

# MAES MAWR SOLAR FARM

## Construction Traffic Management Plan

JNY11208-01A  
Maes Mawr Solar Farm  
Construction Traffic Management  
Plan  
Version A  
16 September 2022

## Document Status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
A	Planning Application	Louise Sheppard / Joanna Gunn	David Archibald	David Archibald	16 September 2022

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Prepared by:

Prepared for:

### RPS Consulting Services Ltd

### Elgin Energy EsCo Ltd

Joanna Gunn  
Senior Consultant - Transport

20 Western Avenue, Milton Park,  
Abingdon, Oxfordshire OX14 4SH

T 01235 432 190  
E joanna.gunn@rpsgroup.com

## Contents

1	INTRODUCTION.....	1
2	CONSTRUCTION PROCESS .....	4
3	CONSTRUCTION TRAFFIC GENERATION .....	5
4	CONSTRUCTION VEHICLE ACCESS AND ROUTE .....	8
5	MEASURES, MANAGEMENT AND CONTROL.....	12
6	CONSTRUCTION WORKER TRAVEL PLAN .....	16

## Figures and Appendices

### APPENDICES

APPENDIX 1 – SITE LOCATION PLAN

APPENDIX 2 – SITE LAYOUT PLAN

APPENDIX 3 – EASTERN PARCEL PRELIMINARY ACCESS DESIGN

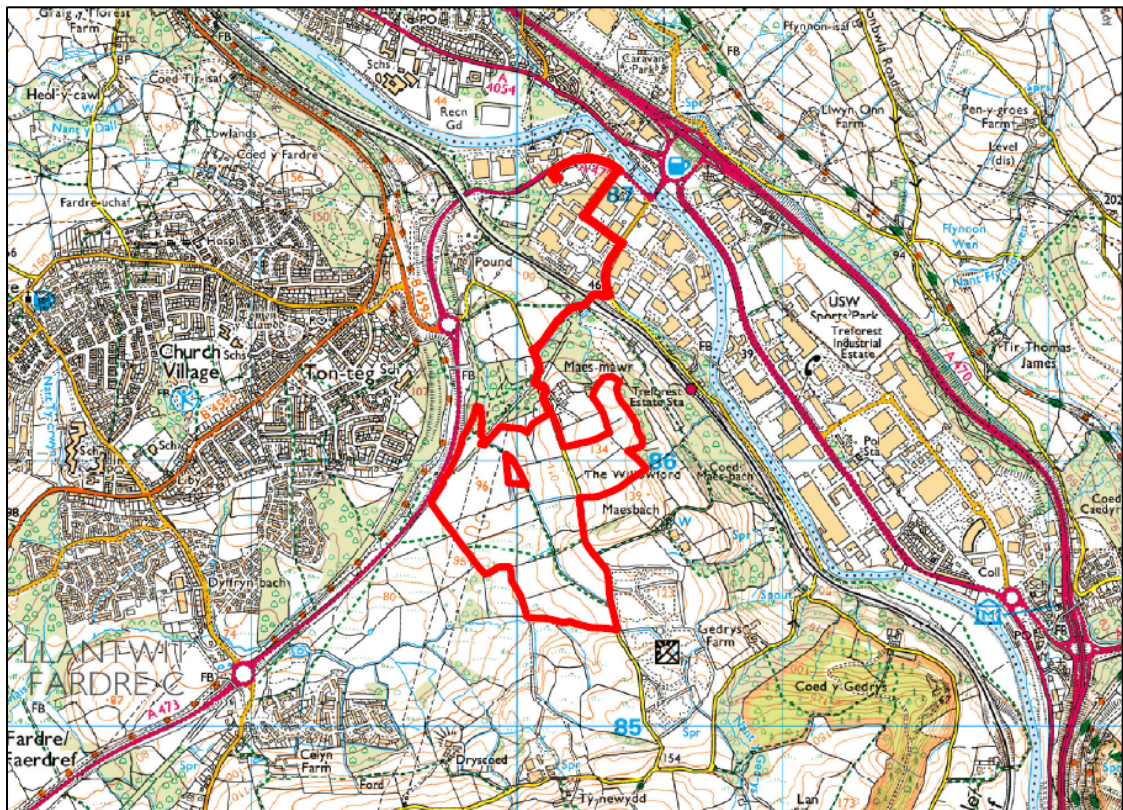
APPENDIX 4 – WESTERN PARCEL PRELIMINARY ACCESS DESIGN

APPENDIX 5 – WESTERN PARCEL PRELIMINARY ACCESS VISIBILITY SPLAYS

# 1 INTRODUCTION

- 1.1 This Construction Traffic Management Plan (CTMP) has been prepared by RPS on behalf of Elgin Energy EsCo Ltd (the 'Applicant') in support of a planning application for the proposed Maes Mawr Solar Farm (the 'Proposed Development').
- 1.2 The Proposed Development is located on farmland between Church Village and Treforest Industrial Estate (the 'Site') within the administrative boundary of Rhondda Cynon Taff Borough Council (RCTCBC) who are the Local Planning Authority (LPA) and Local Highway Authority (LHA). A site location plan is shown on **Figure 1** and attached at **Appendix 1**.

**Figure 1: Site Location**



- 1.3 The Site is approximately 40 hectares of land across two main parcels and largely comprises of semi-improved and marshy grassland bounded by hedgerows and field ditches. Maesmawr Road runs broadly north-south through the middle of the Site broadly creating eastern and western parcels. Areas of broadleaved woodland adjoins the Site to the north and east.
- 1.4 The A473 Church Village bypass adjoins the Site to the north-west with broadleaved woodland and residential areas on the opposite side of this road. Pastural fields bounded by hedgerows extend beyond the site boundary to the south. An operational solar park lies to the south-east of the Site.

- 1.5 Access to the western parcel of the Proposed Development would be taken from an established field access located on Maesmawr Road. Access to the eastern parcel of the Proposed Development would also be taken from an established field access located on Maesmawr Road.

## Development Proposals

- 1.6 The Proposed Development comprises of the installation a solar photovoltaic electricity generating station with an installed generation capacity of 30MW and associated ancillary development. A Site Layout Plan is attached at **Appendix 2**.
- 1.7 In summary the main components will include:
- Solar Panels and frames;
  - Inverters;
  - Transformers;
  - Cabling; and
  - Substation
- 1.8 The Site is proposed to operate for approximately 40 years, after this the Site will return to its previous greenfield character.

## Context and Scope

- 1.9 The principal aim of this CTMP is to ensure that the construction works are organised and delivered in a manner that safeguards the highway impact, highway safety and amenity of the area surrounding the Site.

## Local Highway Authority Consultation

- 1.10 RCTCBC has been consulted as part of a pre-application submission and provided comments regarding the Proposed Development. The pre-application response from their Highways Development Control Officer is dated 18<sup>th</sup> February 2022 and states:

### “Access

**The site is to be served off Maesmawr Road. Maesmawr Road successfully served as the means of access to the existing neighbouring solar farm (planning ref. 14/1014/10). As such, it is considered acceptable to serve the proposed solar farm in principle.**

**A forthcoming planning application should include a transport statement detailing trip generation associated with the construction, operational and decommissioning phases of the proposed solar farm. the statement should also detail the delivery route proposed for all required plant and materials to the site.**

**A forthcoming planning application should also provide details of the proposed access into the proposed solar farm indicating sufficient vision splays, junction radii for expected delivery vehicles, tie-in with the publicly maintained highway, etc.**

### Internal Arrangements

Space must be provided within the site to allow delivery vehicles to unload, turn and re-join the publicly maintained highway in a forward gear. Adequate parking provision must allow be provided internally.

### Summary

The proposed solar farm is in effect an extension of the existing solar farm constructed under planning ref. 14/1014/10. The previous solar farm was successfully constructed. The applicant should be mindful of the information submitted as part of that application as a similar level of information would be expected for this solar farm.

To conclude, the proposed solar farm is considered acceptable in principle, subject to adequate information being submitted as part of a forthcoming planning application. Planning permission ref. 14/1014/10 should form a basis for the level of information required.”

- 1.11 All comments and requirements for the planning application from the Highways Development Control Officer at RCTCBC have been addressed within this CTMP.

## Report Structure

- **Section 2** details the proposed indicative development schedule and construction methodology;
- **Section 3** outlines the anticipated composition and volume of traffic during the construction phase of the development;
- **Section 4** details the construction access route and access junction arrangements;
- **Section 5** focuses on the consent proposals to ensure that a suitable management strategy and structure is in place to control activity on site and to ensure a suitable reporting procedure for local residents and stakeholders; and
- Travel Plan measures are outlined in **Section 6**.

