

KIRKTON SOLAR PHOTOVOLTAIC (PV) AND ENERGY STORAGE FACILITY

Transport Statement

JNY9487-01
Transport Statement
Version 03
March 2021

Document Status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
01	Draft For Client Review	Jan Wasilewski	Kevin Kay	Kevin Kay	31 January 2021
02	Draft For Client Review	Andrew Jennings	Kevin Kay	Kevin Kay	4 March 2021
03	For Issue	Andrew Jennings	Kevin Kay	Kevin Kay	26 March 2021

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Prepared by:

Prepared for:

RPS Consulting Services Ltd

Kevin Kay
Director

Belford House, 3rd Floor,
Belford Road, Edinburgh. EH4 3DE.

E kevin.kay@rpsgroup.com

ELGIN ENERGY EsCO LTD

Mr Ronan Clarke
Development Manager, UK & Ireland

Rd Floor, Audley House,
9 North Audley Street,
London,
W1K 6ZD

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1 INTRODUCTION

Purpose

- 1.1 RPS has been commissioned by ELGIN ENERGY EsCO LTD to prepare a Transport Statement (TS) in support of its proposed solar photo voltaic (PV) and energy storage facility at Kirkton, in Aberdeenshire.
- 1.2 The site is located on land within the Aberdeenshire Council Area east of the A90 (T) and approximately 1.2 km southeast of St Fergus Village, Peterhead.
- 1.3 From a transport perspective, the proposals are defined by both their construction and operational phase, in which the development will generate a variable number of vehicular movements.
- 1.4 The purpose of this TS is to quantify the demand for deliveries associated with the development and establish whether the local road network can accommodate this increased demand. Measures to minimise or mitigate the impact of these additional movements will be outlined, where these are judged to be required.
- 1.5 The TS has been prepared in accordance with the [Transport Assessment Guidance](#) (July 2012) published by Transport Scotland.

Site Context

- 1.6 The current transport environment around the proposed Kirkton PV site is characterised by a rural setting, with its access comprising a single-track unadopted road, leading to St Fergus Cemetery. The access track also serves as an access to a farm located approximately 200m from its junction with the A90 (T).
- 1.7 It is proposed that access to the proposed development for all vehicles, including Heavy Goods Vehicles (HGVs), would be via the existing access route. This junction will require to be upgraded to accommodate the proposed development.
- 1.8 Although the proposal is located within the Aberdeenshire Council (AC) Area, Transport Scotland will be the overseeing transport authority as the A90(T) forms part of the trunk road network for Scotland. AC will retain the planning powers in respect of its role as Local Planning Authority (LPA), with Transport Scotland acting as statutory consultee.

2 POLICY AND GUIDELINES

National Policy and Guidance

- 2.1 Scotland's **National Planning Framework 3** (NPF3) sets the context for development planning in Scotland and provides a framework for the spatial development of Scotland as a whole. It sets out the Government's priorities over the next 20-30 years and identifies national developments which support the development strategy.
- 2.2 NPF3 was published in 2014 and the Scottish Government has now begun a process of review and preparation of a new framework. NPF4 is expected to look very different to NPF3, with a longer time horizon to 2050, fuller regional coverage and improved alignment with wider programmes and strategies, including on infrastructure and economic investment.
- 2.3 **Planning Advice Note (PAN) 75 - Planning for Transport** (17 August 2005) provides a framework for how linkages between planning and transport can be managed. It provides good practice guidance which planning authorities, developers and others should follow in their assessment of policy, assessment of proposals and project delivery.
- 2.4 The **Transport Assessment Guidance** (July 2012), published by Transport Scotland, provides information relevant to the preparation of Transport Assessments (TAs) and Transport Statements (TSs) for developments in Scotland. The guidance ensures that mechanisms are in place to specify, assess, revise, implement, monitor and review the impacts that developments will have on the transport system

Local Policy

- 2.5 The Aberdeenshire **Local Development Plan** (2017) supports renewable energy proposals through **Policy C2: Renewable energy**, where it is stated that:

"We will support solar, wind, biomass (energy from biological material derived from living, or recently living organisms) and hydroelectricity developments which are in appropriate sites and of the right design."

- 2.6 Policy C2 also states that:

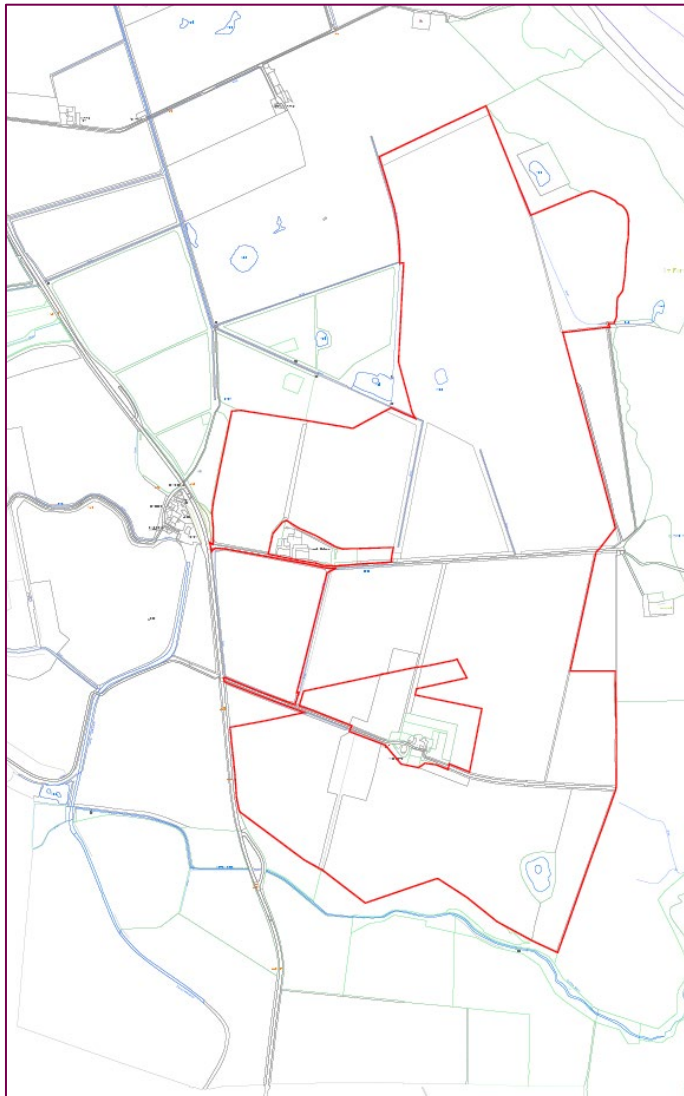
"We will approve applications for solar panel arrays greater than 50kW if their cumulative impact with other arrays has been assessed and can be dismissed, account has been taken of glint and glare issues and it has been demonstrated that any significant impacts will have a duration of less than 5 minutes in any one day, there are no objections from the Ministry of Defence, the National Air Traffic Services or civil airport operators, and boundary treatments limit vehicular access to the site through means designed to make any security fencing unobstructive and screen the development."

3 BASELINE CONDITIONS

Site Location

- 3.1 The proposed solar farm currently consists of agricultural land of approximately 112.7 hectares. The land is clearly split into 3 sections by the Kirkton North and Kirkton South access tracks.
- 3.2 The site is bound to the south by a woodland area, to the east by the A90(T), to the west by the coastal area and to the north by agricultural land.
- 3.3 The proposed development site boundary is shown in **Figure 3.1**.

Figure 3.1: Aerial View of the Development Site (red line)



- 3.4 The detailed layout for the Development is shown in Appendix A and further discussed in Section 4 of this report.

Access

- 3.5 The site is currently accessed off the A90(T) via un-named single unadopted track. The A90 (T) itself is a rural single-carriageway road of approximately 7m width. Vehicles turning right into the un-named road do not benefit from any specific ghost-island provision.
- 3.6 The un-named road is a narrow gravel single track which provides access to a farm and a St Fergus Cemetery. **Figure 3.2** below shows the existing layout of the access junction.

Figure 3.2: Proposed Existing Development Access



- 3.7 The configuration of the exiting junction has been reviewed against the requirements of **DMRB CD 123: Geometric design of at-grade priority and signal-controlled junctions** Revision 2 (August 2020), which is relevant to the design of new and improved junctions on the trunk road network. This review has revealed that junction will need to be upgraded in order to serve as the construction access to the proposed development. More details of this upgrade are presented later in this document.
- 3.8 In addition to the above access, which will form the primary point of access for construction and operation, a further point of access is available to the site, via an gravel road called south Kirkton, as shown in **Figure 3.3**.

Figure 3.3: Existing South Kirkton Access



Traffic Surveys

- 3.9 No new traffic surveys were carried out in connection with the proposed development. This is because the current Covid-19 situation would lead to survey outcomes which would be considered atypical in the context of 'normal' conditions.
- 3.10 It has been agreed through correspondence with Transport Scotland that the existing traffic counts available on the Department for Transport (DfT) website would provide a sufficient basis on which to complete this TS. This is referenced in Appendix C, alongside Aberdeenshire Council's response to the scoping correspondence.
- 3.11 Indeed, publicly available traffic count information, provided by Department for Transport (DfT), is available for the A90 (T) within the vicinity of the site. The count location is on the A90(T) south of Seaview Road, approximately 1.5 km north from the proposed access junction (Collection Point ID: 50805).
- 3.12 There are no significant junctions or settlements between this count and the proposed access junction, and therefore this count can be considered representative of traffic flow at the A90(T)/un-named road junction.
- 3.13 The latest traffic count information was collected on 20 September 2019, which is considered to be a suitable 'neutral' month, and consisted of hourly flows for a period of 12 hours (07:00 – 19:00). The data obtained is summarised in **Table 3.1** below.

