Size: A3	Scale: 1:50	Revision: 02

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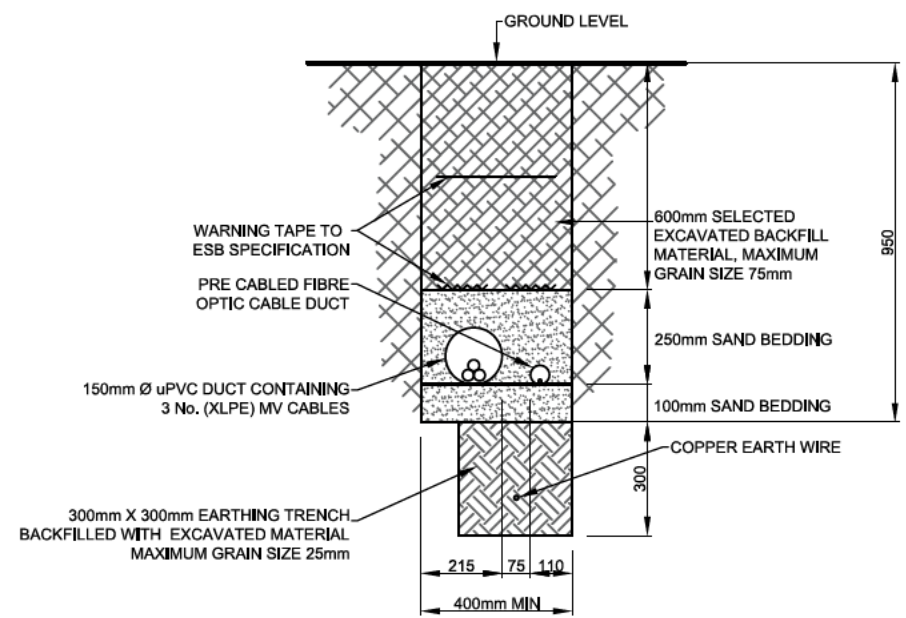
Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	23.07.20	First Issue	HN	IL

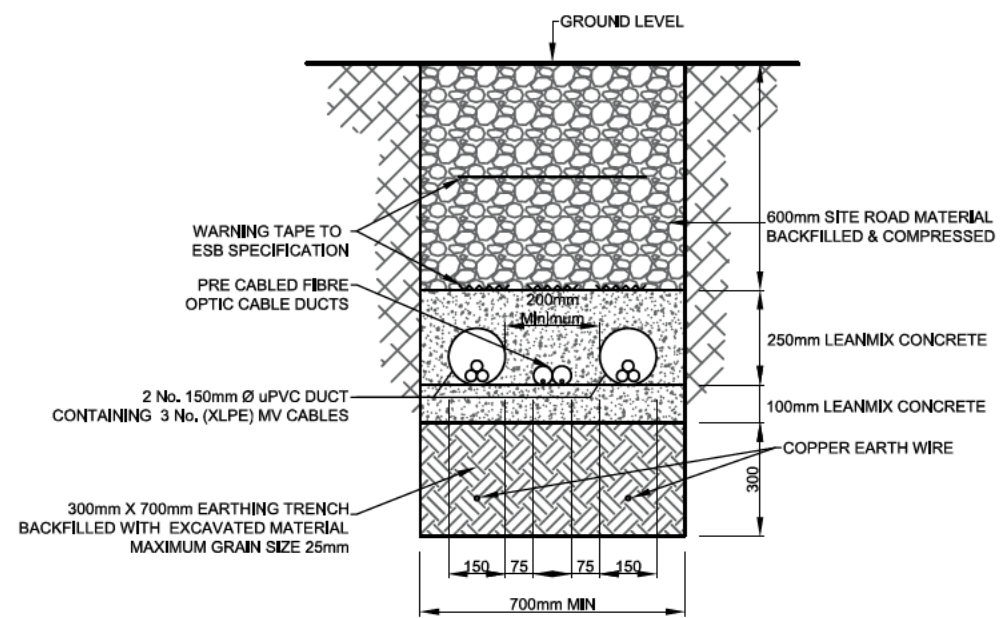
NOTES:



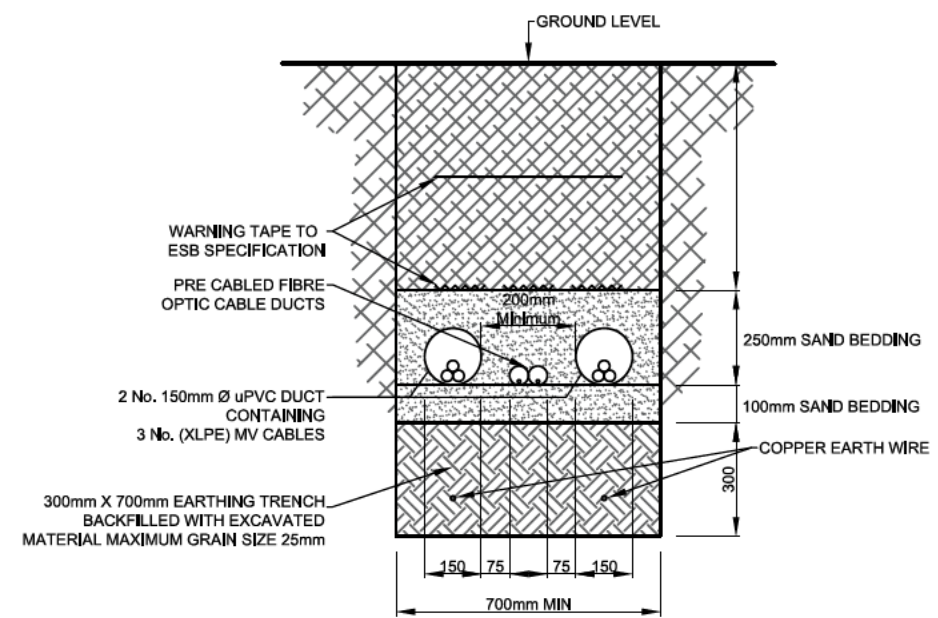
CABLE TRENCH IN SITE ROADWAY & FORESTRY CROSSING POINTS SINGLE CIRCUIT



CABLE TRENCH IN OPEN GROUND SINGLE CIRCUIT



CABLE TRENCH IN SITE ROADWAY & FORESTRY CROSSING POINTS TWIN CIRCUIT



CABLE TRENCH IN OPEN GROUND TWIN CIRCUIT

ALL DIMENSIONS IN MILLIMETERS UNLESS STATED OTHERWISE

Notes:
 Depth of cable trenches to suit sub-surface conditions (i.e. to be located in stable soil conditions)
 Dimensions and specification are indicative only. The full specification and detail will be determined from ESB functional specification



Status: **FOR PLANNING**



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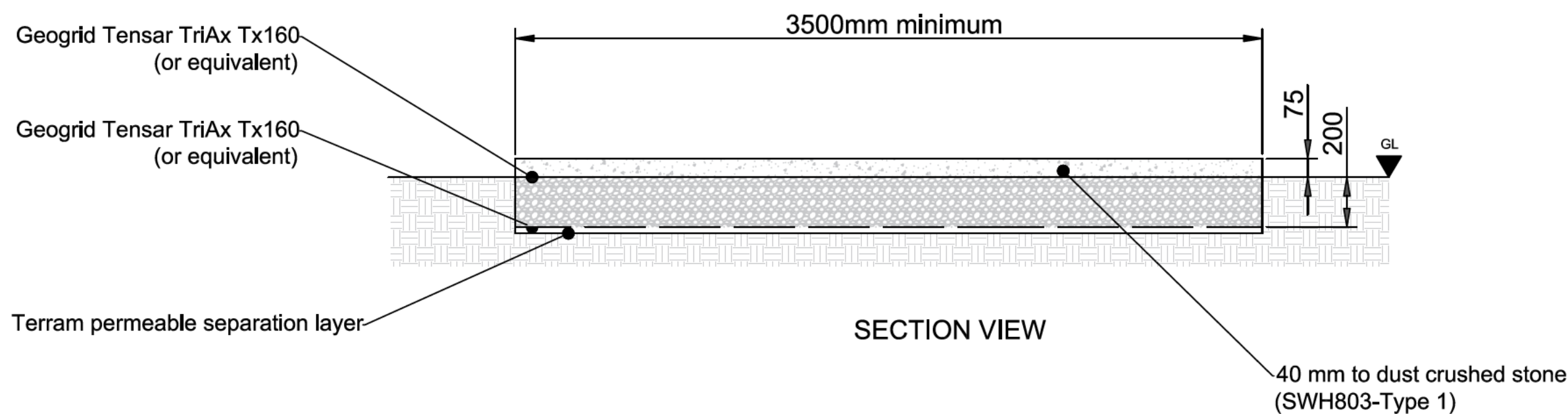
Drawing Title: **Cable Trench Cross Section**