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## 2 CONSTRUCTION PROCESS

2.1 This Section outlines the proposed indicative development schedule, construction methodology and the way in which deliveries will be controlled with regards to the local highway network.

### Development Schedule

2.2 The proposed construction is predicted to take approximately 16 weeks. The construction would consist of the following principal operations:

- Site Setup – including construction compounds, site tracks, perimeter fencing, site welfare facilities;
- Solar Arrays – including setting out positions, installing piles, constructing framework, putting modules onto framework;
- Ancillary Buildings – aggregate subbase construction, inverter, battery and switchgear unit placement;
- Cabling and Ducting – including installing AC cables, DC mains, earthing system and ducts;
- Commissioning – including connecting LV DC and AC and overall commissioning; and
- Construction Completion – including removal of temporary facilities and grounds restoration and planting.

2.3 It should be noted however that the construction programme may be subject to change prior to work commencing on site. Any changes will be relayed to RCTCBC.

### Delivery of Plant and Materials

2.4 All materials and plant associated with the development process will be stored within the footprint of the site. A loading and unloading area for plant and materials will be provided within the site. It is anticipated that the majority of deliveries will be made via articulated and rigid HGVs.

### Working Hours

2.5 All work will be conducted between 08:00 and 18:00 hours Monday to Friday with limited construction activities on Saturdays between 08:00-13:00. No construction activities will take place on a Sunday or Bank Holiday.



## 3 CONSTRUCTION TRAFFIC GENERATION

- 3.1 This section of the report sets out the estimated volume and type of vehicles that will be generated throughout the construction phase of the Proposed Development. This information has been used in subsequent sections that consider the geometry and safety of the adjoining highway networks, in order to inform the suite of management measure proposed.
- 3.2 It should be noted that the construction programme and corresponding construction traffic strategy may be subject to change following the appointment of a construction contractor and prior to work commencing on Site. Any substantial changes in the build program and / or number of vehicle movements will be communicated with the RCTCBC.

### Construction Vehicles

- 3.3 The trip generation potential of the construction phase of development has been informed though discussion with the Applicant on the anticipated construction programme and is based on experience of delivering similar developments in the United Kingdom.
- 3.4 **Table 3.1** below summarises the estimated average construction traffic associated with the Proposed Development and sets out that the majority of materials and plant delivery is to be transported to the Site via articulated and rigid HGVs.

**Table 3.1: Construction HGVs**

Item	Vehicle Type
Solar Panels	Rigid HGV
Mounting System	Rigid HGV
Prefabricated Buildings	Articulated / Rigid HGV
Unloading Buildings	80 tonne Crane
Cables	Rigid HGV
Fencing	Rigid HGV
Small Deliveries	Rigid HGV
Plant Delivery	10t-20t HGV (normally Rigid HGV)

- 3.5 The construction period is estimated to last approximately 16 weeks, with deliveries fluctuating within this period. It is envisaged that the majority of movements would be Monday to Friday with only a limited number of movements on a Saturday. Deliveries will vary in amount per day during the construction period with an average of nine deliveries (nine inbound plus nine outbound movements) per day over the 16-week period, peaking during week eight at 18 deliveries per day.
- 3.6 The Applicant estimates that there may be up to a maximum of 60 staff on site per day. The Applicant's experience of similar developments elsewhere suggests that car sharing can reduce

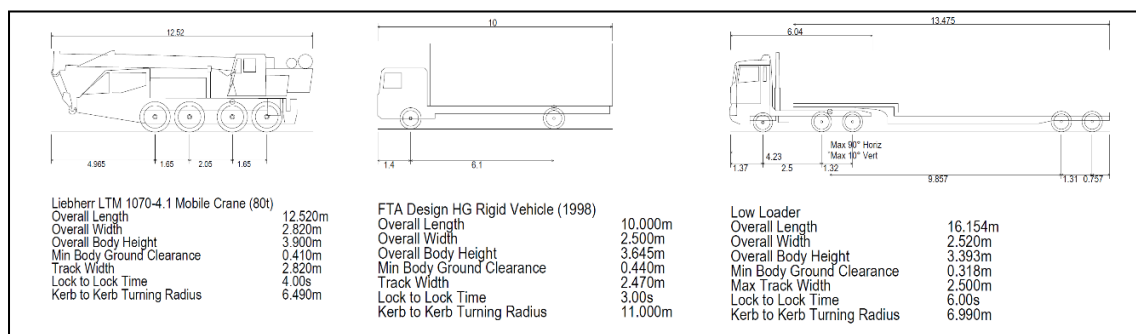


the number of cars on site to 30. This will be achieved through management of staff travel patterns and actively encouraging car sharing, which will be enforced.

## Construction Vehicle Types

- 3.7 It is noted that a variety of vehicles will need to access the site during construction. These will include rigid and articulated HGVs and a large mobile crane associated with delivering the requisite materials (including aggregate, mounting frames and the solar panels) and prefabricated buildings. The dimensions of the vehicle types are shown below.

**Figure 2: Vehicle Dimensions**



## Dwell Times

- 3.8 Delivery vehicles are likely to attend the site for approximately one hour per vehicle. There will be sufficient space within the curtilage of the site compound to ensure that no vehicles would have to wait on the surrounding highway network.
- 3.9 Further measures that will be employed to control the number and frequency of vehicles arriving at the site are detailed further below

## Construction Staff

- 3.10 During construction, there is a balance to be made between the intensity of on-site activity and duration of activity.
- 3.11 Experience of similar developments elsewhere suggests that car sharing promotion by the contractor will reduce the number of cars. This will be achieved through management of staff travel patterns and actively encouraging car sharing as set out further in **Section 6**.
- 3.12 All staff are anticipated to arrive at the construction site during the 30 minute period preceding the start of the operating day (i.e. 07:30 to 08:00 Monday to Saturday) and depart during the 30 minute period that follows the end of the operating day (i.e. 18:00 to 18:30 Monday to Friday and 13:00 to 13:30 on Saturdays). Staff trips are likely to travel to / from different origins / destinations and hence spread their movement across the highway network.
- 3.13 Provision will be made to enable all vehicles to park within the construction compound to avoid obstruction to the operation of the public highway and this shall be strictly enforced. **Section 6**

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sets out full details on construction worker trips and also contains a Construction Worker Travel Plan that seeks to minimise construction workers' travel.

## Operation

- 3.14 When operational, there would be no permanent staff based on-site and the only traffic generated by the Proposed Development would be for maintenance and inspection purposes, which is undertaken on an approximate monthly basis by a 4x4.
- 3.15 Given that the Proposed Development is being installed within fields using existing accesses, the maintenance and inspection vehicle movements will replace the agricultural vehicle movements that the field generates. Thus, there would be no intensification of use at the accesses during the operation of the Proposed Development.

## Decommissioning

- 3.16 At the end of the proposed 40-year operational period, the solar farm and its ancillary equipment will be decommissioned, dismantled and removed and the site fully reinstated to the satisfaction of the local planning authority. Alternatively, an application may be made to extend the operational life of the solar farm.
- 3.17 The Proposed Development including the ground fixings are fully reversible and all structures can be removed from the Site and the land fully returned to agricultural use. Many of the component parts, including the array framework and silicon in the module panels, can be recycled for other uses. Should the modules be decommissioned, this will be undertaken within six months of notice given to RCTCBC and is anticipated to follow the construction stages in reverse.
- 3.18 It is estimated that decommissioning of the development will take approximately 4 to 6 months to complete. Subject to best practice at the time, it is anticipated that decommissioning will involve:
- Disconnect and removal of wiring, cables and electrical interconnections;
  - Dismantling and removal of the solar panels;
  - Dismantling and removal of mounting frames, including extraction of in ground support structures;
  - Demolition and removal of central inverter stations or mini-invertors;
  - Demolition and removal of the substation control building and compound;
  - Removal of fences and gates; and
  - Reinstatement of land affected in accordance with best practice.
- 3.19 The decommissioning of the Proposed Development will be expected to generate a similar (or fewer) number of trips as the construction phase, since there is not the same requirement to transport the material separately. The traffic associated with the decommissioning phase will be discussed with RCTCBC prior to commencement, and appropriate measures will be agreed as necessary at that time.

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## 4 CONSTRUCTION VEHICLE ACCESS AND ROUTE

- 4.1 Both the eastern and western parcels of the Site can be accessed from Maesmawr Road. Details of the access routeing and arrangements are set out below.

