



An
Bord
Pleanála

Inspector's Report PL91.248821

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| Development | Construction of 30-acre solar farm with photovoltaic panels on mounted frames, 3 no. inverter / transformer stations, 1 substation security fencing and all associated development works. |
| Location | Grange Upper, Annacotty, Co. Limerick |
| Planning Authority | Limerick City and County Council |
| Planning Authority Reg. Ref. | 16/900 |
| Applicant(s) | Rengen Technologies Ltd |
| Type of Application | Permission |
| Planning Authority Decision | Grant subject to conditions |
| Type of Appeal | Third Party |
| Appellant(s) | John O'Dwyer & Residents |
| Observer(s) | None |
| Date of Site Inspection | 27 th November 2017 |
| Inspector | Mary Crowley |

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1.0 Site Location and Description

- 1.1. The appeal site with a site area of 12.1 ha is located in the townland of Grange Upper, Annacotty, Co Limerick and approx. 7km east of Limerick City Centre and c 300m to the south east of the M7 motorway. The Annacotty Business Park adjoins the site to the north. The west boundary is formed by the R506 and the south and east bounded by agricultural fields.
- 1.2. The appeal site comprises a number of agricultural fields under grass. The topography of the site is relatively flat. The area is characterised as rural agricultural with linear housing along the public road and the business park to the north. There is an existing ESB substation, Ahane 110 / 10kV substation, located to the northwest of the site approximately 150m from the boundary:.
- 1.3. A set of photographs of the site and its environs taken during the course of the site inspection is attached. I would also refer the Board to the site photographs, aerial photographs and photomontages available to view throughout the appeal file. In particular I refer to the *Photosurvey of R506 Road Boundary to the Proposed Site* submitted with the planning application.

2.0 Proposed Development

- 2.1. The application submitted to Limerick City and Country Council on **26th September 2016** was for a 5 year permission¹ for a 30 acre (12.1ha) solar farm comprising photovoltaic panels on ground mounted frames, 3 no. single storey inverter/transformer stations, 1 no. single storey sub-station (37.4sqm), security fencing, and all associated ancillary development works.
- 2.2. A connection to the 10kV busbar at Ahane is envisaged, although it is stated that other options may be available. It is documented that the solar farm will have an export capacity of 5MW. The solar panel will generate at 1500V DC and feedback into the 3 x 2MW transformer / inverter models. Each of these 2MW modules will be housed in a steel container, and will comprise of two panels of 10kV switchgear (for isolation / earthing purposes) a DYY 10kV / 550V converter transformer and a 2 x

¹ Planning Report (June 2016) Bamford & Bonner Urban & Rural Planning Solutions refers

1MW 550V (AC) to 1500V (DC) inverter modules. The overall solar farm output will be limited to 5MW at 10kV.

- 2.3. The 3 x 2MW transformer / inverter modules will feed back through site cabling to the main solar farm switchgear, which will be rated at 630A. A busbar earth switch will allow earthing to the feedback to ESB. The solar farm switchgear will then connect by a short length of cable to ESB switchgear in the adjacent room. It is envisaged that the embedded generation protection (under / over voltage and frequency and ROCOF) will be installed in the ESB room. An indicative line diagram is included with the application.
- 2.4. It is submitted that auxiliary supplies will be derived from the transformer / inverter modules. It is submitted that if necessary due to rating of ESB equipment, the solar farm can be split into two 10 kV connections; one of 1.7MW and another of 3.3 MW. Stated that the inverters can generate reactive power even at 0MW and if necessary can provide fault ride through capabilities similar to wind turbines.
- 2.5. The application was accompanied by the following documents:
 - Cover letter
 - Planning Report
 - Archaeological Assessment
 - Ecological Impact Assessment
 - Appropriate Assessment – Stage 1 Screening
 - Solar Photovoltaic Glint & Glare Report
 - Photo Survey of R506 Road Boundary
 - Construction Management Plan
 - Solar Panel Project Equipment
 - Engineer Report
 - Letter to local residents within 100m of the proposed development
- 2.5.1. Further information was requested on 17th November 2016. Further information was received on **16th May 2017** summarised below. In addition the submission provided a separate response to the observations submitted from Joe & Caroline O’Grady, Anne & John O’Dwyer, Patrick Brosnan, Senan O’Dwyer, TJ Collins, Mark

McConnell, Tom & Margaret O'Rourke, Patrick & Margaret O'Dea and John O'Dwyer on behalf of Local Residents.