Drawn: HN	Checked: IL	First Issued: 23.07.2020
Project Code: LCS-	Drawing Number: SD-05	
Sheet Size: A3	Scale: 1:20	Revision: 01

Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	23.07.20	First Issue	HN	IL

NOTES:

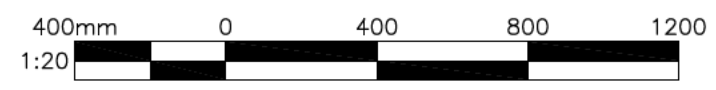


Status: **FOR PLANNING**



Drawing Title: **Access Track Cross Section**

Drawn: HN	Checked: IL	First Issued: 23.07.2020
Project Code: LCS-	Drawing Number: SD-06	
Sheet Size: A3	Scale: 1:20	Revision: 01

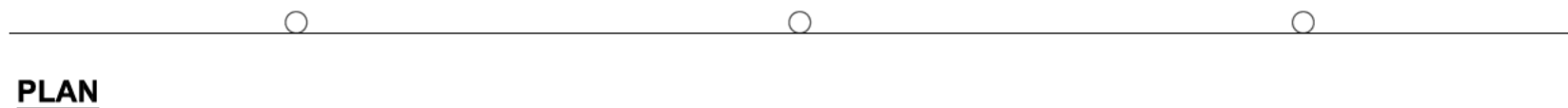
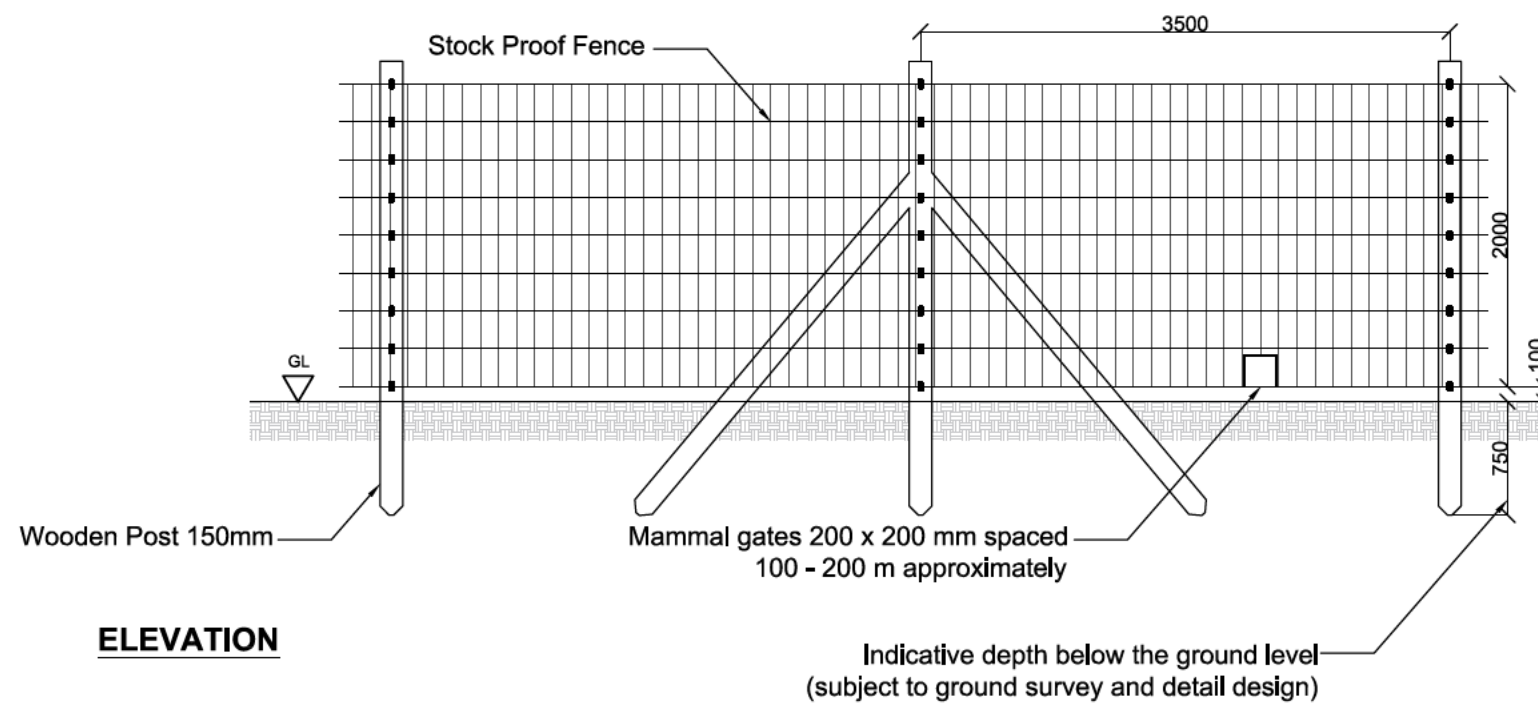


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Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	23.07.20	First Issue	HN	IL
02	20.01.20	Updated working		

NOTES:



SCALE 1:50

Status: **FOR PLANNING**



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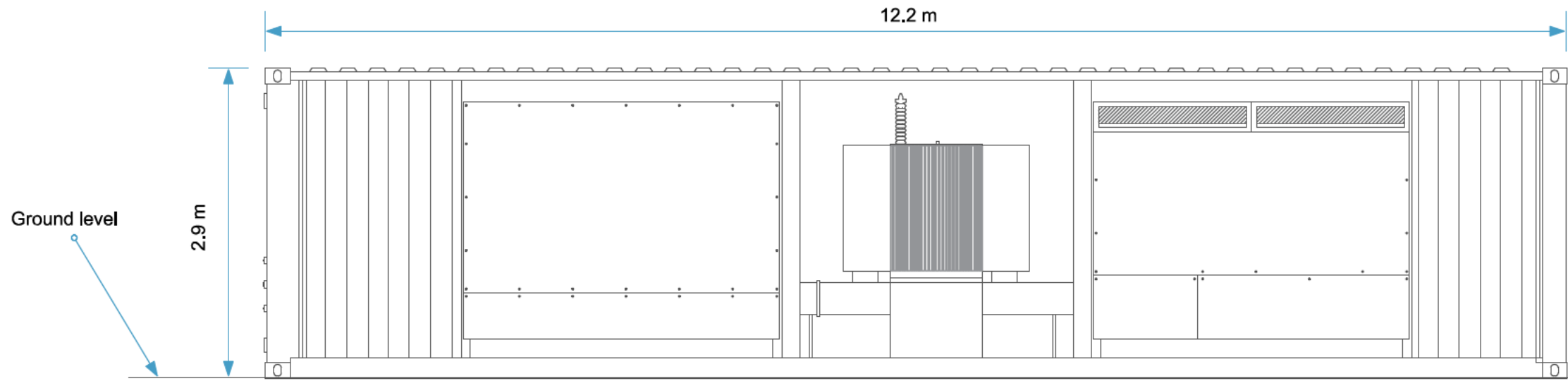
Drawing Title: Indicative Deer Fence - Standard Detail		
Drawn: HN	Checked: IL	First Issued: 23.07.2020
Project Code: LCS-	Drawing Number: SD-07	
Sheet Size: A3	Scale: 1:50	Revision: 02