### Construction Traffic Routeing

#### Maesmawr Road

- 4.2 Maesmawr Road routes broadly north to south, between the A473 to the north and an unnamed road to the south that provides access to Efail Isaf. Within the vicinity of the Site, Maesmawr Road is a narrow single carriageway / single track road with passing places, and it is subject to the national speed limit of 60mph. There is no street lighting or footways along the length of Maesmawr Road. There are grass verges and hedgerows on both sides of the carriageway.
- 4.3 In the vicinity of the Site, Maesmawr Road leads to Maes Bach Solar Farm (located to the south-east of the Site), agricultural land and residential dwellings. Residential dwellings are all set back from the highway with screening formed by the hedgerow.
- 4.4 To the north, Maesmawr Road connects to the A473 via a four-arm roundabout. The A473 leads northeast to connect to the A470 and southwest through towns such as Cross Inn, before connecting to the A4119, and in turn the M4 at junction 34.
- 4.5 To the south of the Site, Maesmawr Road connects to an unnamed road. This road routes broadly northeast to southwest between Treforest Industrial Estate and Efail Isaf.

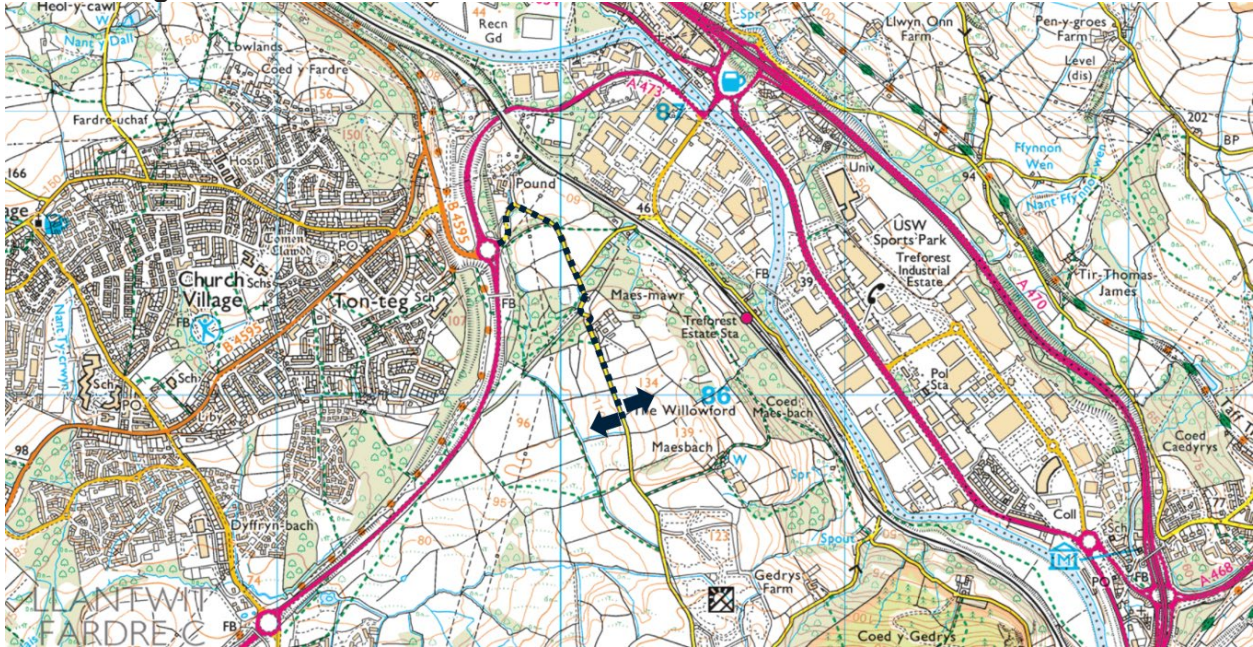
#### A473 and A470

- 4.6 South of the roundabout with Maesmawr Road, the A473 is subject to the national speed limit. There is no street lighting and pedestrians are prohibited.
- 4.7 North of the roundabout with Maesmawr Road, the A473 is a single carriageway road (save for a short initial section where it is a dual carriageway road) with a 30mph speed restriction and street lighting providing access into the Treforest Industrial Estate.
- 4.8 To the north east of the Treforest Industrial Estate, the A473 continues to the north-east to a grade separated roundabout with A470. The A470 routes broadly north-west to south-east between the South Wales Valleys and the M4 junction 32 at Cardiff.

#### Access Route

- 4.9 All construction HGVs will route to / from the Site from the A473 to the north, utilising the route shown on **Figure 3**. No construction HGVs will route along Maesmawr Road to / from the south.
- 4.10 This is the same construction route that was successfully utilised for the recently constructed Maes Bach Solar Farm utilised.

**Figure 3: Construction Access Route**



- 4.11 Two existing field accesses will be suitably improved to allow for HGV movements; one into the western parcel and one onto the eastern parcel. Internal access tracks will be provided during the construction phase. The tracks will be constructed using permeable aggregate.
- 4.12 It is considered that the proposed routing minimises the use of minor roads and maximises the use of the major strategic roads where possible. It is proposed that temporary signage is used to direct construction traffic to the Site along the proposed construction traffic route utilising existing street furniture where available.
- 4.13 A construction compound will provide an area for loading and unloading of vehicles and will provide a turning area to allow vehicles to exit the Site in forward gear. All delivery drivers and construction workers will be advised of the construction routes prior to making their delivery or commencing work.
- 4.14 It is considered appropriate to avoid routes where scheduled road works and construction vehicles could conflict. The Site Manager will keep up to date on scheduled roadworks in the area using the [one.network](http://one.network) website. Any major roadworks on the preferred route that result in the deviation of the preferred route will be agreed with officers at RCTCBC in advance.
- 4.15 Given the low number of movements, and to reduce unnecessary land requirements, articulated and rigid HGVs will utilise the width of the access tracks and management measures will be implemented, set out in **Section 5**.
- 4.16 Post-construction, the Proposed Development will not require significant maintenance apart from occasional visits made by 4x4 vehicles.



## Access Proposals and Visibility

- 4.17 Both the eastern and western parcels of the Site will take access from Maesmawr Road. Existing field accesses will be improved to enable construction vehicles to turn into and out of the Site appropriately for both the eastern and western parcel.
- 4.18 Maesmawr Road is subject to the national speed limit of 60mph, however, a speed survey undertaken in 2014 as part of the Maes Bach Solar Farm at a location close to the accesses of the Proposed Development demonstrated that 85<sup>th</sup> percentile vehicle speeds along it were 27.1mph and 26.4mph in the northbound and southbound directions respectively. There have been no changes to the geometries, layout or environs of Maesmawr Road and thus these observed vehicle speeds remain a reasonable estimation of current vehicle speeds along Maesmawr Road.
- 4.19 The access junctions to the east parcel and the west parcel have been designed based upon 85<sup>th</sup> percentile vehicle speeds of 30mph (i.e. above those speeds recorded on Maesmawr Road). Requisite visibility splays of 2.4m x 43m have been provided.
- 4.20 A preliminary access design is shown on Drawing JNY11208-01 at **Appendix 3**, which shows a 16.5m articulated HGV manoeuvring between Maesmawr Road and the western parcel of the Site.
- 4.21 A preliminary access design is shown on Drawing JNY11208-02 at **Appendix 4**, which shows a 16.5m articulated HGV manoeuvring between Maesmawr Road and the eastern parcel of the Site.
- 4.22 Construction HGVs will be subject to a booking system with fixed arrival times. A banksperson will be situated at the accesses to assist HGVs in accessing and egressing the Site and will only instruct HGVs to depart the Site when the major road is clear of traffic within the vicinity of the site access and it is safe to do so.
- 4.23 It is also proposed that temporary signage be located in the vicinity of the site access during the construction period to warn drivers of the site entrances, as shown on **Figure 4**.

**Figure 4: Temporary Signage at Site Access**



- 4.24 Additional signage on Maesmawr Road will advise motorists of HGVs turning through the site accesses, as shown on **Figure 5**.

**Figure 5: Temporary Signage on Public Highway**



## **Highway Safety**

- 4.25 An investigation of Personal Injury Accident data on the local network has been undertaken using [www.crashmap.co.uk](http://www.crashmap.co.uk). The latest available data on Crashmap is verified up to 2020, with provisional data up to June 2021.
- 4.26 Personal injury accident data for the latest available verified 5 years (1 January 2016 and 31 December 2020) has been obtained for Maesmawr Road between the A473 junction and the Site.
- 4.27 There were no injury accidents within the study area; therefore, there is not considered to be an undue road safety problem within the vicinity of the Site.