Table 3.1: Two-way Traffic Flow and Composition (Collection Point ID: 50805)

Period	All Vehicles	HGV	HGV Percentage
AM Peak (07:00 – 08:00)	444	26	5.9%
PM Peak (16:00 – 17:00)	552	34	6.2%
Total 12 hr flow	4,697	257	5.5%

- 3.14 **Table 3.2** shows the conversion of the above data into the Annual Average Daily Traffic (AADT), calculated using the expansion factors contained in the **COBA 2018 User Manual: Traffic Input Data**.

Table 3.2: AADT in 2019, A90 (T)

Collection Point	All Vehicles	HGV	HGV Percentage
A90(T)	5,076	278	5.5%

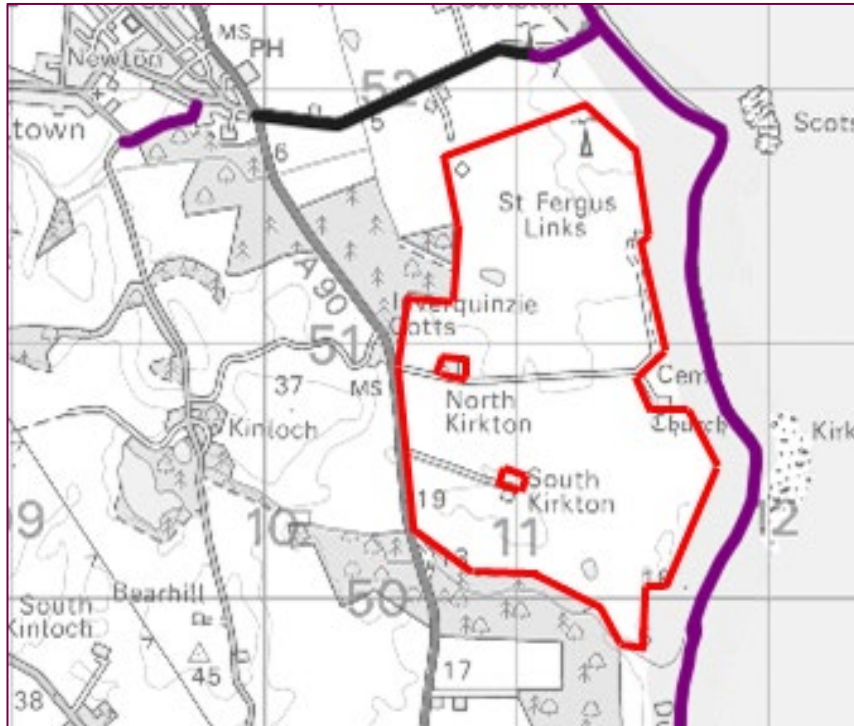
Road Safety

- 3.15 Personal Injury Accident (PIA) statistics data for the 5-year period (2015 – 2019) has been obtained from the Crashmap online database. The data shows there to be no recorded PIA accidents in the site’s vicinity within the period.
- 3.16 The surrounding road network itself is of a rural character, so it would not be uncommon for regular speed checks to be carried out by the Police at times of the day when higher speeds are more likely to occur, in line with regular enforcement activities.

Cycle and Pedestrian Network

- 3.17 The A90(T) does not benefit from any pedestrian or cycle infrastructure in the vicinity of the proposed site access. Footways are generally absent from the local road network, owing to the rural nature of the locality and the absence of any pedestrian demand.
- 3.18 Any active travel opportunity to/from the Development are unlikely to be prevalent. In this respect the speed environment will be a further constraint to this.
- 3.19 There are no Core Paths recorded crossing the site, however, a review of Aberdeenshire Core Paths Plan Maps indicates that a **Core Path L30R** runs along adopted road to north of the site. This connects St Fergus Village with **Core Path 7LD.01.18** which runs along the eastern edge of the proposed site. The location of the paths is shown in the **Figure 3.4** below.

Figure 3.4: Location of Core Paths



Note: Red Line is for Illustrative Purposes

4 DEVELOPMENT PROPOSAL

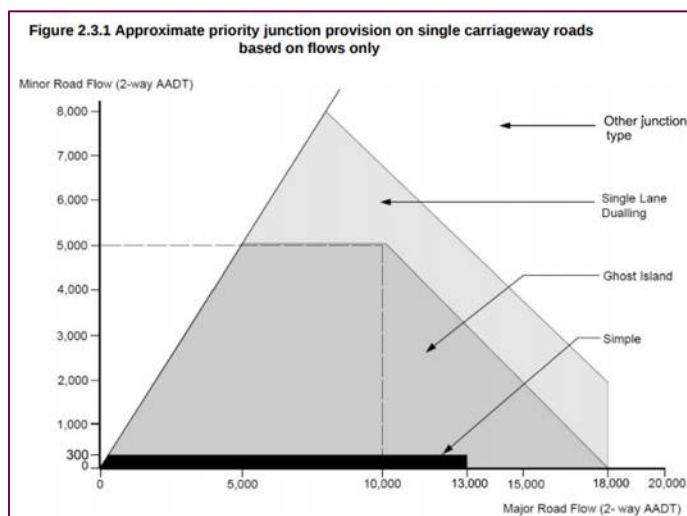
Project Description

- 4.1 The Proposed Kirkton Development is for an electricity generating station with an installed capacity in excess of 50 megawatts (MW) consisting of a solar PV farm of approximately 50MW capacity and a battery energy storage facility of approximately 20MW capacity, with ancillary development.
- 4.2 The proposed PV panels will be mounted on aluminium or steel frame tables at inclination of up to approximately 25 degrees depending on localised topography. All panels on the site will be orientated to face south and are fixed in place. They will not move to follow the path of the sun and are opaque in nature and are specifically designed to absorb rather than reflect the sun's rays.
- 4.3 The site will also contain a primary substation and inverter stations. Inverter stations convert the Direct Current electricity generated by the solar panels into Alternating Current (AC) electricity before being fed into the primary substation and then onward to the local electricity grid network. A site plan is provided in Appendix A.
- 4.4 For security purposes the area of the development will be enclosed by a 2.45m high post and wire (deer) fencing. CCTV cameras will be placed strategically throughout the development site.

Upgraded Access Configuration

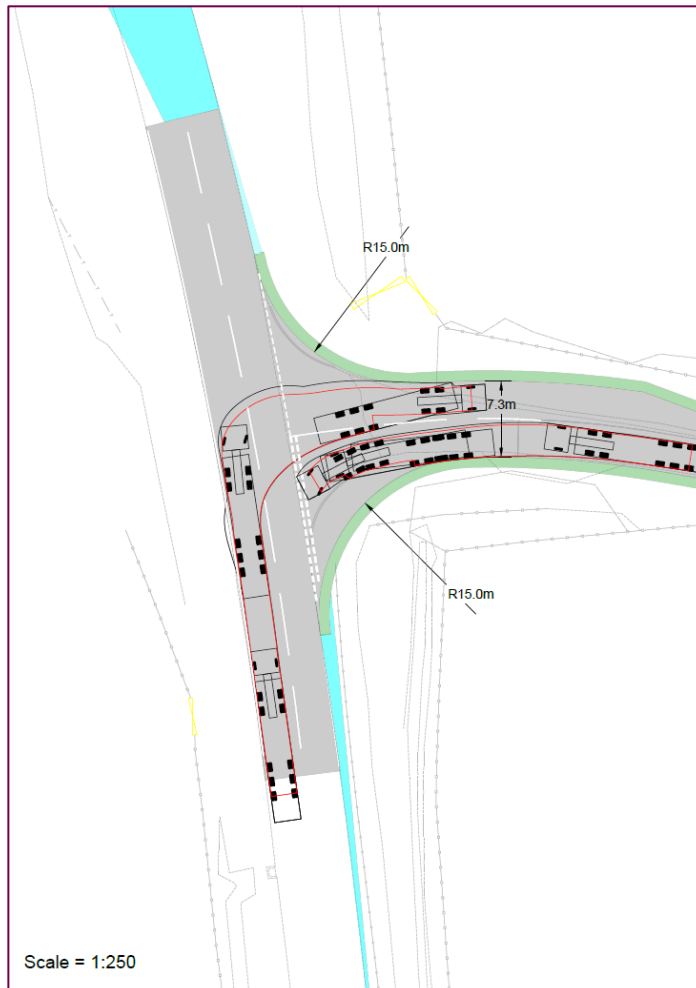
- 4.5 It is proposed to upgrade the existing northern access junction to facilitate the type of standard HGV associated with construction at the site. The infrastructure improvements would consist of a slight re-alignment of the approach to the junction and some carriageway widening, alongside some larger radii at the A90(T) access point to cater for HGVs.

The review of [DMRB CD 123: Geometric design of at-grade priority and signal-controlled junctions](#) Revision 2 (August 2020) suggest that a simple priority junction would be acceptable, in accordance with the low-side arm flows predicted for this development (See Figure 2.3.1 of CD123 replicated below).



- 4.6 The proposed access junction is shown as a simple priority arrangement. An extract of the outline design drawing JNY9487-SK001 (Appendix B) is shown on **Figure 4.1** below.

Figure 4.1: Proposed Access Junction



- 4.7 With regards to the visibility from the minor road, the proposed access delivered a visibility splay of 2.4m x 215m (SSD for a 60mph). As per the DMRB requirements (Para 5.6.2 b), 15m corner radii for a design vehicle (HGV) and a corner taper of 1:5 over a distance of 25m which would accommodate two-way HGV movements.
- 4.8 The widening of the access road delivering an average carriageway width over this section of 7.3m. The CAD tracking shows how this would allow a large vehicle entering the site to pass by a vehicle waiting to exit at the minor arm of the junction.
- 4.9 As stated in CD123 para 5.17, nearside diverging tapers and auxiliary lanes are not required at simple priority junctions.
- 4.10 The required visibility envelope for a 60mph (2.4 x 215m) speed limit is indicated in blue and shown on a **Figure 4.2** below. It is possible to achieve the recommended visibility of 215m.