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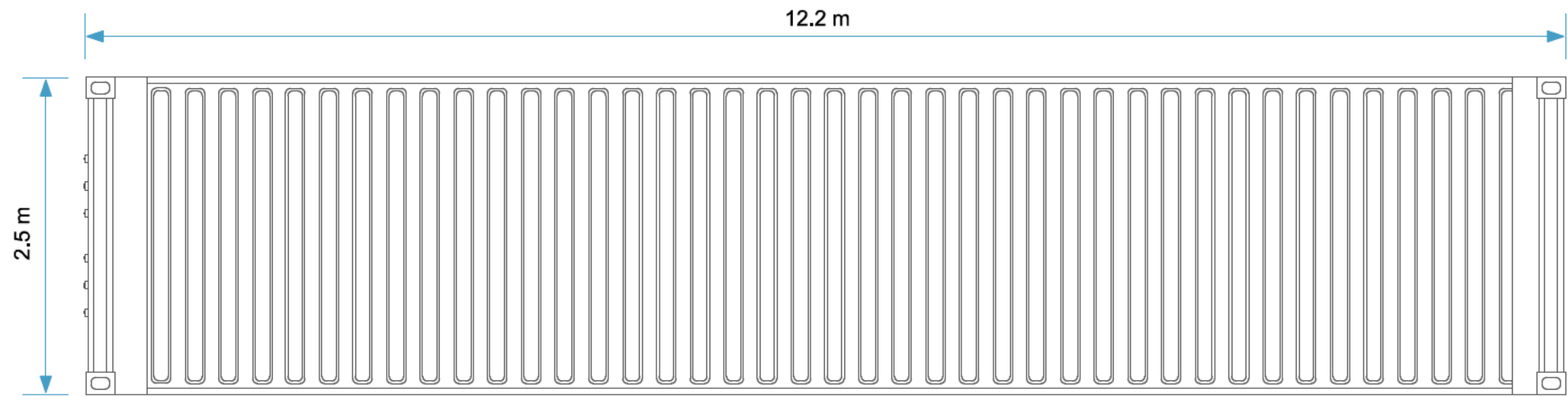
Revisions:				
Revision	Date	Revision Notes	Drawn	Inspected
01	23.07.20	First Issue	HN	IL
02	10.08.20	Revised	HN	IL

NOTES:

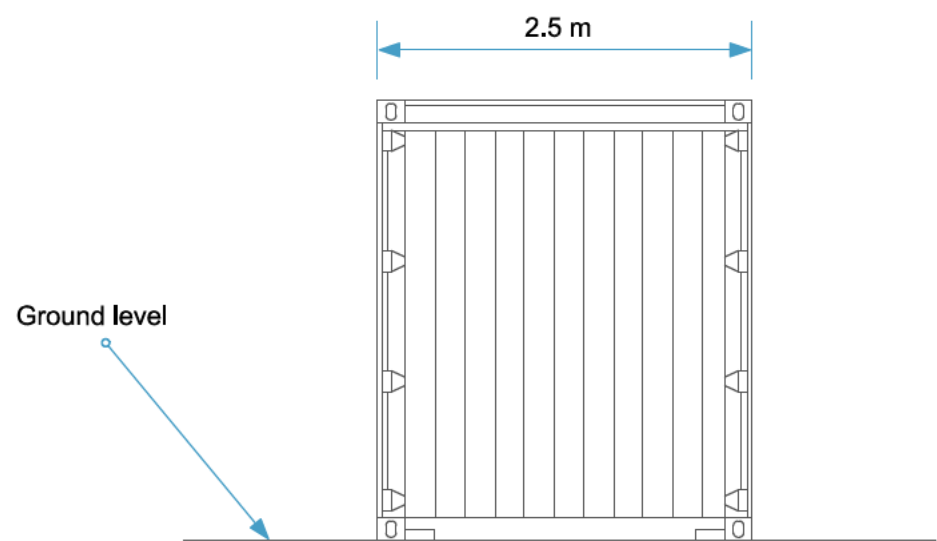
NB: Inverter dimensions will vary, dependant on manufactures selected at the detailed design stage. Measurements are Indicative only.



Front Elevation



Roof Plan



Side Elevation



Status: **FOR PLANNING**



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Drawing Title: **Inverter Elevations and Dimensions Plan**

Drawn: HN Checked: IL First Issued: 23.07.2020

Project Code: LCS- Drawing Number: SD-08

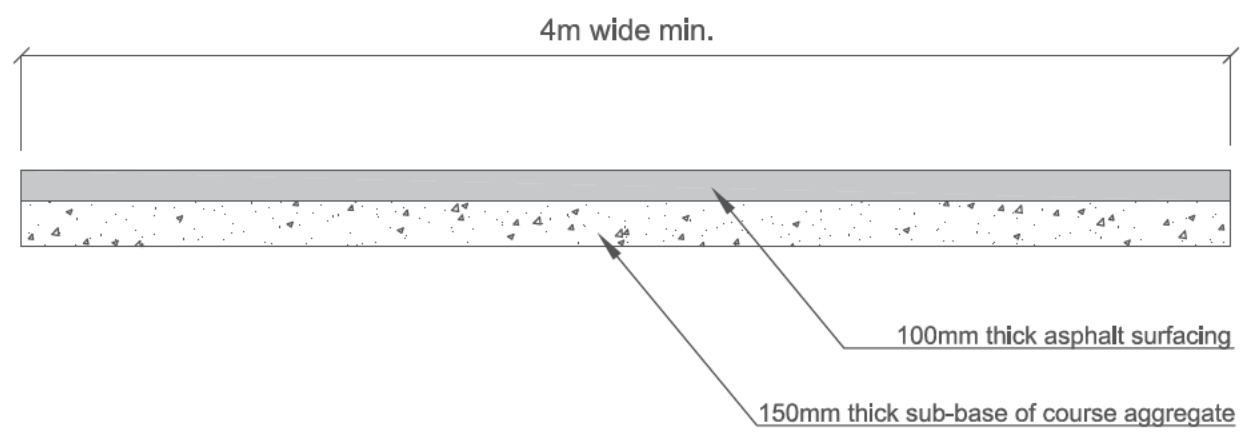
Sheet Size: A3 Scale: 1:50 Revision: 02

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Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	23.07.20	First Issue	HN	IL

NOTES:



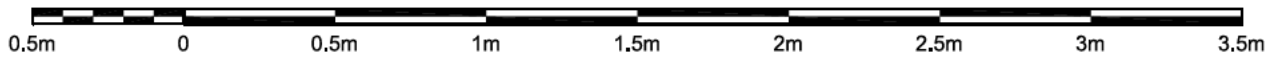
Status: **FOR PLANNING**



Drawn Title: **DNO Track Cross Section Standard Detail**

Drawn: HN	Checked: IL	First Issued: 23.07.2020
Project Code: LCS-	Drawing Number: SD-09	
Sheet Size: A3	Scale: 1:25	Revision: 01