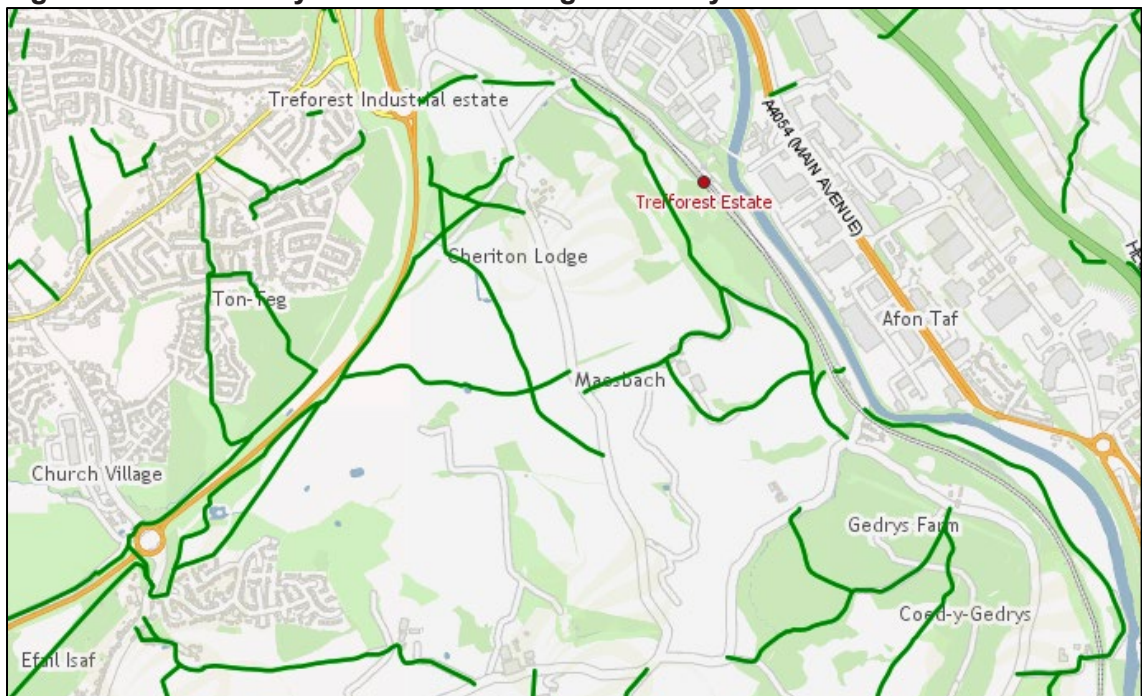
## 5 MEASURES, MANAGEMENT AND CONTROL

5.1 This section sets out the measures, management structure and control processes that will be put in place to implement, monitor and manage the CTMP. The Site Manager will be responsible for the site works which will ensure that the control processes are efficiently communicated and implemented.

### Public Rights of Way

5.2 There are several Public Rights of Way (PRoW) within the vicinity of the Site, as shown in **Figure 6** below.

**Figure 6: Rhondda Cynon Taff Public Rights of Way**



5.3 The public footpaths within the vicinity of the western parcel are as follows:

- Footpath DRE/51/2 routes broadly parallel to the A473. Entering the Site at the northwest corner, this footpath continues southwest crossing the DRE/47/2 footpath and continuing as footpath DRE/51/1;
- Footpath DRE/50b/2 routes between the A473 to the west, and Maesmawr Road to the east. This footpath routes through the centre of the western parcel of the Site and becomes footpath DRE/50b/1; and
- Footpaths DRE/47/3 and DRE/47/2 route broadly northwest to southeast through the western parcel of the Site. Footpath DRE/47/3 routes from Maesmawr Road to the southeast, routeing northwest through the Site and connects to DRE/47/2, and DRE/47/1.



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- 5.4 Fencing will be erected around the construction Site to segregate users of the PRoWs from the construction area.
- 5.5 A signage scheme will also be implemented to alert the users of each PRoW will be used for construction traffic for a limited period. Signs will be regularly inspected to ensure that they remain in place, are legible and have not been tampered with. Signage will also alert construction drivers of locations where this is an interface between construction traffic and the PRoWs. All signage will be removed once construction is complete.
- 5.6 A banksperson will be situated at each PRoW where a construction track crosses a PRoW. The banksperson will hold back HGVs whilst there are users of the PRoW within the vicinity of the construction Site. Users of a PRoW will have priority where construction HGVs have to route across the path of a PRoW.

## Ongoing Review of Access Routes

- 5.7 It is considered appropriate to avoid routes where scheduled road works and construction vehicles could conflict. Any major roadworks on the access routes that result in the deviation of the route will be agreed with officers at RCTCBC in advance where feasible.

## Transport Coordination

- 5.8 The applicant will appoint a Site Manager for the project and the details will be provided to RCTCBC once confirmed. The Site Manager for the project will undertake the transport co-ordination role for the Site. In this respect, their main responsibilities will include:
- Managing implementation of the CTMP;
  - Vehicle scheduling;
  - Checking for scheduled road works on one.network;
  - Checking for scheduled refuse collections to avoid conflict with HGV deliveries within built up areas;
  - Handling any complaints; and
  - Acting as a point of contact for employees, contractors and the general public.
- 5.9 The Site Manger will ensure that there is adequate liaison between the following key stakeholders throughout the construction period:
- The Contractor;
  - The Applicant;
  - Site neighbours;
  - Other local stakeholders such as emergency services or local transport providers; and
  - RCTCBC.
- 5.10 Regular review meetings and telecommunication will be held between the Site Manager and RCTCBC if requested. It is envisaged that update meetings / telecommunication will be held on

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an ad-hoc basis as required. Furthermore, the Site Manager will provide any monitoring data, delivery schedules, complaints or breaches of agreements to RCTCBC if requested.

## Booking System

- 5.11 On a daily basis, the Site Manager will evaluate details of the daily profile of deliveries proposed for the upcoming week. Through discussions with hauliers the Site Manager will, as far as practicable, ensure that the deliveries are spread out across the week and across the day to minimise any potential disruption.
- 5.12 The proposed deliveries will be checked against the weekly and daily delivery schedules. This will be overseen by the Site Manager to ensure that construction deliveries are managed in an efficient manner with minimal disruption and delays.
- 5.13 The proposed construction compound could provide an area for waiting for an additional vehicle if required. Hauliers will be required to contact the Site Manager to give an indicative delivery time to ensure that the delivery space and banksmen (if required) are ready for their arrival onsite.
- 5.14 Where possible, sufficient time will be given between deliveries to allow for any delays as a result of the delivery vehicle getting stuck in traffic or the loading / unloading taking longer than expected and to avoid any vehicles waiting.
- 5.15 The Site Manager will provide banksmen to assist with the manoeuvring of delivery vehicles throughout the Site. The construction compound will be located off the public highway within the Site, accessed via the internal access road.

## Route Compliance

- 5.16 Use of the agreed vehicle routes shall be included as a contractual requirement of the Contractor and will be communicated to all drivers. This will include information on the times of operation, delivery routes and the vehicle booking system.

## Construction Compound

- 5.17 The construction compound areas in the east and west parcels will provide a turning area to allow vehicles to exit the site in forward gear. All delivery drivers and construction workers will be advised of the construction routes prior to making their delivery or commencing work.
- 5.18 The construction compounds will be capable of accommodating a turning HGV whilst at least one HGV is parked, to allow for vehicles to be held back during restricted periods and to ensure no vehicles wait on the public highway.
- 5.19 All materials and plant associated with the development process will be stored within the footprint of the construction site. All staff will park within the construction compound, which are designed to enable all vehicles to park on site to avoid obstruction to the operation of the public highway. This shall be strictly enforced.

## Dust and Dirt Control

- 5.20 Mud and debris on the road are regarded as one of the main environmental nuisances and safety problems arising from construction sites. Wheel washing facility will be provided for the duration

of the construction works to ensure levels of soil on roadways near the construction site is minimised. The wheel wash facility will be in the form of a hose down point located adjacent to the construction compound, or the site accesses. All vehicle wheels will be cleaned whenever a vehicle leaves the site.

- 5.21 The contractor will ensure that the area around the construction sites, including the public highway, are regularly and adequately swept to prevent any accumulation of dust and dirt.

## Site Fencing

- 5.22 A security fence will be constructed around the site prior to any significant construction works taking place. The security fence will be erected on the inside of any hedgerows, so that it will be screened by any such hedgerow in views from the surrounding area, further mitigating any visual impact.
- 5.23 The fencing of the site will protect members of the public from the ongoing construction works as well as preventing unauthorised personnel accessing the site. The fencing will also ensure that construction vehicles do not enter any root protection areas.

## Communication Strategy

- 5.24 As identified above, the Site Manager will be responsible for ensuring that there is adequate liaison between all stakeholders throughout the construction period.
- 5.25 Prior to any works starting the contractor shall inform neighbours which may be affected by noise, dust or vehicular movements arising from the construction work of the nature of the works, proposed hours of work and their expected duration. In addition to this a notice will be placed at the main entrances to the site informing site neighbours of the hours of work.