- 4.11 Despite this it is proposed that the sight line to the access is suitable given the short duration of the construction period (16 x weeks), the relatively low levels of construction vehicles and the fact that operational traffic is only occasional. Additionally, as per Section 6, a Construction Traffic Management Plan and agreed measures contained therein will represent a further mechanism to control construction traffic and safeguard against impacts. This can include temporary speed limit restrictions.

Figure 4.2: Visibility Splay 2.4 x 215 m



Forecast Movements

Forecast Baseline

- 4.12 Applying the National Road Traffic Forecast (NRTF) Low Growth factors for the period 2019 – 2022 to the historical 2019 traffic flows that have been recorded leads to the forecast flows shown in **Table 4.1** below.

Table 4.1: AADT Forecast 2022 Baseline 'Without Development' Traffic Composition

Collection Point	All Vehicles	HGV	HGV Percentage
A90(T) – ID 50805	5,188	284	5.5%

Construction Period

- 4.13 While the composition of construction vehicles will be partially dependent on the chosen contractor, the typical vehicle types that would be employed in the construction of the Development will comprise the following:

Table 4.2: Typical Construction HGV Movements

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

- 4.14 From the vehicle types listed in **Table 4.2**, the majority of materials and plant delivery is to be transported to the site will be via Rigid HGVs, with low-loaders being the largest vehicles which could be used for transporting prefabricated buildings or components to the site.

Trip Generation

- 4.15 The volume of construction traffic has been informed by an analysis of vehicle types, against the most likely construction programme. The indicative construction programme, along with the expected average delivery schedule has been summarised in **Table 4.3**.

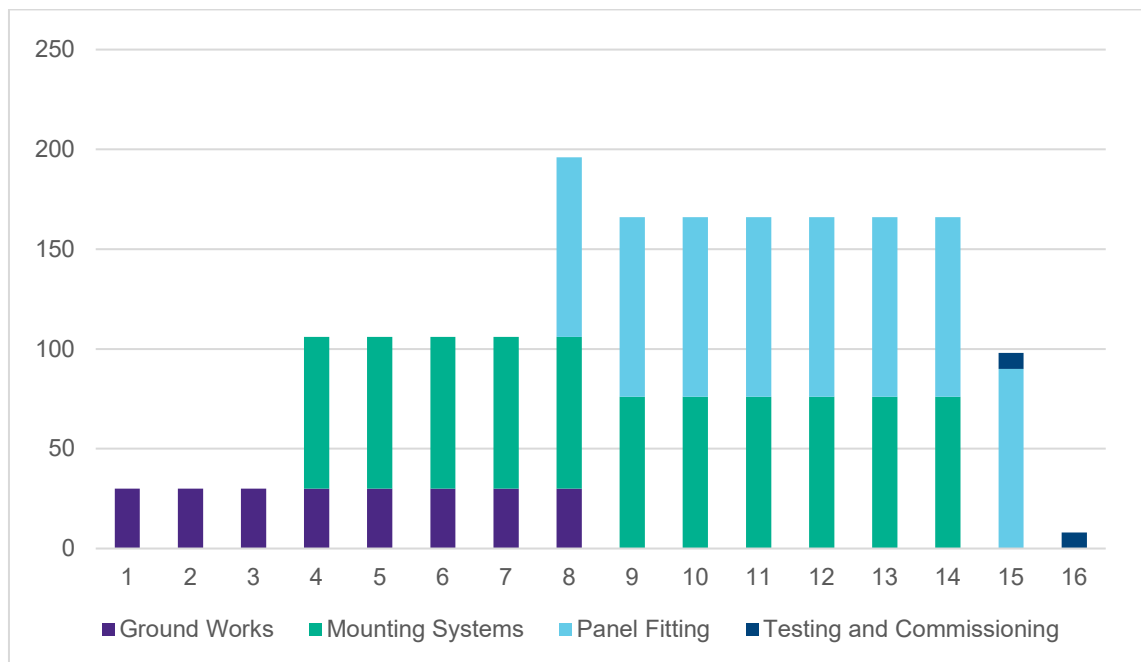
Table 4.3: Indicative Construction Programme and Delivery Schedule

Activity	Number of HGV Deliveries (Week)															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ground Works	15 Deliveries / Week															
Mounting Systems				38 Deliveries / Week												
Panel Fitting								45 Deliveries / Week								
Testing and Commissioning															4 D / W	

Source: Figures provided ELGIN Energy EsCO

4.16 The summary of this information is shown in **Figure 4.3**, based on two-way trips.

Figure 4.3: Two-way Delivery Trips Per Week by Construction Activity



4.17 The information in the above figure shows that the peak of vehicular movements associated with construction activities would occur in week 8 and 14. At this point, it is anticipated that there would be 98 overall deliveries in a week.

4.18 Assuming the conservative estimate of 5.5 working days per week, this would result in an average 18 deliveries per day / 36 movements during the peak period. This estimate will be used to establish as a robust case for the purpose of defining a quantitative assessment.

Trip Distribution

- 4.19 In terms of trip distribution, it has been assumed there would be more vehicle traffic arriving to/from the south, skewed 80 / 20% in favour of this route for general construction and 100% for HGVs.
- 4.20 This assignment of this traffic onto the local road network is shown in **Table 4.4** below.

Table 4.4: Average Daily Two-Way Development Distribution (Week 8)

Direction	Two-way
South	29
North	7
Total	36

Construction Traffic Impacts

- 4.21 Applying these vehicular increases to the total background traffic in **Table 4.1** above results in the following percentage impacts shown in **Table 4.5** below.

Table 4.5: Average Daily Development Impact on the Local Highway Network (AADT)

Collection Point	Link Capacity	All Vehicles	HGV	Percentage Impact Compared to Forecast Baseline
A90(T) – North	43200	5,195	291	+0.14%
A90(T) – South	43200	5,216	313	+0.56%

- 4.22 The above shows that the overall the percentage increase in delivery movements are forecast to be low, with overall increases in traffic forecast to be +0.14% and 0.56% for the sections of the A90(T) either side of the site access.
- 4.23 While such increases are temporary in nature, the changes in traffic described are also entirely within the range of normal fluctuations in daily traffic that could be expected on the A90 (T). Therefore, against the underlying capacity of these roads, the level of change does not constitute a significant change.

Operational Movements

- 4.24 Once operational, the Development will be unmanned and will generate limited vehicle movements associated with the routine maintenance and inspection of the site.
- 4.25 Operational traffic will primarily access the site from the proposed upgraded northern access. The existing access at South Kirkton (see **Figure 3.3**) may also be used for irregular maintenance of a proposed sub-station but so infrequently as to not require upgrade of the access.

- 4.26 Such traffic movements are not anticipated to result in a significant effect on traffic on local roads and are typically done by a light van or 4x4 type vehicle that can carry the necessary tools with a frequency of 50 visits a year (once per week). This level of traffic would be well within the scope of daily traffic fluctuation.
- 4.27 Given the proposed negligible impact of operational traffic, the focus of the assessment will be the construction phase.

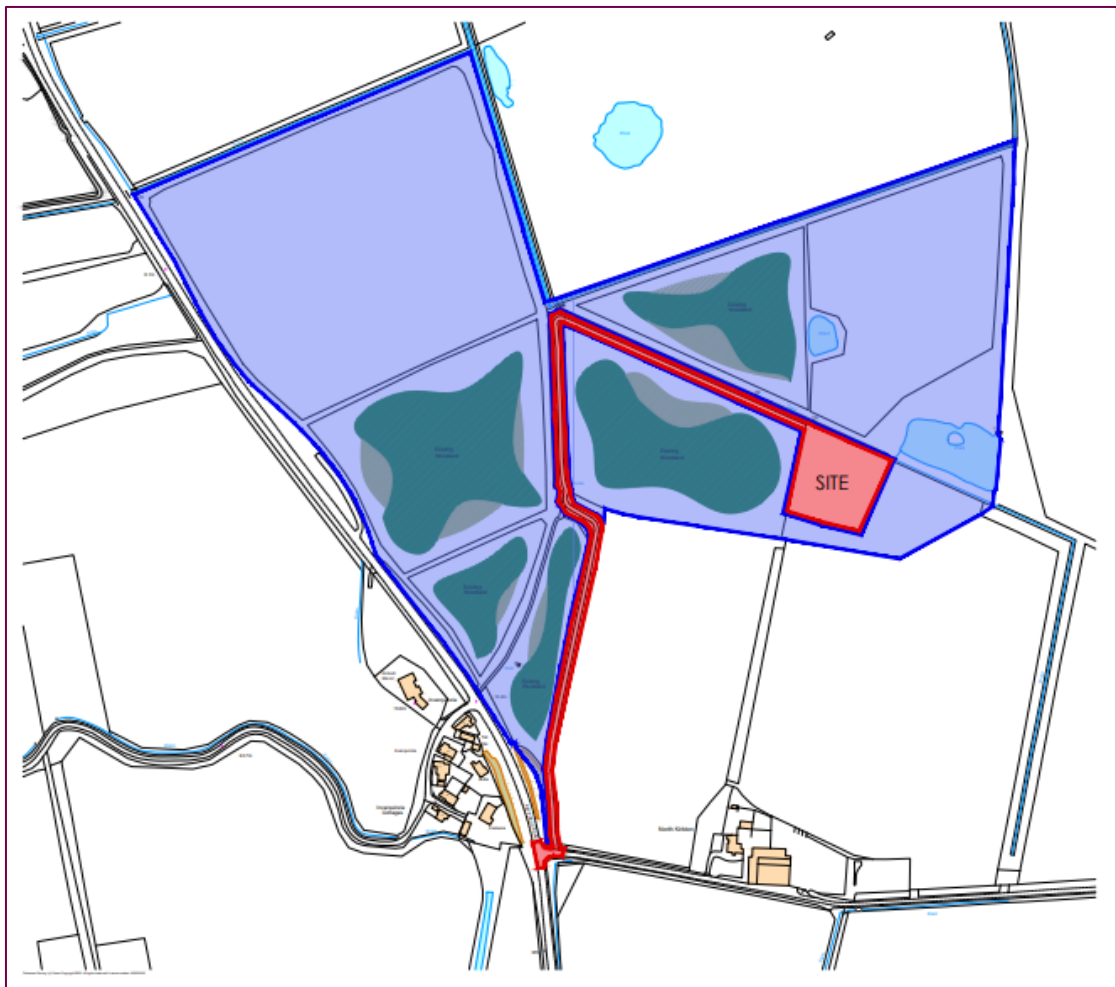
5 CUMULATIVE ASSESSMENT

Proposed Developments

Residential Development

- 5.1 It has been identified that a small residential development (Application Number: APP/2020/2580), in the form of a single dwelling house was proposed to the north of the development site, as shown on the Figure 5.1 below. Whilst this application has recently withdrawn it has been considered regardless.