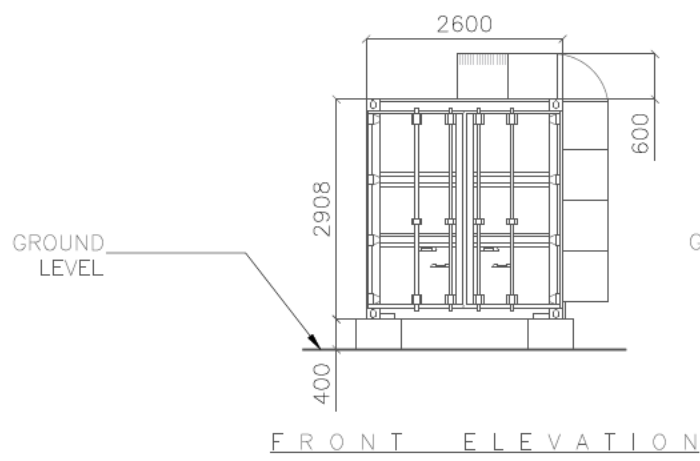
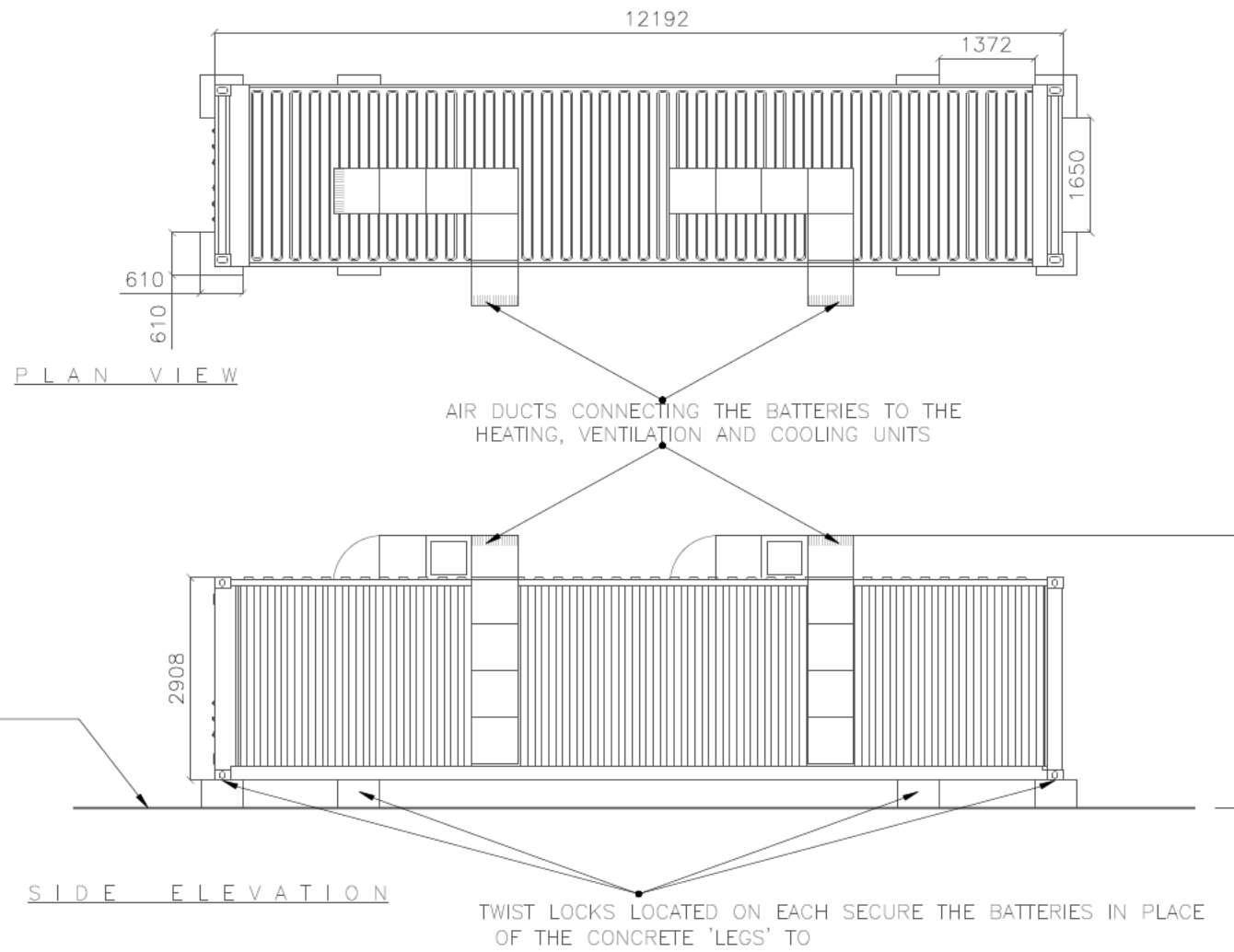
1:25



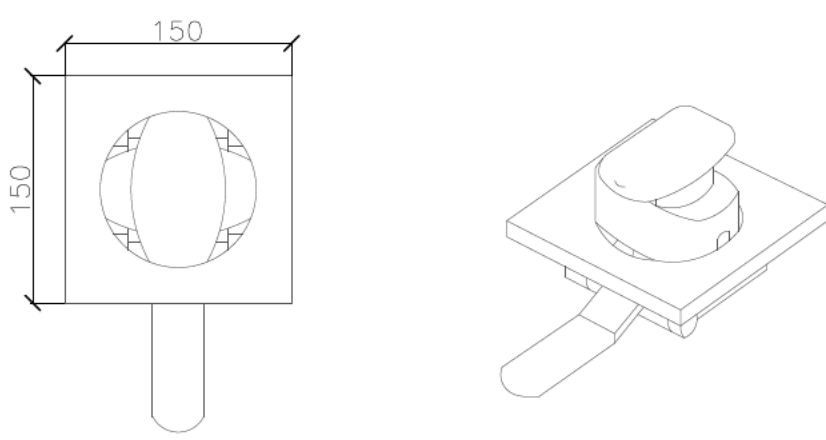
Revisions:

Revise on	Date	Revision Notes	Drawn	Inspected
01	21.06.21	First issue	JS	LM

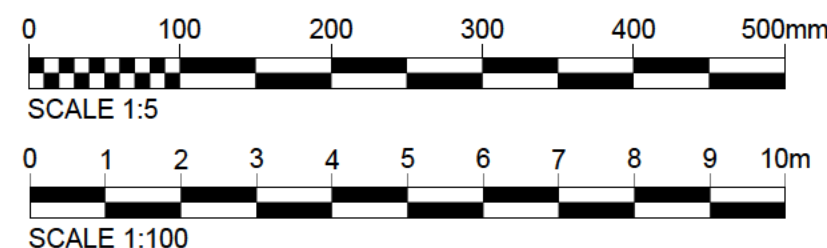
NOTES:



1 BATTERY CONTAINER PLAN AND ELEVATIONS
 Scale: 1:100@A3



2 WELD TWIST LOCK EXAMPLE
 Scale: 1:5@A3



Status: **PLANNING**



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Drawing Title: **40ft Battery Container (HVAC on ground) Standard Detail**