## Complaints Procedure

- 5.26 Whilst the Site Manager will use reasonable endeavours to ensure that site neighbours are informed of the construction programme and associated impacts it is possible that complaints may be raised by site neighbours about the programme or works. The Site Manager will therefore be available to meet and explore issues with concerned neighbours directly via appointment.
- 5.27 Complaints shall be taken seriously and addressed immediately by the construction team. All complaints that are received will be reviewed in weekly Site meetings to ensure that any required actions are communicated to employees.
- 5.28 The Site Manager contact details will be provided to RCTCBC prior to work commencing on site. Contact details for the site manager will also be displayed at the site entrance.

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## 6 CONSTRUCTION WORKER TRAVEL PLAN

- 6.1 A Travel Plan is a package of measures aimed at promoting greener, cleaner travel choices and reducing reliance on the private car. It enables employers to reduce the impact of travel on the environment, whilst also bringing a number of other benefits to the organisation as an employer and to staff.
- 6.2 This Travel Plan seeks to address activities related to the construction of the site which includes commuter journeys for construction workers, material supplies and deliveries. By successfully addressing these different types of travel by promoting travel via sustainable modes and sourcing labour and goods locally, the Travel Plan objectives can be achieved.

### Trip Generation

- 6.3 The Applicant estimates that there may be up to a maximum of 60 staff on site per day. The Applicant's experience of similar developments elsewhere suggests that car sharing can reduce the number of cars on site to 30. This will be achieved through management of staff travel patterns and actively encouraging car sharing. As such the Site Manager will actively promote the use of car sharing as the primary method for construction workers to access the site. Car parking will be provided within the site.
- 6.4 **Section 2** has calculated that during the construction phase, the construction process would generate an average of approximately nine deliveries (nine inbound and nine outbound movements) per day over the 16-week period.

### Staff Infrastructure

- 6.5 The contractor, where feasible, will seek to recruit construction workers from the local area. This will help maximise the potential for construction workers to walk and cycle to the site.
- 6.6 There is great potential for construction workers to car share to work, especially given the fact that some sub-contractors are likely to be travelling from the same origin (their local residence) to the same destination (the site).
- 6.7 Car sharing represents a relatively convenient form of travel offering a significant potential to reduce overall private mileage of construction workers. It is this mode of transport which often forms one of the most convenient methods of sustainable travel for construction workers.
- 6.8 The Site Manager would promote a car-sharing scheme throughout the construction program. The Site Manager would also make construction workers aware of existing car sharing schemes such as [liftshare.com/uk](http://liftshare.com/uk).
- 6.9 The Site Manager will determine construction staff members' willingness to car share. Furthermore, looking at workers home / local residence postal addresses it would become evident whether there are any area groupings of people that would make the principle of car sharing a reasonable prospect of being successful. The Site Manager will then investigate setting up a database of construction workers willing to share journeys, including information such as their home / local residence addresses and could try and match suitable car sharers.
- 6.10 The construction Site will provide facilities in accordance with requirements set out in Health and Safety Executive guidelines. Consequently, the Site compound will provide a drying room,

storage facilities, toilets and offices within the welfare area. This will encourage people to travel to the Site by sustainable modes whilst having the added benefit of reducing the number of trips made off site during lunch breaks.

## Aims and Targets

- 6.11 The Site is a construction site and sustainable transport measures will be adopted. The applicant considers that through car sharing, there would be up to 30 car arrivals per day.
- 6.12 The car parking area will be able to accommodate up to 30 vehicles with additional space to be made available if required. Construction worker parking at the site will be monitored, controlled and recorded by the Site Manager to ensure that single occupancy car use is minimised. The Site Manager will ensure there is space made available for any overspill parking during the early periods of construction.
- 6.13 This CTMP and Travel Plan will be communicated to all construction workers as part of their induction / training process. An up-to-date copy of the Travel Plan will always be available for consultation.

## Measures

- 6.14 As indicated above, there is potential to for construction workers to car share or travel by bicycle to the site. It is therefore deemed appropriate to promote the following measures to promote sustainable travel by construction staff.
- 6.15 Include local public transport timetables and route maps within the on-site compound for construction staff to review:
- Providing changing and storage facilities for construction staff;
  - Assist in matching car sharers; and
  - Minimise, where possible, the number of contractors on site at any one time to reduce trips generated and promote car sharing.
- 6.16 Further to this the following measures are to be promoted to minimise the environmental impacts of HGV trips generated by construction:
- Initiate a weekly booking system for the delivery of plant and materials to the site;
  - The Applicant will strive to procure local contractors for the project, thereby minimising transport costs and impact on the local environment;
  - All delivery vehicles will be required to switch off their engines as they are waiting at the site, thereby preventing unnecessarily idling vehicles;
  - Use of the agreed vehicle routes shall be included as a contractual requirement of the Contractor and will be communicated to all individuals associated with the works; and
  - Provision of wheel washing facilities at the site entrances / egresses.
- 6.17 The Department for Transport (DfT) has published guidance relating to the efficient use of freight on the network. "Review of Low Carbon Technologies for Heavy Goods Vehicles" (2009) sets out a number of HGV technologies with the potential for reducing carbon emissions. The report

assesses a number of vehicle technologies and driver behavioural styles for reducing the environmental impact of HGVs. Some of these measures could be incorporated into the vehicle fleet in order to reduce the environmental impact of generated traffic. Such measures would include:

- Aerodynamic improvement to Trailers – Reduce the aerodynamic drag of the vehicle;
- Spray Reduction Mud Flaps – Reduces Spray and Provides Aerodynamic Benefits;
- Low Rolling Resistance Tyres – Can reduce CO<sup>2</sup> emissions by up to 5%;
- Automatic Tyre Pressure Adjustment – Automatically monitors and adjusts tyre pressures which could provide CO<sup>2</sup> reductions of around 7-8%;
- Predictive Cruise Control – Improves fuel efficiency of vehicles; and
- SAFED Driver Training Scheme – Aims at improving accident prevention and reduction and improved fuel consumption.

## Residual Impacts

- 6.18 A booking system will be initiated to ensure that construction deliveries are managed efficiently with minimal disruption and delay. Local residents will be informed of the commencement of the construction process. The initiation of the Travel Plan measures alongside the targets will therefore minimise impacts upon the operation of the local highway network as well as reduce environmental impact.