Figure 5.1: Proposed Residential Development



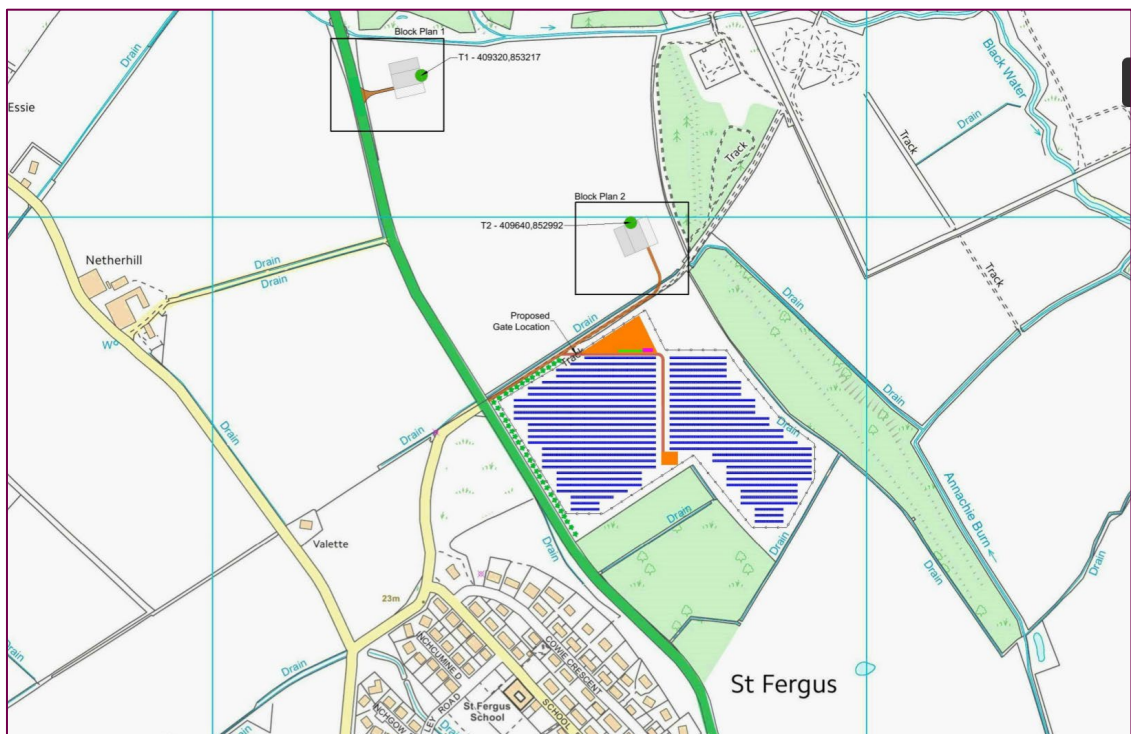
- 5.2 As shown on the figure above the proposed access is to be taken off the un-named track leading to the farm and the St Fergus Cemetery. It is understood that consultation with the Council has progressed but the status of the development is unknown.

- 5.3 Initial response from Transport Scotland on that application stated that the Applicant should provide a scaled and dimensioned drawing of the access to the local road and the A90(T) trunk road.
- 5.4 The likely impact of the proposed residential development, cumulatively with the Development, is not considered to be significant.

St Fergus Energy Park

- 5.5 A proposal for a solar farm development to the north-east of St Fergus village has recently (Planning Ref. APP/2019/2653). The proposed site layout is shown in **Figure 5.2** below.

Figure 5.2: Proposed St Fergus Energy Park Site Plan (Refused)



- 5.6 While the planning application was refused in 2021, the consultation response from Transport Scotland did not object to the proposals, subject to conditions. The scale of the scheme is such that it would not have a significant impact on the strategic road network, independently of cumulatively. There is also no indication of implementation timescales associated with the above developments, thereby reducing the risk of any overlap in construction activities.

Traffic Impacts

- 5.7 It is not predicted that any traffic flow increases related to the proposed development will be negligible, therefore inclusion in cumulative capacity assessment is not required.

6 TRAFFIC MANAGEMENT MEASURES

- 6.1 The primary means of controlling construction vehicular traffic will be through an approved Construction Traffic Management Plan (CTMP), which will *inter alia* present the minor routes that should be avoided during construction activities. This CTMP will form part of the contractor agreements, offering a means of enforcement by the Site Manager. As before, it is proposed that any requirement for the CTMP can be conditioned as part of any emerging application consent, the details of which will be agreed in advance of commencement of construction. Typical components of measures that may be included within the CTMP are set out below.

Temporary Construction Measures

- 6.2 Within the site itself, a construction compound area 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 route prior to making their delivery or commencing work.
- 6.3 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 entrance, as shown on **Plate 1**.

Plate 1: Temporary Signage at Site Access



- 6.4 Additional signage located on the A90(T) to the south and north of the site access will advise motorists of HGVs turning through the site access, as shown on **Plate 2**.

Plate 2: Temporary Signage on A90(T)



- 6.5 The Applicant will appoint a Site Manager for the project and the details will be provided to AC 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 that could disrupt arrivals;
 - 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.
- 6.6 The Site Manager 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
 - Aberdeenshire Council.
- 6.7 Regular review meetings and telecommunication will be held between the Site Manager and AC if requested. It is envisaged that update meetings / telecommunication will be held on an ad-hoc basis as required. Furthermore, the Site Manager will provide any monitoring data, delivery schedules, complaints or breaches of agreements to AC if requested.
- 6.8 Given the rural nature of the road network, there does not seem to be a need for a specific restriction in vehicle arrivals times to be implemented.
- 6.9 Mud and debris on the road are regarded as one of the main environmental nuisances and safety problems arising from construction sites. The contractor will ensure that the area around the site including the public highway is regularly and adequately swept to prevent any accumulation of dust and dirt.
- 6.10 While the CTMP is a standalone document it is expected to be read in conjunction with an overarching Traffic Management and Monitoring Plan which is being proposed as a means of co-ordinating deliveries of a number of developments. There will be a regular monitoring of Traffic Management and Monitoring Plan to ensure any issues are picked up and cascaded down to individual CTMPs.
- 6.11 Also, as part of the overall monitoring, an agreement on wear and tear on road infrastructure caused directly by construction traffic would be established prior to construction commencing. The agreement will set out the area of review, scope and response requirement of any dilapidations that can be proven to be linked to construction activities.

- 6.12 The palette of measures which are outlined are based on experience of similar projects and existing knowledge. It is recognised that the contents of the CTMP and measures contained therein will be formed through engagement with the Council in advance of construction.