- Revised site layout drawing providing a 60m buffer zone between the R506 Regional Road and the proposed solar arrays
- The proposed solar farm will be connected to the National Grid via an underground cable with a 10m wide wayleave (5m on each side) connected to the adjacent Ahane Substation. Details provided.
- Details of hedgerows to be removed, timing for removal and proposed replacement
- Water pollution prevention measures in respect of the proposed stream crossing to facilitate the grid connection are presented
- Revised site layout plan indicating the location of the proposed habitats links / badger gates and signage
- A 20m buffer zone has been introduced around the recorded monument and the grid route wayleave and landscaping has been adjusted accordingly
- The proposed life of the solar farm is 25 years, with 3 no inverter / transformers proposed with one sub station
- No financial bond is proposed as the applicant has undertaken an assessment on the recycling value of each component using today's values. The assessment indicated sufficient funds to cover decommissioning costs.
- The site will be enclosed by a 2.0m high green mesh fence, sat behind the proposed and existing landscaping. A local key holder will provide access via the access gate during emergencies. The substation is enclosed within a housing structure to ESB specifications and only the ESB have access keys. The inverters are enclosed in a container equipped with lockable steel doors. This doors will be locked at all times and the keys with a local key holder.
- In terms of glint and glare the evaluation report concluded that overall, no impact is predicted for dwellings once the proposed screening is in place and has reached a sufficient height. Further stated that overall, no impact is predicted for roads one the proposed screening is in place and has reached a sufficient height.

2.5.2. The response was accompanied by the following:

- Architectural Drawings
- Landscape Drawings
- Traffic and Sightline Drawings
- Grid Connection Route Drawings
- Report from EKO Integrated Services Ltd comprising
 - a) Further Information Report
 - b) Maintenance Plan
 - c) Method Statements Plan
 - d) Communications Impact Assessment
 - e) Photovoltaic Modules and Associated Fire Risks
 - f) Glint & Glare Assessment of Flight Paths
 - g) Decommissioning Statement
- Noise & Vibration Consultants Ltd – Noise Impact Report
- MEHS Ltd – LVIA including photo montages
- JBA Consulting Ltd – Drainage Report & Details and Drainage Layout
- Inis Environmental Ltd
 - a) Ecological Impact Assessment
 - b) Natura Impact Assessment
 - c) EIA Screening
 - d) Glint & Glare Report
 - e) Zone of Theoretical Visibility Assessment & Site Survey
- Other Documents
 - a) ESB Code of Practise
 - b) Fencing Brochure

3.0 Planning Authority Decision

3.1. Decision

3.1.1. Limerick City and County Council issued a notification of decision to grant permission subject to 33 conditions that may be summarised as follows:

- Condition No 1** Development to be carried out in accordance with plans and particulars submitted on 20/09/16 as amended on 16/05/17
- Condition No 2** 10-year permission
- Condition No 3** All structures permitted shall be removed not later than 25 years from the date of commencement
- Condition No 4** Section 48 Development Contribution in the amount of €75,000
- Condition No 5** Bond to secure the permission and satisfactory completion, maintenance and decommissioning of the solar farm
- Condition No 6** Bond to secure the reinstatement of public roads
- Condition No 7** Detailed restoration plan to be agreed
- Condition No 8** Boundary treatment, landscaping and screening shall be carried out and maintained
- Condition No 9** Construction hours, surface water and parking
- Condition No 10** construction traffic wheel washing
- Condition No 11** Restricted noise levels in the interest of residential amenities
- Condition No 12** Specific waste management plan to be agreed
- Condition No 13** External walls of substation shall be a neutral colour with black tiles / slates. Inverter station shall be dark green
- Condition No 14** No development shall occur until the network connection to the National Grid has received permission
- Condition No 15** No external lighting shall be installed or operated unless agreed
- Condition No 16** CCTV cameras shall be fixed and not directed towards adjoining property or the public road
- Condition No 17** Solar panels shall be fixed in place
- Condition No 18** Fencing shall allow wildlife to continue to have access to and through the site