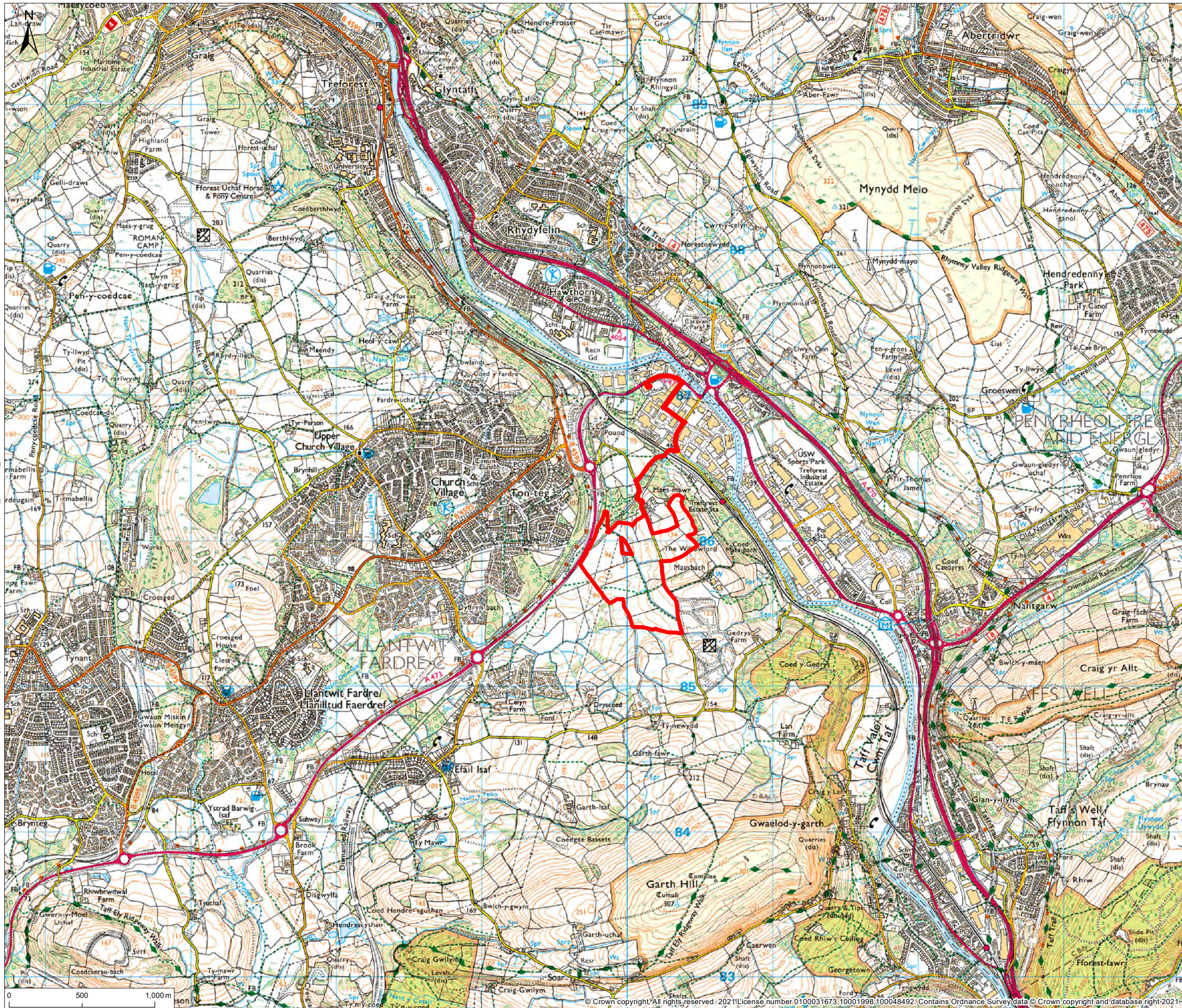
## Appendices



## Appendix 1 – Site Location Plan



O:\04 JOBS\01 OPEN JOBS\JPW1546 - Maes Mawr Solar Farm (GG)4 - Drawings\1 - RPS Drawings\MXD\JPW1546-DNS-004\_D211105 (Maes Mawr Site Location Plan).mxd



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**Legend**

Rev	Description	By	CB	Date



2 Callaghan Square, Cardiff, CF10 5AZ  
 T: +44(0)2920 668 662 E: rpsca@rpsgroup.com

Client **ELGIN ENERGY EsCO LTD**  
 Project **MAES MAWR SOLAR FARM**  
 Title **SITE LOCATION PLAN**

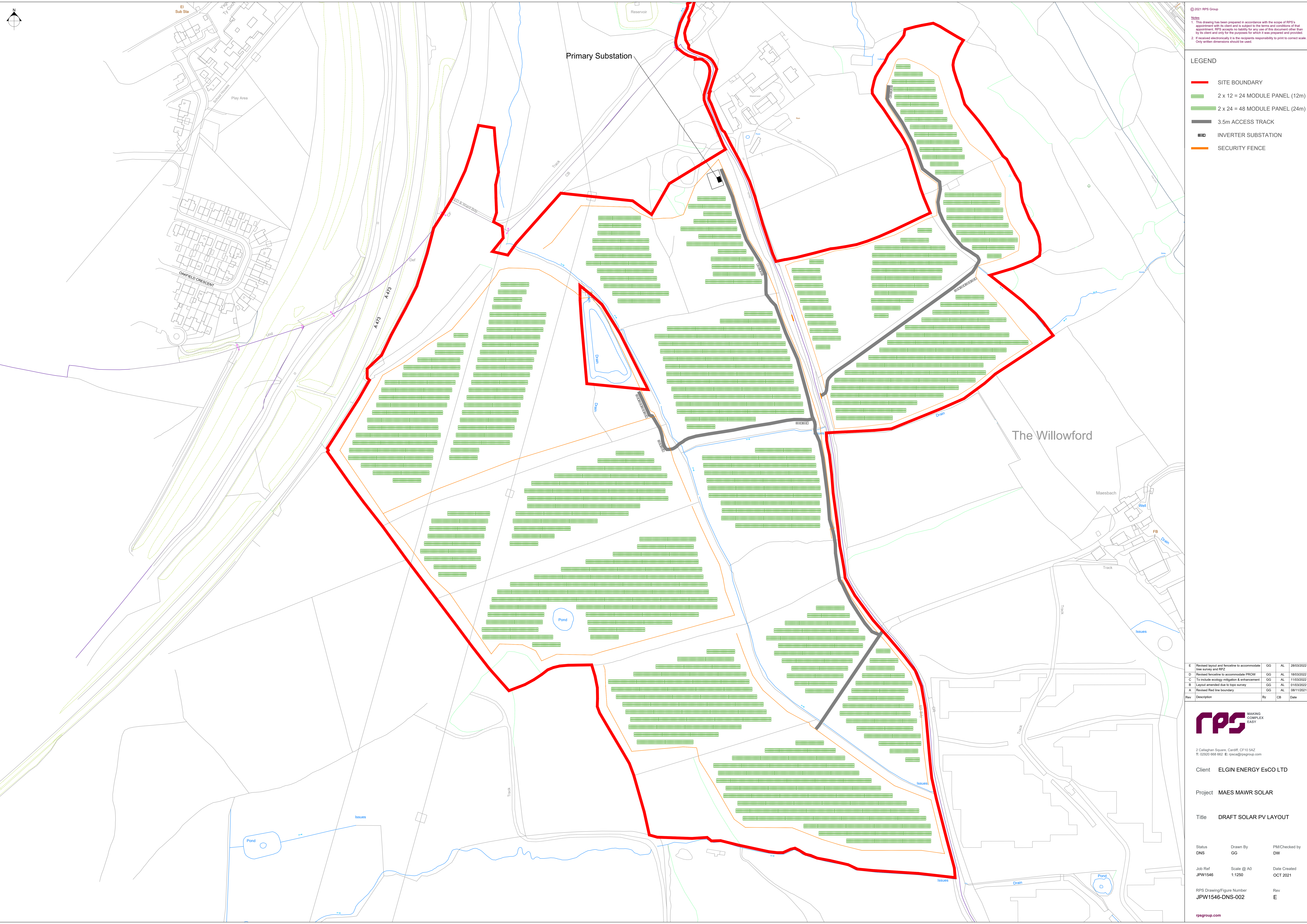
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 Project Number **JPW1546** Scale @ A3 **1:25,000** Date Created **NOV 2021**  
 Drawing Number **JPW1546-DNS-004** Rev **-**

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## Appendix 2 – Site Layout Plan





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**LEGEND**

- SITE BOUNDARY
- ▨ 2 x 12 = 24 MODULE PANEL (12m)
- ▨ 2 x 24 = 48 MODULE PANEL (24m)
- 3.5m ACCESS TRACK
- INVERTER SUBSTATION
- SECURITY FENCE

Rev	Description	By	CB	Date
E	Revised layout and fence line to accommodate new survey and RPSZ	GG	AL	28/03/2022
D	Revised fence line to accommodate PRDW	GG	AL	18/03/2022
C	To include ecology mitigation & enhancement	GG	AL	11/03/2022
B	Layout amended due to topo survey	GG	AL	01/03/2022
A	Revised Red line boundary	GG	AL	08/11/2021



Client **ELGIN ENERGY EsCO LTD**

Project **MAES MAWR SOLAR**

Title **DRAFT SOLAR PV LAYOUT**

Status **DNS**      Drawn By **GG**      PM/Checked by **DW**

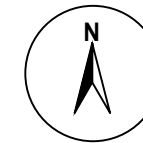
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RPS Drawing/Figure Number **JPW1546-DNS-002**      Rev **E**

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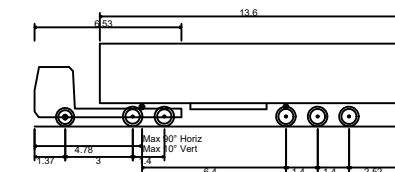
## Appendix 3 – Eastern Parcel Preliminary Access Design



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Max Legal Length (UK) Articulated Vehicle (16.5m)  
 Overall Length 16.500m  
 Overall Width 2.550m  
 Overall Body Height 3.681m  
 Min Body Ground Clearance 0.411m  
 Max Track Width 2.500m  
 Lock to lock time 6.00s  
 Kerb to Kerb Turning Radius 6.530m

PRELIMINARY  
NOT FOR  
CONSTRUCTION

Rev	Description	By	CB	Date
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20 Milton Park, Abingdon, Oxfordshire, OX14 4SH  
 T: +44(0)1235 432 190 E: transport@rpsgroup.com