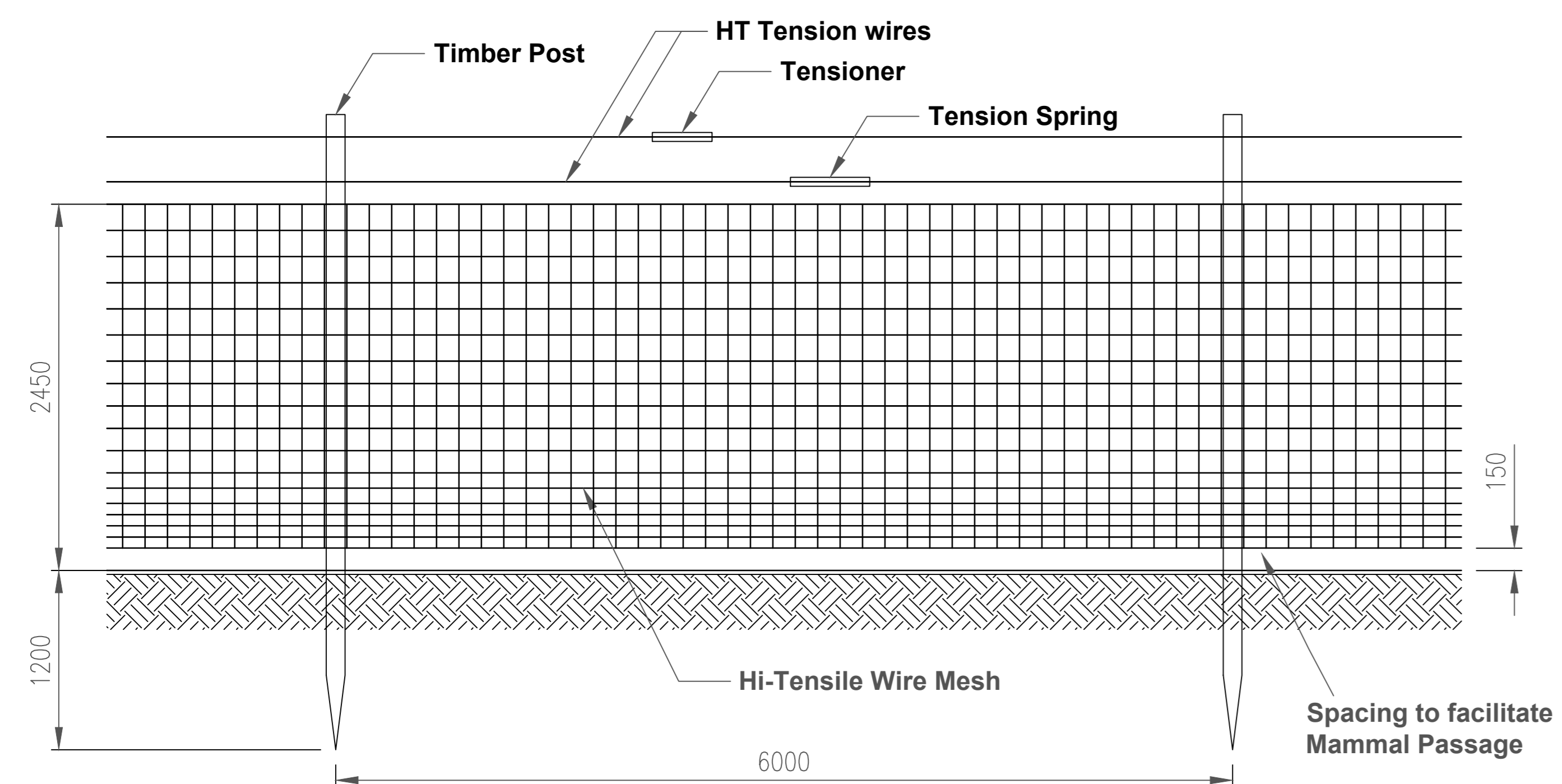
Operational Measures

- 6.13 Post-construction, the development will not require significant maintenance apart from occasional visits made by 4x4 vehicles. No specific control measures will be required to deal with operational traffic.

7 CONCLUSION

- 7.1 RPS has been commissioned by ELGIN ENERGY EsCO LTD to prepare a Transport Statement (TS) in support of its proposed solar photo voltaic (PV) and energy storage facility at Kirkton, in Aberdeenshire. The site is located on land within the Aberdeenshire Council Area east of the A90 (T) and approximately 1.2 km southeast of St Fergus Village, Peterhead.
- 7.2 This TS has been developed in accordance with Transport Scotland's [Transport Assessment Guidance](#) (2012) and has given regard to the relevant national, regional and local policies.
- 7.3 The impact of the Development has been quantified, as it pertains to the A90 (T), for which historical traffic data is available to establish a suitable baseline for this assessment.
- 7.4 An account has been made of the road safety conditions on the above route, in determining if there are any underlying patterns of events that would otherwise give rise to a requirement for mitigation. No such works have been identified.
- 7.5 The assessment has considered the traffic generation associated with both construction and operation of the facility and concluded that the former only would require to be assessed.
- 7.6 The conclusions drawn in this report are that:
- The proposed northern site access requires upgrade to accommodate the movement of construction vehicles. Such intervention would be captured by planning condition requiring this to be delivered prior to the main site construction works;
 - The construction period for the development would last c. 16 weeks. There would be a higher level of traffic during Weeks 8 - 15 with the highest cumulative total of deliveries occurring in Week 8;
 - The development would give rise to a maximum of 36 delivery movements per day at the peak of the construction phase;
 - The level of operational traffic is considered too low to warrant specific quantification or mitigation;
- 7.7 A cumulative assessment considering planning application for the, Erection of a Dwelling (Ref. APP/2020/2580) and the consent refusal for the St Fergus Energy Park (Ref. AA/2019/2653) was also carried out to confirm the status of these applications in respect of the negligible impacts these schemes would have cumulatively with the proposed development.
- 7.8 In presenting the above, it is also worth noting that the assessment of the Development has given regard to the worst-case for both vehicle types; cars and HGVs. In reality the construction profiles presented show that the highest number of such movements would not occur at the same time. Therefore, the conclusion can be considered to be robust.
- 7.9 On the basis of the above, there are no technical transport reasons that would constrain the ability of the development to come forward as intended.

Appendix A – Development Layout



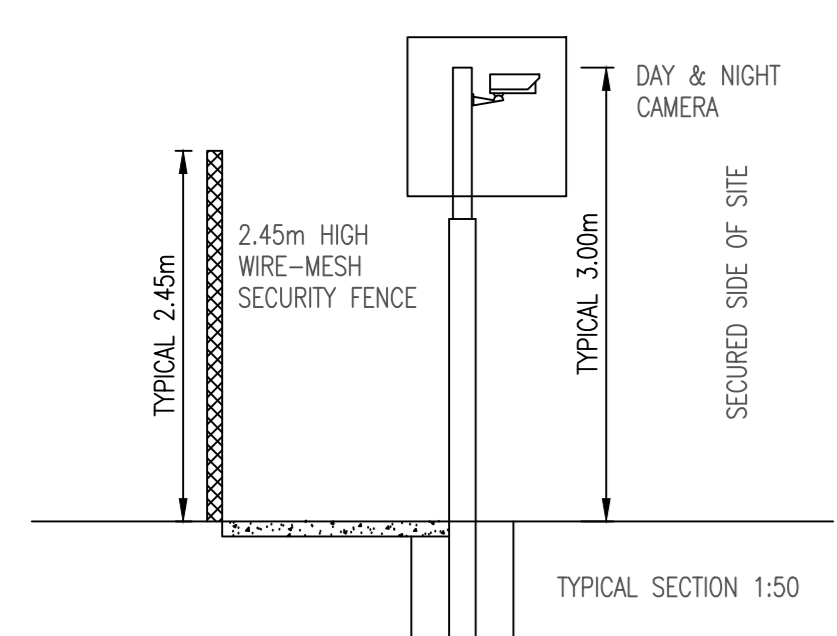
TYPICAL SECURITY DEER FENCE DETAILS



TYPICAL IMAGE OF DEER FENCE

TYPICAL HIGH TENSILE FIXED KNOT FENCING:

1. 2.45M HIGH PRESSURE TREATED TIMBER POSTS AT 6M CENTRES.
2. HIGH TENSILE GALVANISED WIRE TO BS EN 10223 AND BS EN 10244.
3. 20 NO. HORIZONTAL LINES, 2.5MM WIRE, SPACING VARIES BETWEEN 75MM AND 175MM.
4. VERTICAL LINES, 2.5 WIRE AT 150MM CENTRES.
5. HIGH TENSILE TENSION WIRE TO TOP FITTED WITH TENSIONER AND TENSION SPRING.