Drawn: JS Checked: LM First Issued: 21.06.2021

Project Code: **LCS- SD-11**

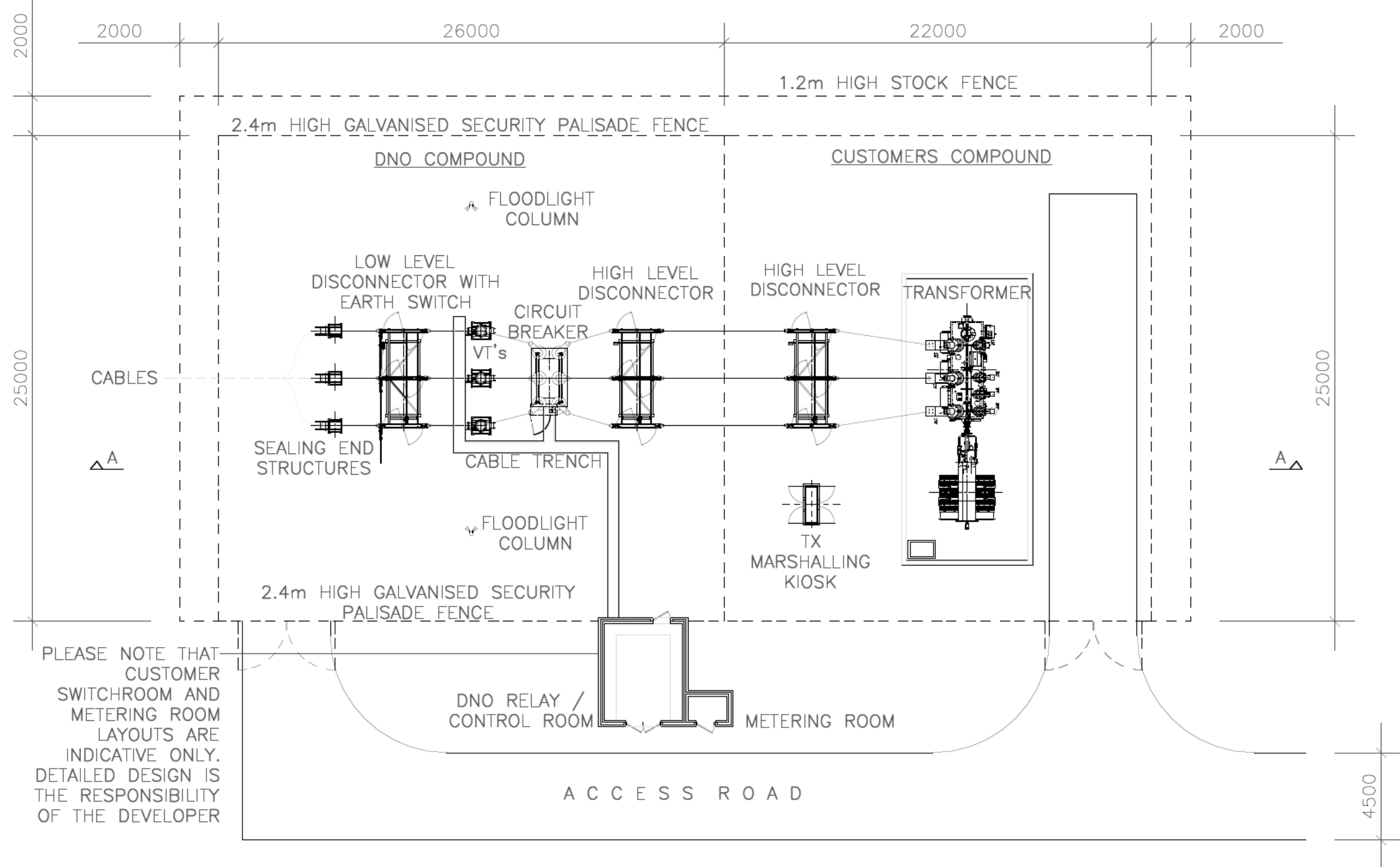
Sheet Size: A3 Scale: AN Revision: 01

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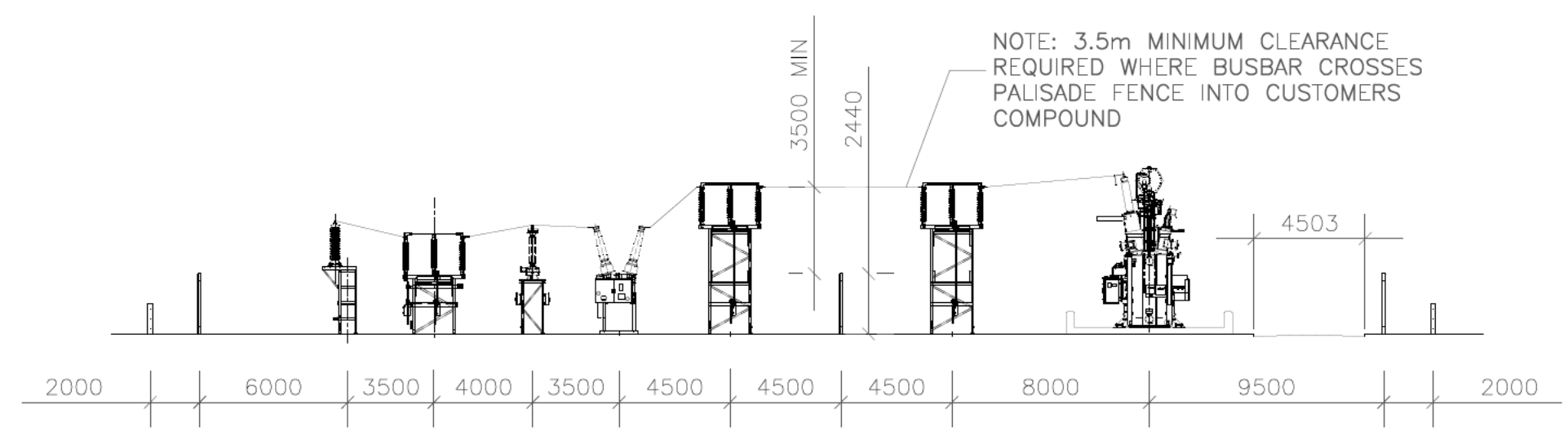
Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	07.07.21	First Issue	JS	LM

NOTES:

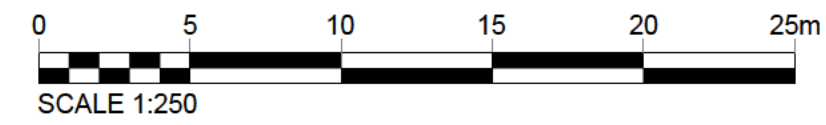


PLEASE NOTE THAT CUSTOMER SWITCHROOM AND METERING ROOM LAYOUTS ARE INDICATIVE ONLY. DETAILED DESIGN IS THE RESPONSIBILITY OF THE DEVELOPER



SECTION A-A

1 SUBSTATION COMPOUND PLAN
 Scale: 1:250@A3



Status: **FOR PLANNING**



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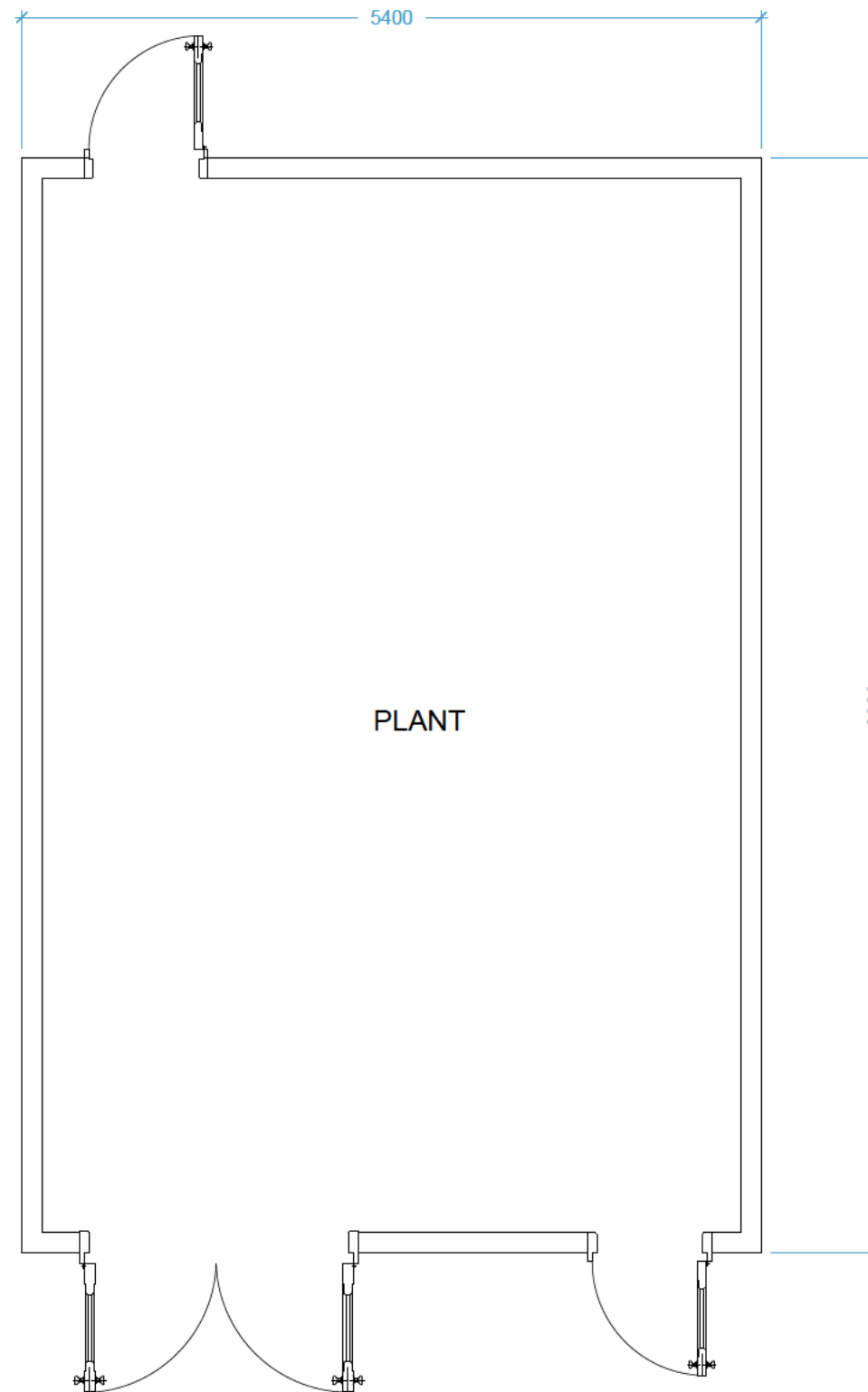
Drawing Title: **Substation Compound Plan**