Client Elgin Energy Esco Ltd

Project Maes Mawr Solar

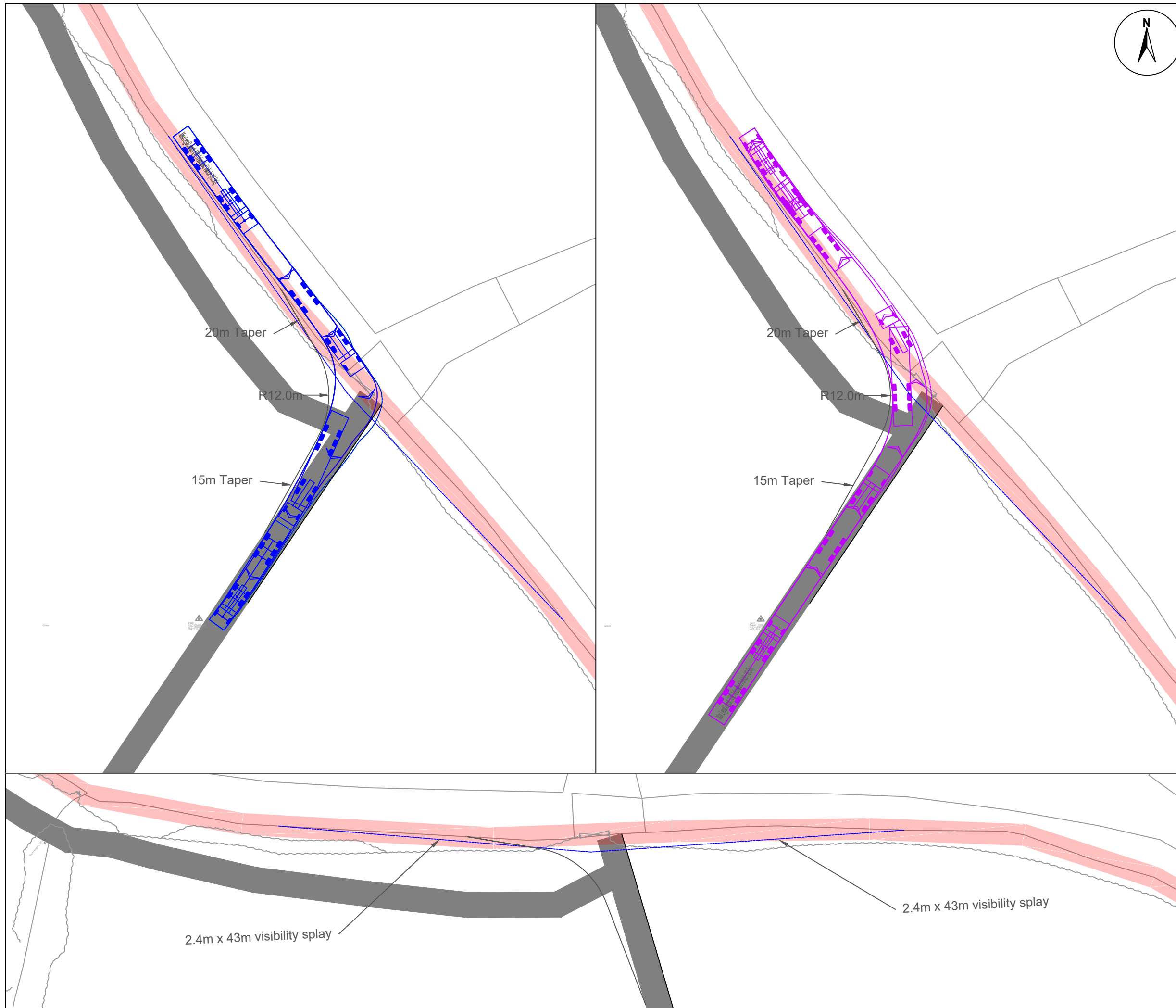
Title Preliminary Access Design (West Parcel)

Status Drawn By PM/Checked by  
 INFORMATION JG DA

Project Number Scale @ A3 Date Created  
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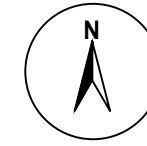
RPS Drawing/Figure Number Rev  
 JNY11208-01 -

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## Appendix 4 – Western Parcel Preliminary Access Design

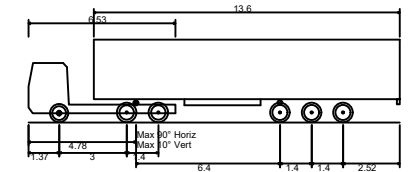




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 Min Body Ground Clearance 0.411m  
 Max Track Width 2.500m  
 Lock to lock time 6.00s  
 Kerb to Kerb Turning Radius 6.530m

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20 Milton Park, Abingdon, Oxfordshire, OX14 4SH  
 T: +44(0)1235 432 190 E: transport@rpsgroup.com

Client Elgin Energy Esco Ltd

Project Maes Mawr Solar

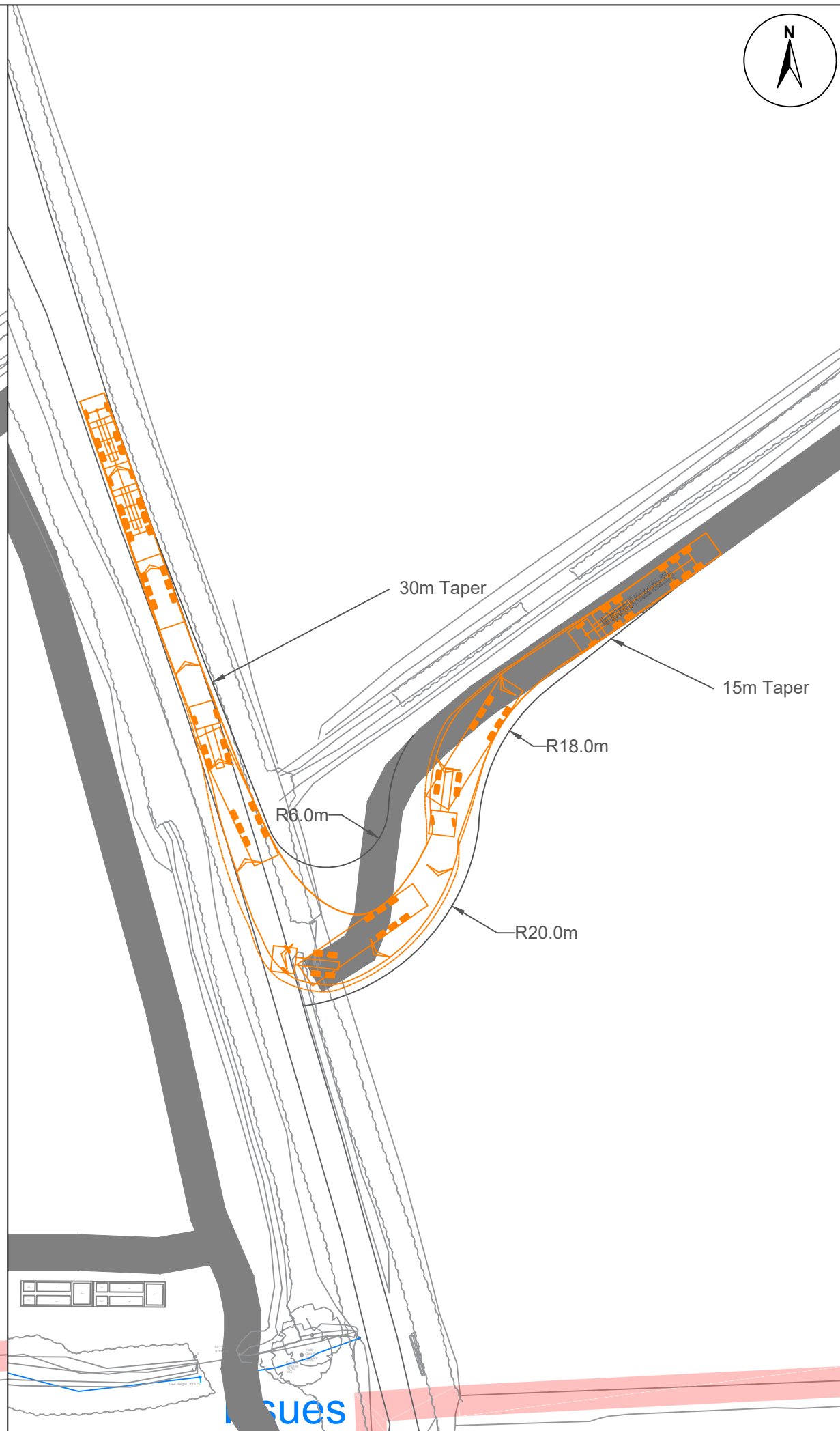
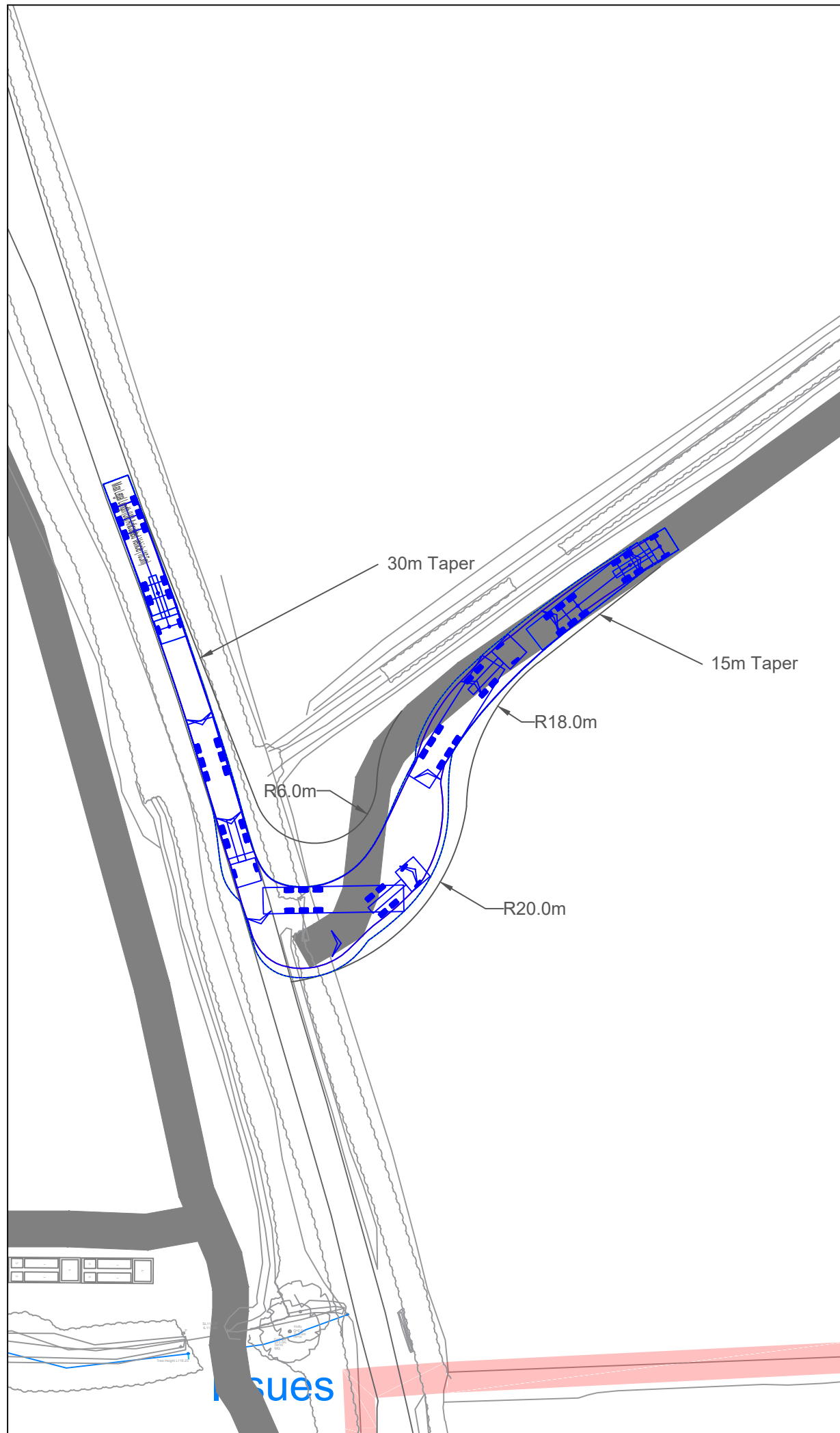
Title Preliminary Access Design (East Parcel)