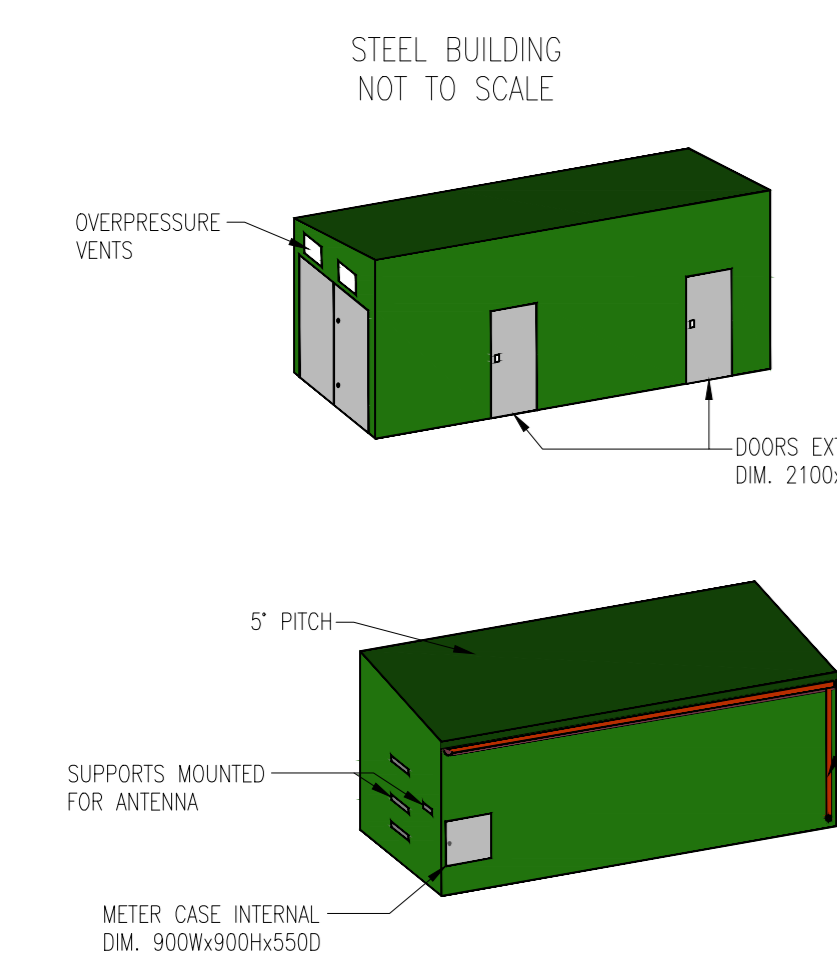
CCTV CAMERA DETAILS TYPICAL SECTION



TYPICAL IMAGE OF CCTV CAMERA



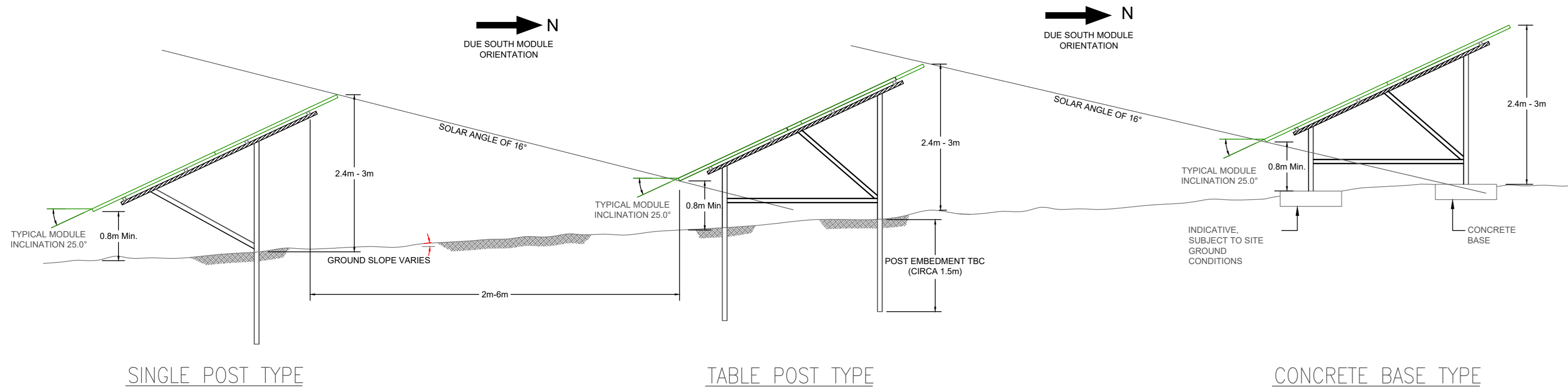
TYPICAL STORAGE UNIT TYPICAL DIMENSIONS 12.2m x 2.4m x 2.6m HIGH ALL SUBJECT TO FINAL DESIGN



TYPICAL PRIMARY SUBSTATION TYPICAL DIMENSIONS 6m x 3.2m x 3.4m HIGH. ALL SUBJECT TO FINAL DESIGN

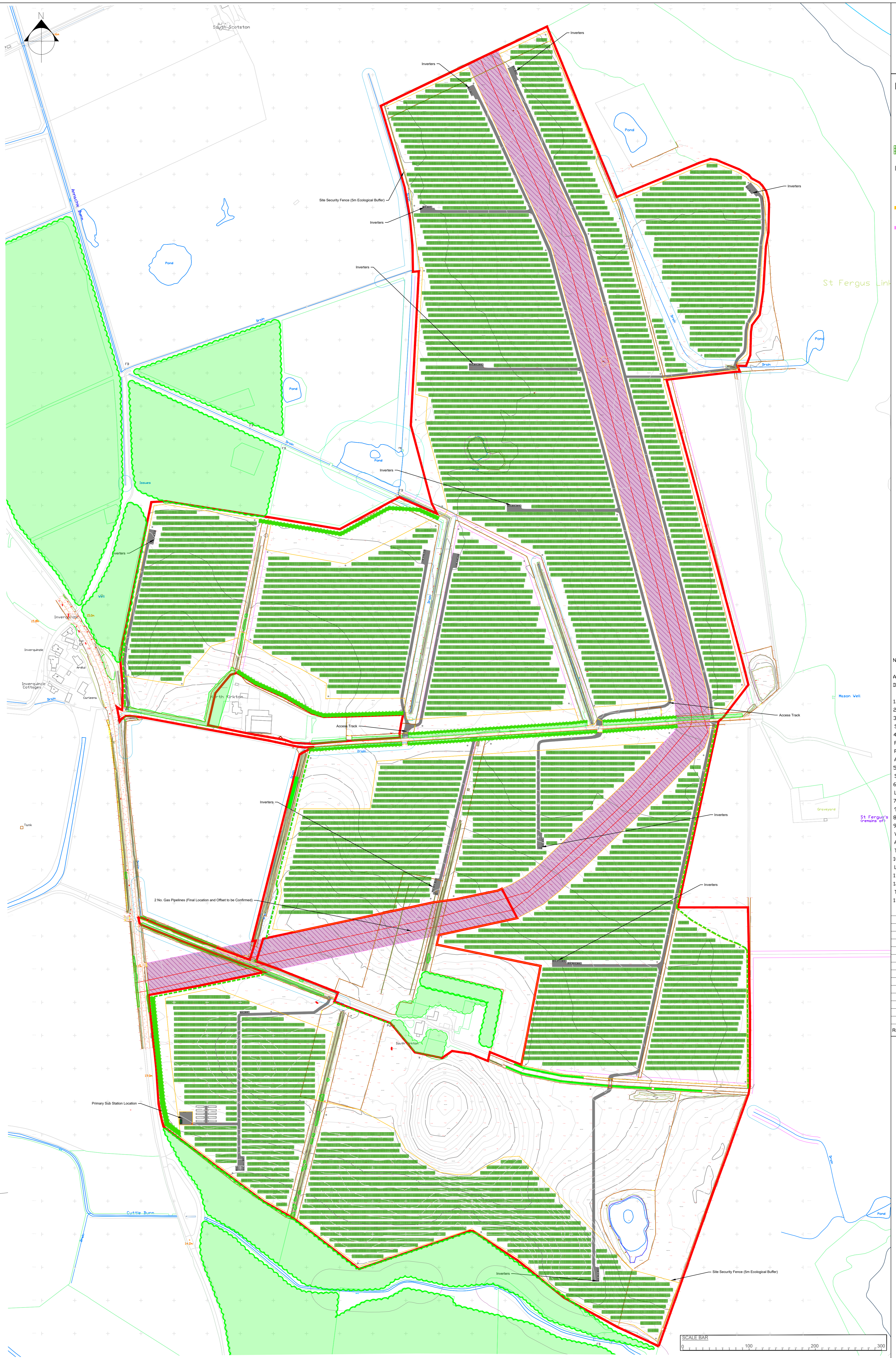


TYPICAL INVERTER SUBSTATION DIMENSIONS: 7m x 2.5m x 3m HIGH. ALL SUBJECT TO FINAL DESIGN



TYPICAL SECTION THROUGH VARIOUS MODULE OPTIONS

SCALE 1:50



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- LEGEND
- SITE BOUNDARY
 - 3 x 12 = 36 MODULE PANEL (12m)
 - 3 x 24 = 72 MODULE PANEL (24m)
 - 3.5m ACCESS TRACK
 - INVERTER SUBSTATION
 - SECURITY FENCE
 - 5m BUFFER FROM VEGETATION OR TREE CANOPY
 - CCTV
 - 10m BUFFER FROM WATER FEATURE
 - 30m BUFFER FROM WATER POND
 - 30m BUFFER FROM CUTTIE BURN
 - GAS PIPELINE EASEMENT
 - EXISTING VEGETATION TO BE RETAINED COMPRISED OF CONIFEROUS WOODLAND, MIXED SPECIES WOODLAND, REMNANT HEDGEROW AND SCRUB SHRUB AREAS
 - PROPOSED MITIGATION SCREEN PLANTING COMPRISED OF LOCALLY APPROPRIATE TREE AND SHRUB SPECIES (Whips and transplants)
 - PROPOSED HEDGEROW PLANTING PLANTED AS A DOUBLE STAGGERED ROW OF LOCALLY APPROPRIATE SPECIES (Planted as transplants)

- NOTES
- ARRANGEMENT OF PANELS SHOWN IS BASED ON THE FOLLOWING DATA:
1. TYPICAL PANEL SIZE = 2.2m x 1.3m APPROX.
 2. PANEL TYPICAL INCLINATION = 25 DEGREES TO HORIZONTAL
 3. MIDDLE LENGTH = TYPICAL 15.6M RUN WITH 0.2M GAPS SUPPORTED ON FOUR POSTS/FRAMES.
 4. THE TYPICAL MODULE SECTION SHOWS TWO PANELS IN PORTRAIT ORIENTATION, THREE PANELS IN LANDSCAPE OR SIX PANELS IN LANDSCAPE MAY ALSO BE REQUIRED. DETAILS ARE SUBJECT TO FINAL DESIGN.
 5. FOR CLEARANCES DISTANCE BETWEEN PANELS REFER TO SECTION.
 6. PANELS AT LOWEST POINT SET AT 0.8M ABOVE GROUND LEVEL INCREASING TO 2.4m TO 3m APPROXIMATE.
 7. PANELS NOT LOCATED WHERE LAND GRADIENT EXCEEDS 1 IN 9.5 IS DECREASED DUE TO EXCESSIVE LEG HEIGHTS.
 8. MINIMUM 5M ECOLOGY BUFFER ALLOWED TO ALL BOUNDARIES.
 9. ACCESS TRACKS TO CONSIST OF CLAUSE 804 MATERIAL WHERE REQUIRED I.E. AREAS OF SOFT SPOTS, FINAL EXTENT AND DESIGN TO BE CONFIRMED. ONLY PERMEABLE MATERIAL TO BE USED.
 10. FOR EXTENT AND TYPE OF SCREENING REQUIRED REFER TO LANDSCAPE AND VISUAL ASSESSMENT REPORT FOR PROPOSALS.
 11. ALL EXISTING HEDGE ROWS AND TREES TO BE RETAINED.
 12. NUMBER AND LOCATION OF INVERTER SUBSTATIONS SUBJECT TO FINAL DESIGN.
 13. LOCATION OF SECURITY FENCE SUBJECT TO FINAL DESIGN.