Drawn: JS	Checked: LM	First Issued: 07.07.2021
Project Code: LCS-	Drawing Number: SD-13	
Sheet Size: A3	Scale: 1:250	Revision: 01

Revisions:

Revis on	Date	Revision Notes	Drawn	Inspected
01	07.07.21	First Issue	JS	LM

NOTES:



1 DNO SUBSTATION PLAN
Scale: 1:50@A3



Status: **FOR PLANNING**



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Drawing Title: **DNO Substation Plan**

Drawn: JS	Checked: LM	First Issued: 07.07.2021
Project Code: LCS-	Drawing Number: SD-14	
Sheet Size: A3	Scale: 1:50	Revision: 01

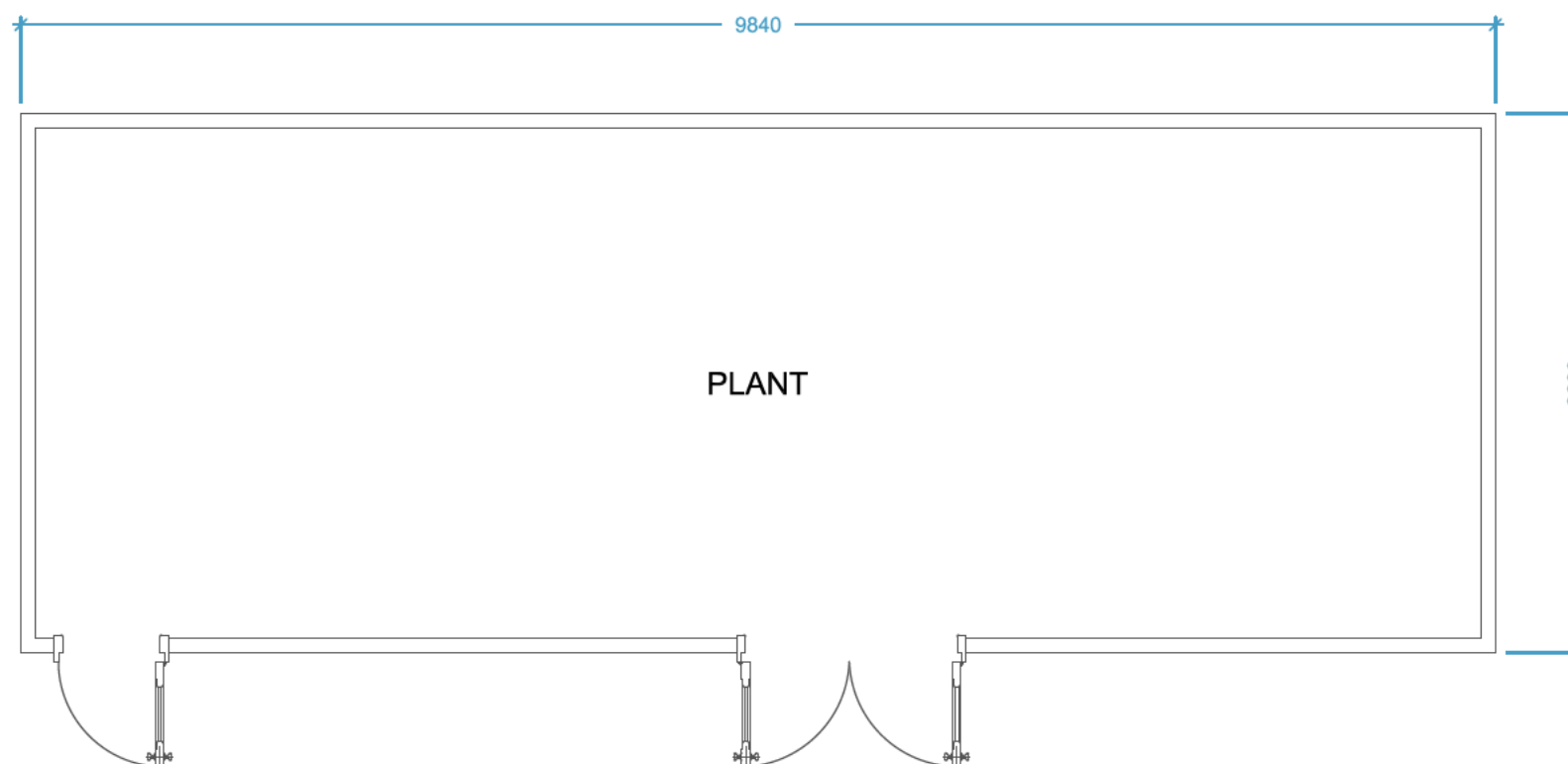
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Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	15.09.20	First Issue	PL	IL

NOTES:

NB: Customer Substation dimensions will vary, dependant on manufactures selected at the detailed design stage. Measurements are Indicative only.



Status:

FOR PLANNING



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Drawing Title:

Customer Substation Floor Plan

Drawn: PL	Checked: IL	First Issued: 15.09.2020
Project Code: LCS-	Drawing Number: SD-15	
Sheet Size: A3	Scale: 1:50	Revision: 01



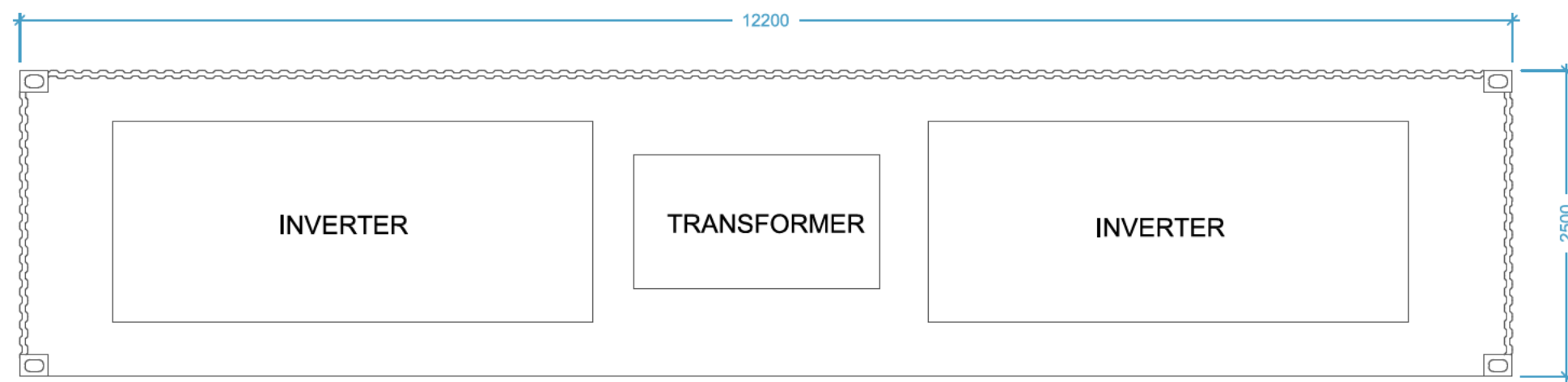
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Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	15.09.20	First Issue	PL	IL

NOTES:

NB: Inverter dimensions will vary, dependant on manufactures selected at the detailed design stage.
 Measurements are Indicative only.