Status Drawn By PM/Checked by  
 INFORMATION JG DA

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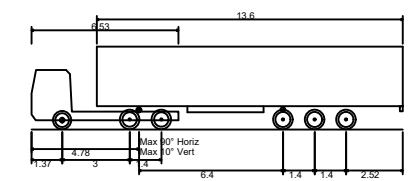
## Appendix 5 – Western Parcel Preliminary Access Visibility Splays



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Overall Length	2.550m
Overall Width	3.681m
Overall Body Height	0.411m
Min Body Ground Clearance	2.500m
Max Track Width	6.00s
Lock to lock time	6.530m
Kerb to Kerb Turning Radius	

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Rev	Description	By	CB	Date
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20 Milton Park, Abingdon, Oxfordshire, OX14 4SH  
T: +44(0)1235 432 190 E: transport@rpsgroup.com

Client Elgin Energy Esco Ltd

Project Maes Mawr Solar

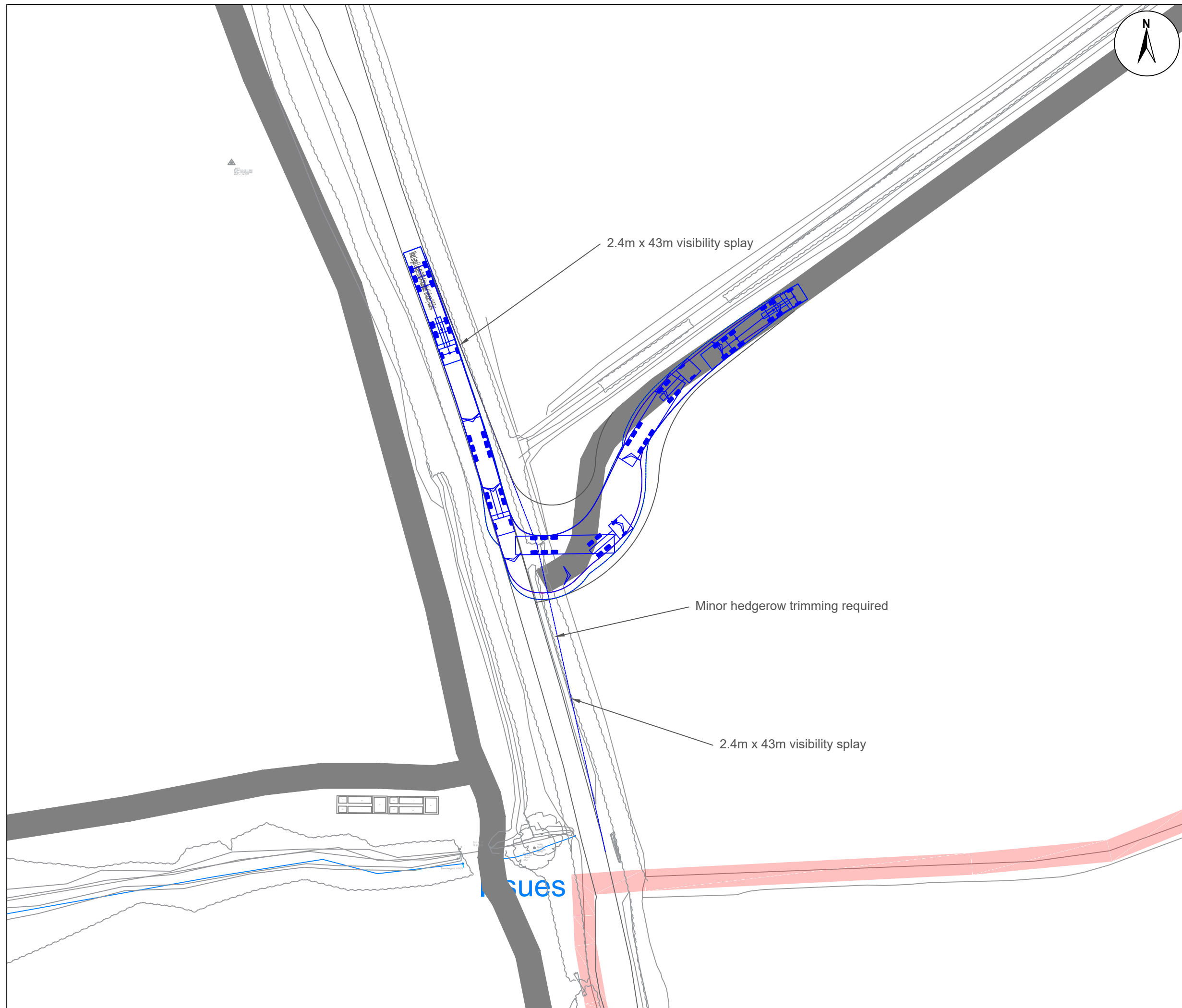
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Status	Drawn By	PM/Checked by
INFORMATION	JG	DA

Project Number	Scale @ A3	Date Created
JNY11208	1:500	04 2022

RPS Drawing/Figure Number	Rev
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## Contact

RPS Consulting Services Ltd  
20 Western Avenue  
Milton Park  
Abingdon  
Oxfordshire OX14 4SH  
T: +44(0) 1235 432190  
[transport@rpsgroup.com](mailto:transport@rpsgroup.com)