- Condition No 19** Cables shall be underground
- Condition No 20** Mitigation measures shall provide resilience against future flood events
- Condition No 21** Access roads / tracks / access gates shall be agreed
- Condition No 22** Construction Traffic Management and Delivery Plan shall be agreed
- Condition No 23** Buffer (20m) shall be maintained from the outer edge of the recorded monument
- Condition No 24** Archaeological monitoring
- Condition No 25** Construction Environmental Management Plan shall be agreed
- Condition No 26** Construction details of vehicular entrant / exit
- Condition No 27** Any damage to the existing road surface during construction shall be rectified
- Condition No 28** Car parking provision
- Condition No 29** Surface water disposal
- Condition No 30** Surface water drainage pipes
- Condition No 31** Surface water run-off from the public road shall continue to be accommodated within the site unless otherwise agreed
- Condition No 32** All drainage arrangements shall be managed and maintained during the operational and decommissioning phase
- Condition No 33** Road marking and signage

3.2. Planning Authority Reports

3.2.1. Planning Reports

3.2.2. The **Case Planner** in their first report of **17th November 2016** addressed matters of grid connection, solar arrays, inverter / transformer units, security fencing, land take, site access, glint and glare and flood risk assessment. The Case Planner recommended that further information be requested, summarised as follows.

- Revised site layout providing a 60m buffer between the site boundary and the arrays at these locations
- Further information requested by the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (see below)
- Further information requested by the Heritage Officer (see below)
- Further information requested by Limerick City and County Archaeologist (see below)
- Further information requested by the Area Engineer (see below)
- Noise Assessment, written confirmation from ESB Networks that the buffer zone is considered acceptable, clarification on end of life (i.e. 25 or 35 years), decommissioning proposal including funding, emergency access, site security, fencing system, flood mitigation measures and draft decommissioning statement
- Glint & Glare impact report on the Regional Road and adjacent residential units
- Information to address issues raised by third parties in relation to Electromagnetic Interference
- Surface Water Report

3.2.3. **Further information** was requested on **17th November 2016**. Further information was received on **16th May 2017**.

3.2.4. The **Case Planner** in their second report of **9th June 2017** and stated that having considered the further information and the internal technical reports received on file recommended that permission be granted subject to conditions that reflect the internal technical reports on the planning file. Subject to a number of hand written amendments recorded on the Case Planners report the notification of decision to grant permission issued by Limerick City and County Council reflects this recommendation.

3.2.5. Reference is made in the **Case Planners** first report to both the **Heritage Officers Report** and the **Environment Department Report** attached to **Reg Ref 16/619**. History provided with appeal file. Reg Ref 16/619 relates to a 26.55 ha solar farm at Newcastle, Co Limerick granted by Limerick City and County Council subject to 26

condition in January 2017. I refer to the Case Planners report attached to Reg Ref 16/619 dated 31st August 2016 and the report of the Heritage Officers Report and the Environment Department Report therein that may be summarised as follows:

- Heritage Officer – The report is satisfied with the location in unzoned lands currently being used for agriculture, any post development vegetation control be non-chemical in nature, that a 60m buffer is desirable as a separation distance from housing and agrees with the findings if the AA Screening Report. Further information requiring more complete examples of electrical circuitry and their particular effects on radio television and mobile phone networks is required.
- Environment Department – Reference is made to water quality, flooding and glint and glare and the requirement to submit further information relating to an assessment to establish the potential impact of glint at the site of adjoining residential property.

3.2.6. Other Technical Reports

3.2.7. The **Area Engineer** (Operations and Maintenance Services, Central Services) in their report of **18th October 2016** set out the following:

- Existing entrance not visible on site
- Exit / entrance onto the R506 where a 60kph speed limit applies. Sight lines in direction of Old Dublin Road R445 are satisfactory. Sightlines in the other direction are poor. Applicant to demonstrate how sightlines will be achieved.
- Surface water drainage to be maintained
- Applicant to confirm staff parking numbers
- Details of the proposed road construction and other construction details to be submitted for approval
- Planting to the front boundary not to interfere with sightlines
- Construction Management and Delivery Plan to be agreed