Rev	Description	By	CB	Date
N	Final planting added to layout design	GG	PM	23/03/2021
M	Amendments to layout	GG	PM	16/03/2021
L	Amendments to layout	GG	PM	15/03/2021
K	Amendments to layout	GG	PM	08/03/2021
J	Refine and layout amendments	GG	PM	25/02/2021
I	Refine and layout amendments	GG	PM	16/02/2021
H	Amends due to ecology constraints	GG	AL	21/01/2021
G	Amendments to the solar cross section	GG	AL	21/12/2020
F	Further refinement to red line boundary	GG	AL	17/12/2020
E	Fence line amendments	GG	AL	16/12/2020
D	Red line amendment	GG	AL	14/12/2020
C	General edits and layout amends	GG	AL	14/12/2020
B	Revised panel size and layout	GG	AL	07/12/2020
A	Revised area and panel layout	GG	AL	24/11/2020

RPS MAKING COMPLEX EASY
 Park House, Greyfriars Road, Cardiff, CF10 3AF
 T: 02920 968 662 E: rps@rpsgroup.com

Client **ELGIN ENERGY EsCO LTD**

Project **KIRKTON SOLAR**

Title **DRAFT PLANNING DRAWING**

Status	Drawn By	PM/Checked by
PLANNING	GG	AL

Job Ref: JPW1202 Scale @ A0 Date Created: NOV 2020
 Job Ref: JPW1202 Scale @ A0 Date Created: NOV 2020

RPS Drawing/Figure Number: JPW1202-002 Rev: N

Appendix B – Proposed Junction Configuration



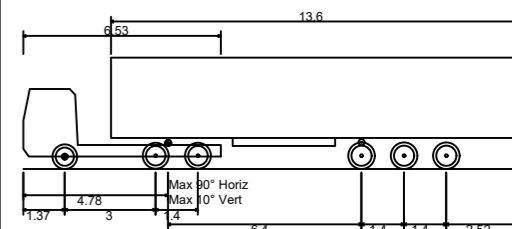
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2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.
3. This drawing is to be read in conjunction with all relevant scheme drawings.

Key

- Carriageway
- Verge
- Visibility Splay (2.4m x 215m)



Max Legal Length (UK) Articulated Vehicle (16.5m)
 Overall Length 2.550m
 Overall Width 2.550m
 Overall Body Height 3.881m
 Min Body Ground Clearance 0.411m
 Max Track Width 2.500m
 Lock to lock time 6.00s
 Kerb to Kerb Turning Radius 6.530m

FOR
INFORMATION
ONLY

Rev	Description	By	CB	Date



Belford House, 3rd Floor, 59 Belford Road, Edinburgh EH4 3DE
 T: +44(0)131 555 5011 E: transport@rpsgroup.com

Client Elgin Energy

Project Kirkton Solar Farm

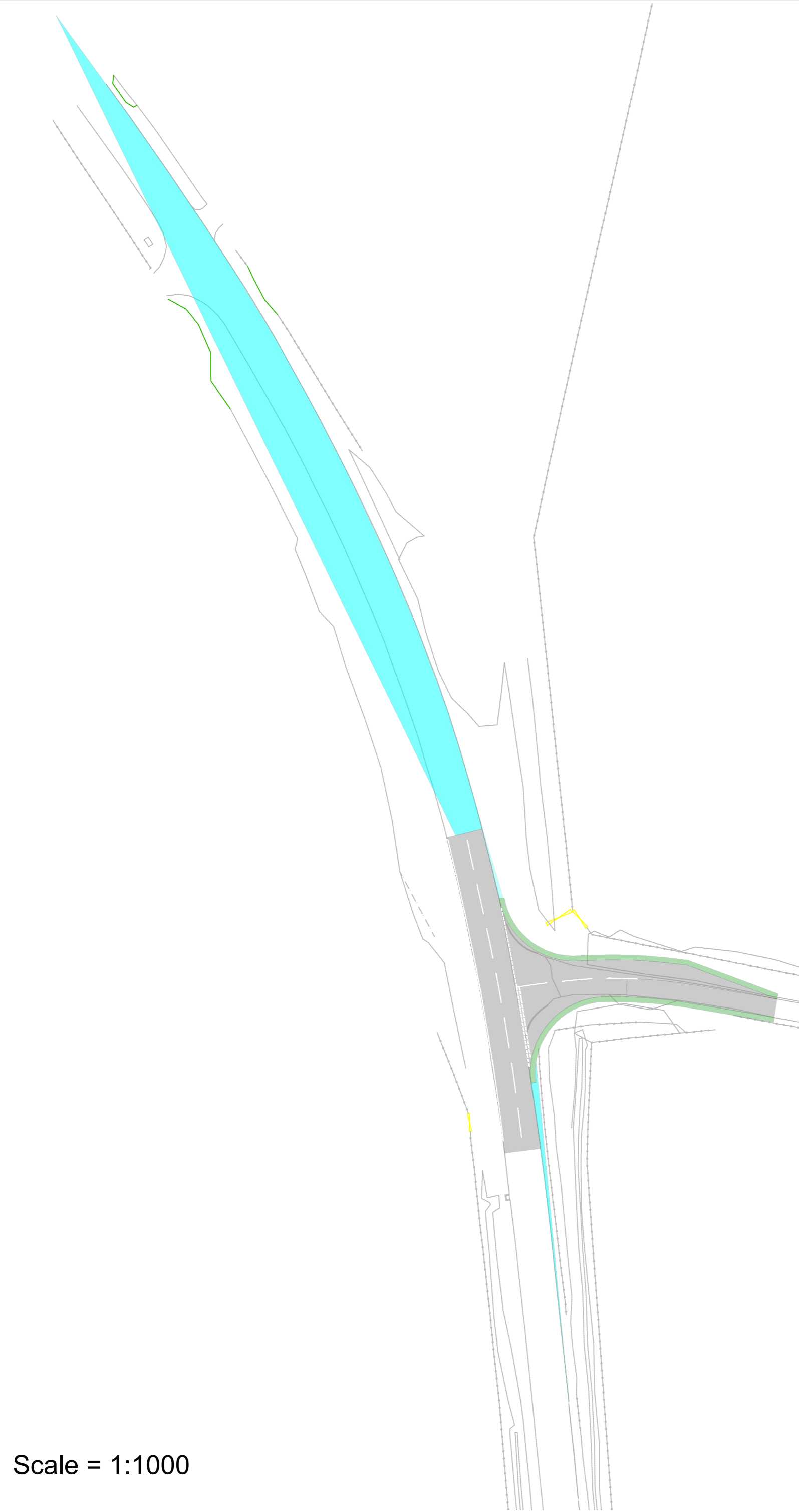
Title Site Access Widening

Status INFORMATION Drawn By RRH PM/Checked by KK

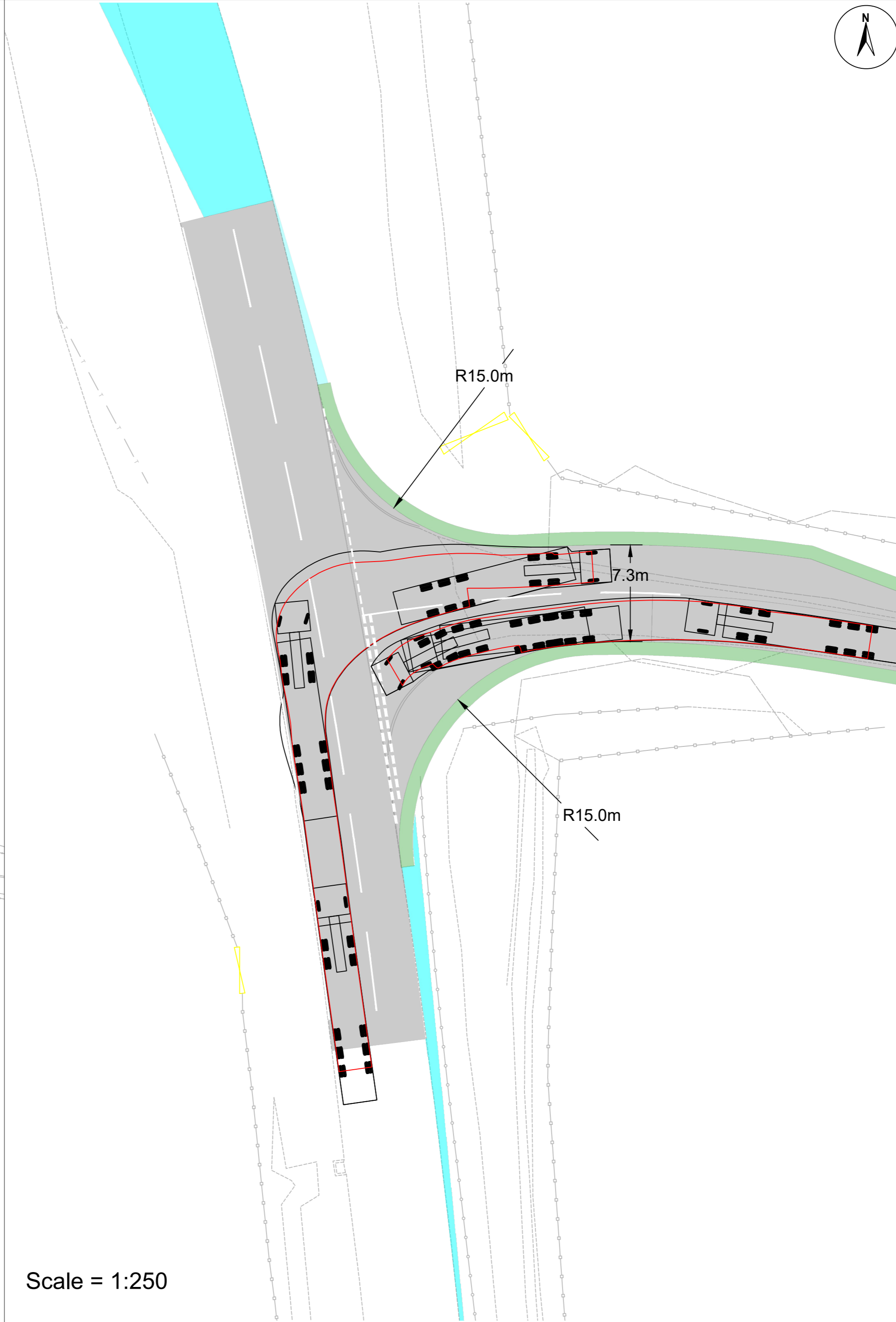
Project Number JNY9487 Scale @ A2 As Shown Date Created Feb 21

RPS Drawing/Figure Number JNY9487-SK001 Rev

rpsgroup.com



Scale = 1:1000



Scale = 1:250

Appendix C – Scoping Correspondence with Transport Scotland and Aberdeenshire Council

From: [Jan Wasilewski](mailto:Jan.Wasilewski@transport.gov.scot)
To: Development_management@transport.gov.scot
Cc: [Kevin Kay](#); [Russell Henderson](#)
Subject: Proposed Kirkton PV Development
Date: 30 October 2020 17:23:36
Attachments: [Site Plan.jpg](#)
[image004.png](#)

To whom it may concern,

We have been appointed to provide advice on transport matters related to a proposed Solar Farm development in Aberdeenshire, located between Lunderton and St Fergus. I have enclosed an indicative site area to provide context and scale.