Status:

FOR PLANNING



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Drawing Title:

Inverter Floor Plan

Drawn: PL	Checked: IL	First Issued: 15.09.2020
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Project Code: LCS-	Drawing Number: SD-16
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Sheet Size: A3	Scale: 1:50	Revision: 01
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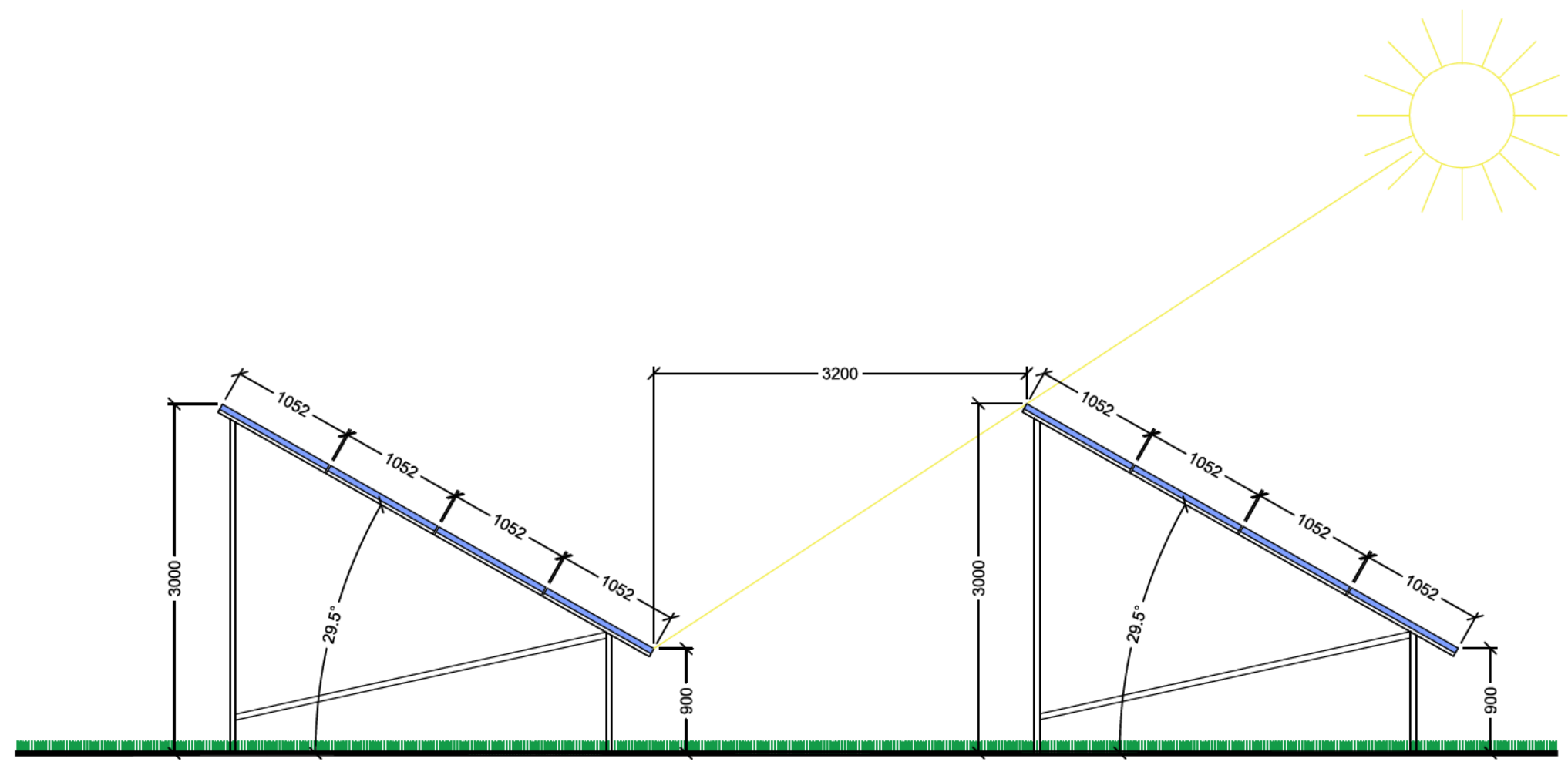


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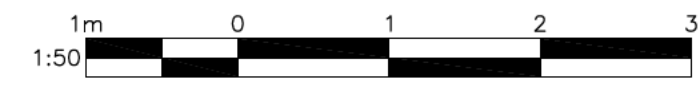
Revisions:

Revision	Date	Revision Note	Drawn	Inspected
01	26.10.20	First Issue	HN	LF

LEGEND:



1 PANEL CROSS SECTION
 Scale: 1:50@A3



Status: **FOR PLANNING**



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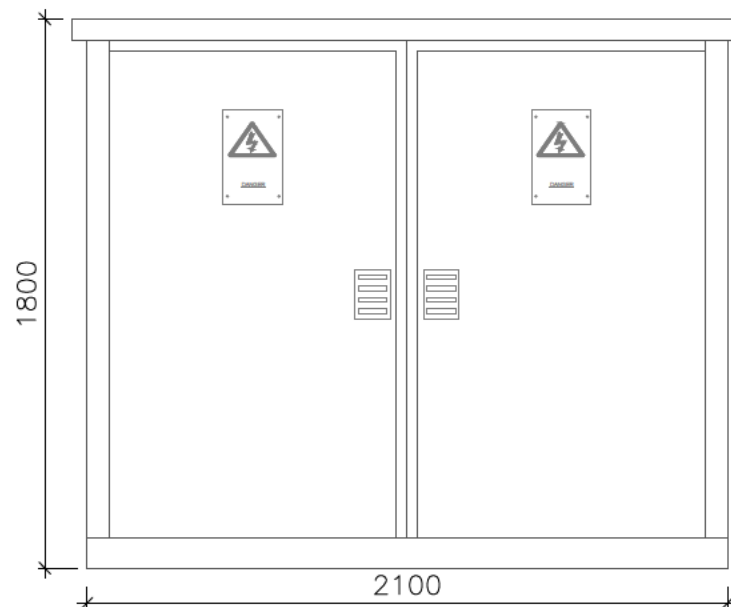
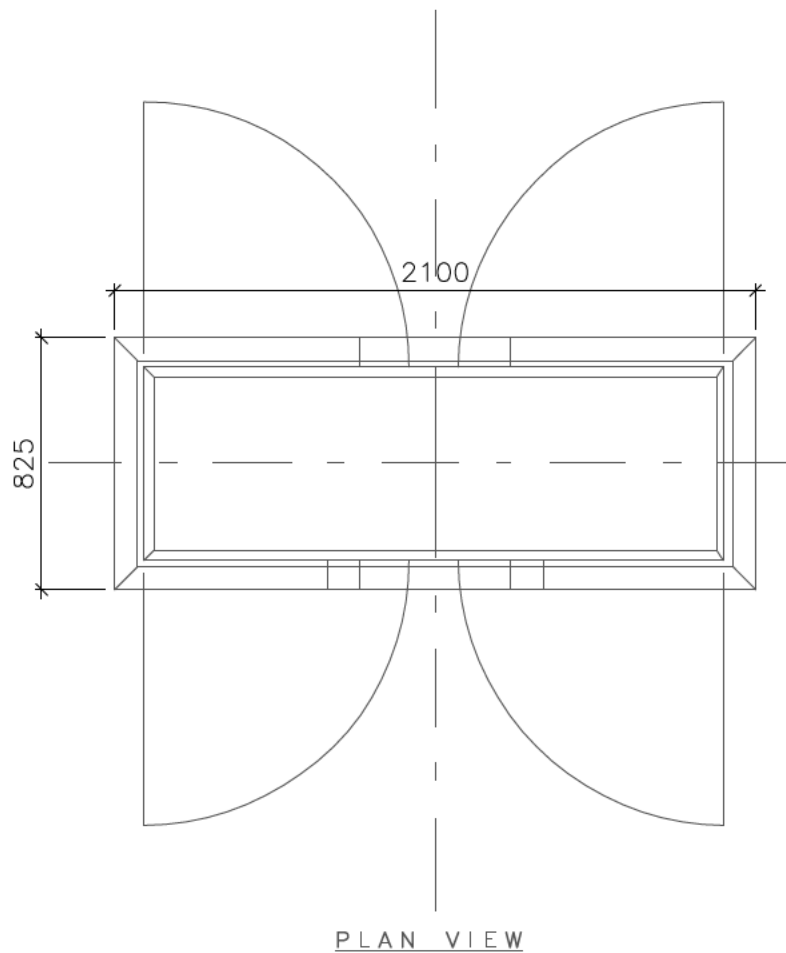
Drawing Title: **Panel Arrangement
 4 Landscape 29.5° Tilt**