3.2.8. The **Area Engineer** (Operations and Maintenance Services, Central Services) in their second report of **24th May 2017** and having considered the further information set out the following:

- Entrance / Exit, Car Parking, Surface Water Disposal, Road Marking & Signage proposals are acceptable subject to conditions
- A public lighting design is required and should be sent to operations and maintenance series, central services for approval prior to commencement.
- Requirement for Road Opening License and Road Closure
- Construction management, delivery plan and traffic management plan for the construction of the development shall be agreed with the Roads Engineer prior to commencement of construction

3.2.9. The **Heritage Officer** in their report of **16th November 2016** requested the following further information as summarised:

- Information on the presence or absence of mammals on site such as badgers and as stream borders the site, a walkover survey for sign of otters e.g. tracks or spraints
- Complete account of the amount of hedgerows to be removed or cut down to be provided
- Type and route of grid connection, including the substation (e.g. single pole or underground) to be provided
- Details of stream crossing point including measures to prevent water pollution is to be provided together with details of any ongoing access arrangements that would be put in place to facilitate access for replacement of panels or maintenance as required.

3.2.10. The **Heritage Officer** in their second report of **7th June 2017** and having considered the further information set out the following:

- Proposals that the scrap value of the installation will cover the decommissioning works is unacceptable. Stated that it would be best if a bond was fixed prior to any grant to ensure cost of decommissioning is not borne by the Council
- Recommended that the following conditions be attached:
 - a) Revised further information landscape plans to be implemented
 - b) Badger gates and habitat links identified in further information to be implemented

- c) To minimise ecological disturbance to the stream, the damming to the stream to take place only for the 24 hour period specified and to be overseen by an ecologist.

3.2.11. The **Executive Archaeologist** in their first report of **1st November 2016** noted that there was a Recorded Monument LI006-038 abutting the north-west corner of the proposed site, albeit the R506 divides the two. As part of Further Information the applicant should be asked to redesign the layout at the north west to reduce the impact on the recorded Monument and to establish a buffer of 20m from the outer known edge where no new tree planting, landscaping, soil disturbance or subsequent exempted development occurs in perpetuity.

3.2.12. The **Executive Archaeologist** in their report of **2nd June 2017**, and having considered the further information, has not stated to the scheme subject to conditions requiring the provision of a 20m buffer as set out in Drawing L202 (date stamped 16th May 2017) and archaeological monitoring.

3.3. Prescribed Bodies

3.3.1. The report of **Irish Water** dated 9th October 2016 has no stated objection to the scheme.

3.3.2. The report of the **Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs** dated 7th November 2016 requested the following further information:

- Further information is required on how electricity will be exported to the grid, in order to fully understand the effects of this project on the nearby Mulkear River part of the Lower River Shannon cSAC (Site Code 2165) or of the protected species Whooper Swan.
- Queried how much hedgerows are proposed for removal, the timing of any proposed removal, and the detail on whether and how hedgerows were surveyed for badger setts, bat roosts etc.
- Also site is about 3km upstream of the Lower River Shannon cSAC and is connected through surface water. Limerick City and County Council must ensure they are satisfied the methodology will not pose and threat to water quality in the Lower River Shannon cSAC particularly during the construction phase.

3.4. Third Party Observations

3.4.1. There are several observations recorded on the planning file from (1) Patrick & Margaret O'Dea, (2) Anne & John O'Dwyer, (3) TJ Collins, (4) Tom & Margaret O'Rourke, (5) Joe & Caroline O'Grady, (6) Senan O'Dwyer, (7) John O'Dwyer on behalf of local residents (appellant) (46 signatures), (8) Mark McConnell and (9) Patrick Brosnan.