As part of the proposals, an existing farm access off the A90 trunk road is proposed to be used and upgraded to facilitate the temporary construction and on-going maintenance of the facility.

While no significant operational movements are anticipated with the Solar Farm, some formalisation of this farm lane junction will be required to facilitate access to/from the development.

The purpose of this letter is to seek to establish by way of scoping what Aberdeenshire Council and Transport Scotland's requirements would be in respect of a planning application.

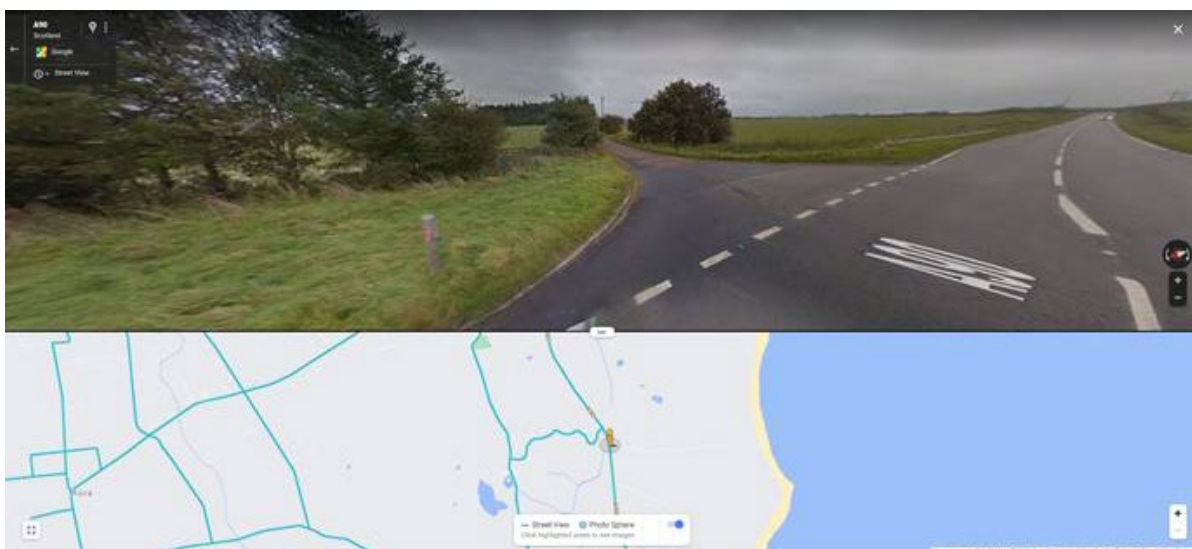
The Proposed Kirkton PV Development is for a large-scale solar PV array with an expected installed capacity of greater than 35 MW but less than 50MW. Consequently, the Application would be determined by Aberdeenshire Council as a planning application under the Town and Country Planning (Scotland) Act 1997 as amended by the Planning etc. (Scotland) Act 2006.

By way of background, we have been able to establish that the following baseline data is available to help inform a transportation assessment:

- A90 Northbound and Southbound flows in the vicinity of the site (counter 50805 in St Fergus) with the most recent count done on the 20/09/2019

We consider that these surveys are suitable for the purpose of undertaking the assessment of the main point of access to this development site.

Currently the access off the A90 onto the site comprises a simple priority junction, as follows:



The configuration of the junction is proposed to be reviewed to determine if adheres to the latest requirements presented in the DMRB [CD 123: Geometric design of at-grade priority and signal-controlled junctions Revision 2](#) (August 2020), which is relevant to the design of junctions on the trunk road network.

In terms of any impacts arising from the proposals, these will be temporary in nature and will primarily cover the construction period. Construction vehicle movements would be characterised by standard HGV traffic, as well as construction worker vehicle movements.

Movement of any abnormal loads would be minimal given that the solar panels would arrive on site in 'kit form', and battery storage and/or transformers would arrive by standard HGV containerised vehicles. Therefore, the construction traffic would be limited and could be managed in accordance with standard good practice measures.

The proximity of the development site to the trunk road network means that no specific construction vehicle routing is anticipated to be required, beyond gaining access to the A90, as such a primary road is capable of accommodating the forecasted movements of construction vehicles.

Once operational, the development would be designed to be unmanned and would generate limited car and LGV-based movements associated with the routine maintenance and inspection of the site. Such traffic movements are not anticipated to result in a significant effect on traffic on local roads and are typically done by a light van or 4x4 type vehicle that can carry the necessary tools with a frequency of 15-20 visits a year (1-2 a month).

In terms of scope of works for producing a supporting assessment, we propose to produce a Technical Note for submission to the Aberdeenshire Council and Transport Scotland that will cover the following topic areas:

- Scale of the movements associated with construction and operation;
- Suitability of the point of access, given regards to background traffic levels and speed limits;
- Percentage increase in traffic taking account of the above link flow information;
- Account of accident history for the latest 5-year period available;
- Any measures employed to minimise the number of movements during construction;

We would be grateful if you could confirm your acceptance of the above approach to the assessment in allowing us to confirm the scope of the supporting information that would be submitted alongside the planning application.

If the above matter should be directed to someone else, could you please kindly pass it on to one of your colleagues or provide me with the correct email address.

Thank you in advance.

Best regards,

Jan Wasilewski

Jan Wasilewski

Consultant (Transport & Engineering)
RPS | Consulting UK & Ireland
3rd Floor, Belford House, 59 Belford Road
Edinburgh, EH4 3DE, United Kingdom
T +44 1315 555 011 **M** +44 7593 131 653
E jan.wasilewski@rpsgroup.com



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From: John.McDonald@transport.gov.scot
To: [Jan Wasilewski](#)
Cc: [Kevin Kay](#); [Russell Henderson](#)
Subject: A90 - NE2012577 - Aberdeenshire - Pre Application - Solar Farm development - Site at Kirkton Between Lunderton and St Fergus
Date: 09 November 2020 17:19:54
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

CAUTION: This email originated from outside of RPS.

Jan,

Thank you for your pre-application enquiry of 30 October 2020 regarding a proposed solar farm located to the south of St Fergus and east of the A90(T). As requested, I would provide the following comments on your proposals.

Transport Scotland's interests relate to the safe and efficient operation of the trunk road network. This concerns not only to the transport related implications of the development but also the nature of the development and its potential to represent a safety risk to drivers due to the effects of sunlight.

As you recognise, we require the submission of a transport statement which addresses the transport aspects of the proposed development. The initial scope and related matters set out in your email are considered satisfactory. It is noted that formalisation of the existing junction will be required to facilitate access to/from the development. It is also observed that the access serves St Fergus Cemetery. Accordingly, the junction will require to accommodate two way movement in order to minimise waiting traffic on the trunk road and be demonstrated to comply with CD 123.

No initial solar array layout is provided. Whilst there may be a separation between the site and the nearest point of the trunk road, we would require an analysis or commentary to be presented regarding the reflected glare and glint as it may affect drivers on the A90. It may be that there are features in the landscape which would prevent this or, indeed, distance and the panel technology mean this would be of minimal impact, however, we would wish to have evidence provided to demonstrate that there is no risk of distraction or impact on trunk road drivers' eyesight.

I trust these initial comments are of assistance.

Regards,

John

John McDonald

Quality Manager
Development Management
Network Operations

Roads Directorate
T: 0141 272 7386
F: 0141 272 7350
Transport Scotland
Buchanan House
58 Port Dundas Road
Glasgow
G4 0HF
transport.gov.scot



Transport Scotland, the national transport agency
Còmhdhail Alba, buidheann nàiseanta na còmhdhail

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From: Kenn Clark <kenn.clark@aberdeenshire.gov.uk>
Sent: 23 November 2020 14:48
To: Jan Wasilewski <Jan.Wasilewski@rpsgroup.com>
Cc: Peter MacCallum <peter.maccallum@aberdeenshire.gov.uk>
Subject: Proposed Kirkton PV Development

Dear Jan,

I refer to your email to Ewan Wallace regarding the above development proposal and can confirm that your proposal for the supporting assessment is acceptable for submission with the planning application. We note that the proposal will have no direct impact on the Local Authority road network therefore, as you have identified, Transport Scotland are the lead authority for the trunk road and we will defer to their audit of the proposed access junction and traffic analysis.

I trust this is acceptable but do not hesitate to contact me if you wish to further discuss the matter.

Regards,

Kenn Clark – Principal Engineer (Transportation)
Infrastructure Services
Aberdeenshire Council
Woodhill House, Westburn Road
Aberdeen, AB16 5GB
01467 539207
www.aberdeenshire.gov.uk