Drawn: HN	Checked: LF	First Issued: 26.10.2020
Project Code: LCS-	Drawing Number: SD-17	
Sheet Size: A3	Scale: 1:50	Revision: 01

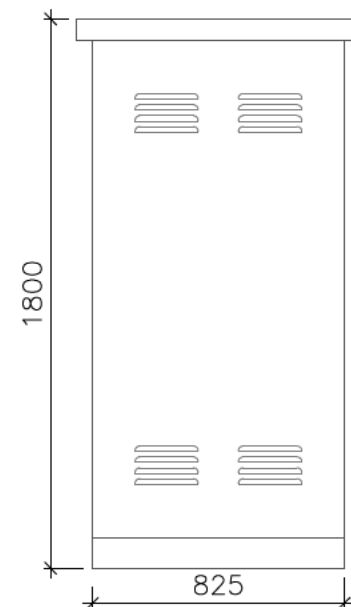
Revisions:

Revis on	Date	Revision Notes	Drawn	Inspected
01	21.06.21	First Issue	JS	LM

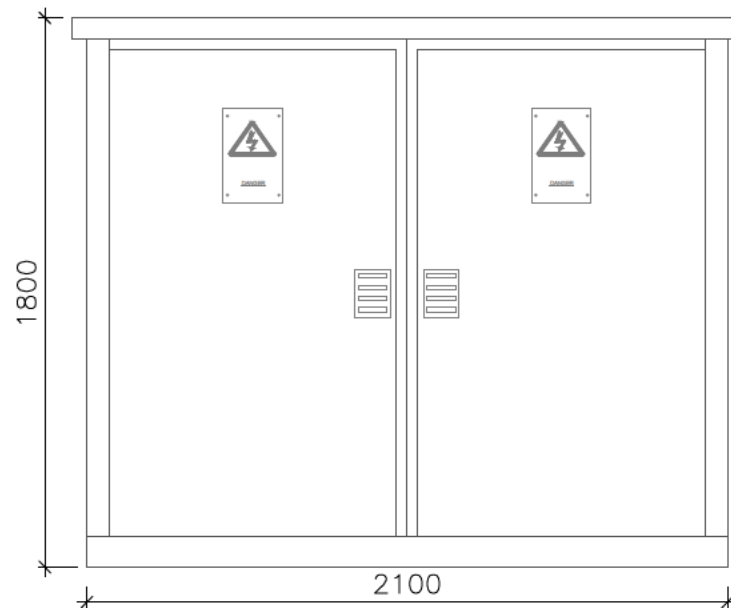
NOTES:



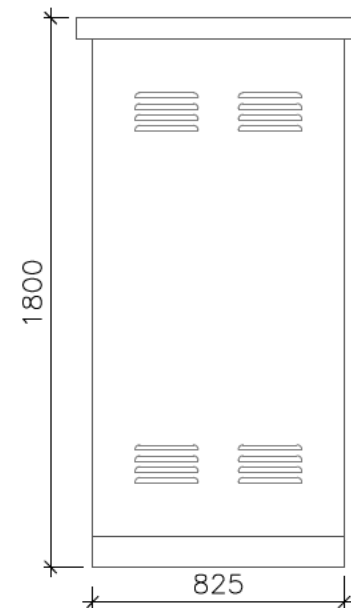
FRONT ELEVATION



RIGHT ELEVATION



REAR ELEVATION



LEFT ELEVATION

Status:

PLANNING



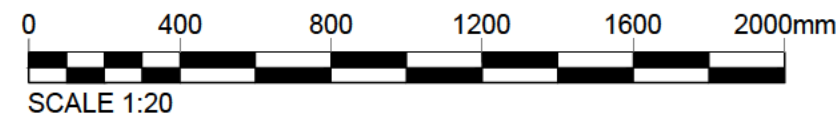
13 Berkeley Street, London W1J 8DU
 Tel: 0207 090700
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Drawing Title:

Meter Kiosk - Standard Detail

Drawn: JS	Checked: LM	First Issued: 21.06.21
Project Code: LCS-	Drawing Number: SD-20	
Sheet Size: A3	Scale: 1:20	Revision: 01

1 METER KIOSK
 Scale: 1:20@A3

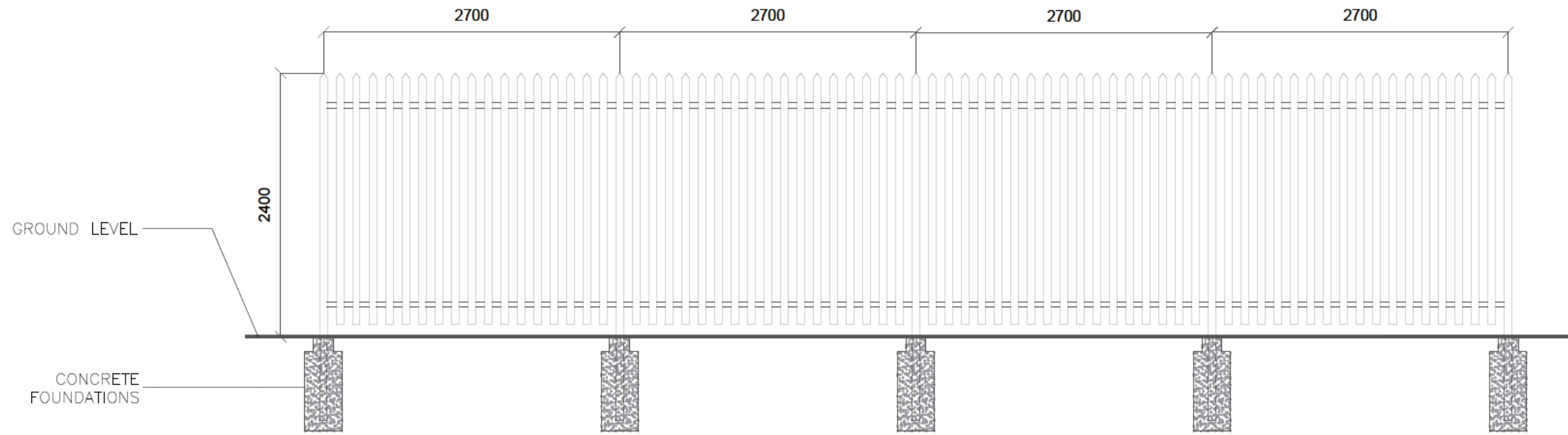


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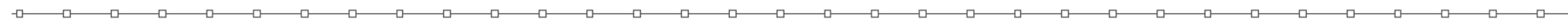
Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	21.06.21	First Issue	JS	LM

NOTES:



ELEVATION



PLAN

Status: **PLANNING**



Drawing Title: **132kV Substation Fence**

Drawn: JS	Checked: LM	First Issued: 21.06.21
Project Code: LCS-	Drawing Number: SD-25	
Sheet Size: A3	Scale: 1:50	Revision: 01

1 132kV SUBSTATION FENCE
 Scale: 1:50@A3



Town & Country Planning Act 1990 (as amended)
Planning and Compulsory Purchase Act 2004

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We are ISO certified 9001, 14001, 45001



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