3.4.2. The issues raised may be summarised as follows:

- Loss of residential amenity and privacy
- Depreciation of property values
- Visual Impact
- Health effects / implications
- Damage to ground water and drinking water / groundwater quality
- Damage to good agricultural land
- Increased risk of flooding
- Noise pollution
- Damage to wildlife
- Lack of basic information and lack of consistency with information provided
- Industrial fencing will be unsightly
- Inadequate landscaping proposal
- Increased traffic congestion and traffic hazard
- Glint and Glare
- Structural integrity during high winds / gusts
- Specific site security issues
- Disruption to wildlife
- Decommissioning
- Access by emergency serviced not addressed
- Electromagnetic and Radiofrequency Interference
- Poor drainage and flooding

- Not in keeping with the Development Plan “to protect and enhance the county environment and heritage and to guide the development and use of land in the public interest and the common good in a sustainable fashion”
- Suitability of the site
- Surface water related issues
- Road traffic
- Glint and glare
- Proximity to family houses
- Noise thresholds
- Site security
- Fire
- Visual impact / screening
- Boundary screening / hedgerows
- Archaeology

4.0 Planning History

4.1. There is no evidence of any previous planning application or subsequent appeal on this site. However there are two previous appeals proximate to this site, one relating to the adjoining industrial estate and a second relating to a more recent solar farm development further west along the R506. Both appeals may be summarised as follows:

4.2. **PL13.232441 (Reg Ref 08/1524)** - Limerick County Council granted permission for 37 industrial buildings at Grange Upper, Annacotty, Co. Limerick in 2009. This decision was appealed by three third parties. In **October 2009** An Bord Pleanála refused permission for the following four reasons:

1. *The proposed large scale industrial development on unzoned land outside the boundaries of any settlement, close to a junction on the M7 motorway, would represent a haphazard and unsustainable pattern of development that would prejudice the orderly development of the Limerick City region and the policies and objectives to promote industrial development on appropriate zoned and serviced land within it and would compromise the*

level of service and carrying capacity of the national road network and public investment therein. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

- 2. The development would generate a significant volume of traffic, including a high number of movements by heavy goods vehicles, which the road network in the vicinity of the site is not capable of accommodating safely due to the restricted width and capacity of the R506 Regional Road in the vicinity of the site and the restricted capacity of its junction with the R445 Regional Road. The proposed development would, therefore, give rise to traffic congestion and would endanger public safety by reason of traffic hazard.*
- 3. It is considered that, by reason of the scale and design of the proposed industrial buildings and their proximity to the public road, the proposed development would seriously injure the rural character and visual amenity of the area and would, therefore, be contrary to the proper planning and sustainable development of the area.*
- 4. Having regard to the size of the site upon which industrial development is proposed, to the thresholds set down in Classes 10 (a) and 13 (a) of Part 2 of Schedule 5 to the Planning and Development Regulations 2001-2009, to the criteria set out in Schedule 7 of those regulations, to the advice in paragraphs 5.8 to 5.12 of the Guidance for Consent Authorities regarding Sub-threshold Development issued by the Department of the Environment, Heritage and Local Government in August, 2003 and to the cumulative impact of the development in conjunction with previous and other proposed development in the area, it is considered that the proposed development would be likely to have significant effects on the environment and should be subject to an environmental impact assessment within the meaning of Part X of the Planning and Development Act, 2000 to 2007. The proposed development would, therefore, require an Environmental Impact Statement which should contain the information set out in Schedule 6 of the said regulations including, inter alia, adequate information to allow the impact of emission from the proposed development on receiving*

waters and the residential amenities of property in the vicinity to be properly assessed.

- 4.3. **PL91.248066 (Reg Ref 16/957)** – Limerick City and County Council granted a 10 year permission for the development of a solar PV farm consisting of up to 35,582msq of solar panels on mounted steel frames, 1 no. substation 3 no. inverter cables, underground cable ducts and all associated works at Woodstown, Lisnagry, Co. Limerick. This decision was appealed by a third party to An Bord Pleanála. The case has not been decided to date.

5.0 Policy Context

5.1. International Guidelines

- 5.1.1. There is a range of UK Guidance. The main guidance notes are **Planning Practice Guidance for Renewables and Low Carbon Energy (DCLG 2013)** and **Planning Guidance for the development of large scale ground mounted Solar PV systems (BRE 2013)**. Both refer to the desirability of preserving good agricultural lands and set out issues and mitigations. The BRE Guidance provides advisory information on planning application considerations including construction and operational works, landscape / visual impact, ecology, historic environment, glint and glare and duration of the planning permission. The document also provides guidance on the information which should be provided within a Landscape and Visual Impact Assessment. The document also provides guidance on EIA Screening procedures.

5.2. National Guidelines

- 5.2.1. **The Government White Paper entitled 'Ireland's Transition to a Low Carbon Energy Future 2015 – 2030', published in December 2015.**
- The White Paper is a complete energy policy update, which sets out a framework to guide policy between now and 2030. The vision of the White Paper is to achieve a low carbon energy system that targets greenhouse gas (GHG) emissions from the energy sector that will be reduced by between 80%

and 95%, compared to 1990 levels, by 2050, and will fall to zero or below by 2100.

- Paragraph 137 of the White Paper states *‘solar photovoltaic (PV) technology is rapidly becoming cost competitive for electricity generation, not only compared with other renewables but also compared with conventional forms of generation. The deployment of solar in Ireland has the potential to increase energy security, contribute to our renewable energy targets, and support economic growth and jobs. Solar also brings a number of benefits like relatively quick construction and a range of deployment options, including solar thermal for heat and solar PV for electricity. It can be deployed in roof-mounted or ground-mounted installations. In this way, it can empower Irish citizens and communities to take control of the production and consumption of energy. Solar technology is one of the technologies being considered in the context of the new support scheme for renewable electricity generation which will be available in 2016’.*

5.2.2. **The National Spatial Strategy 2002 - 2020**

- This document states, *“in economic development the environment provides a resource base that supports a wide range of activities that include agriculture, forestry, fishing, aqua-culture, mineral use, energy use, industry, services and tourism. For these activities, the aim should be to ensure that the resources are used in sustainable ways that put as much emphasis as possible on their renewability”* (page 114).

5.2.3. **Draft National Planning Framework 2040**

- 5.3. A key element of Ireland 2040 is to support and strengthen more environmentally focused planning at local level. The Draft states that *the future planning and development of our communities at local level will be refocused to tackle Ireland’s higher than average (45%) carbon-intensity per capita and enabling a national transition to a competitive low carbon, climate resilient and environmentally sustainable economy by 2050, through harnessing our country’s prodigious renewable energy potential and electrification of much of our mobility and energy systems.*

5.4. Development Plan

5.4.1. In September 2015, in accordance with Section 28 of the Electoral, Local Government and Planning and Development Act 2013, the Planning Authority proposed not to commence the review of the Limerick County Development Plan 2010 - 2016 and the Limerick City Development Plan 2010 - 2016. Therefore, the County Development Plan will continue to have effect until a new Development Plan for Limerick City and County is prepared. Accordingly the operative plan for the appeal area is the **Limerick County Development Plan 2010-2016**. Sections of the Development Plan and Objectives relevant to this appeal are set out as follows:

- **Objective EH O24 Renewable Energy Strategy** states that *it is the intention of the Council to produce a strategy for the promotion of all aspects of renewable energy technologies in County Limerick and to work with other Local Authorities and agencies to achieve that end.*
- **Objective IN O55: Support Renewable Energy Developments** states that *it is the objective of the Council to adopt a positive approach to renewable energy developments having regard to the following:*
 - *the proper planning and sustainable development of the area;*
 - *the environmental and social impacts of the proposed development;*
 - *impact of the development on the landscape;*
 - *where impacts are inevitable, mitigation features have been taken into account or in the case of European conservation sites, the facilities will only be accepted if they comply with Article 6 of the Habitats Directive;*
 - *Protected areas – NHAs, SPAs and SACs, areas of archaeological potential and scenic importance, proximity to elements of the architectural heritage such as protected structures and architectural conservation areas, national monuments etc have been taken into account.*
- **Objective IN O56: Siting of Renewable Energy Developments** states that *it is the objective of the Council to permit the siting of renewable energy developments in appropriate locations for each type of technology, bearing in mind the technology specific information required as detailed in Development Management guidelines Chapter 10.*

5.4.2. **Section 10.13 Renewable Energy Developments**

All methods of energy production have impacts on the environment. Notwithstanding this, the need to adopt a more sustainable approach to energy production is acknowledged by the Planning Authority. A favourable approach to applications for renewable energy developments provided they are environmentally sustainable will be adopted. The cumulative effect of such developments on the landscape and the environment will be taken into consideration

5.4.3. **Section 10.13.1 Renewable Energy Developments other than wind power**

Projects involving other indigenous sources of energy such as hydro-schemes, wave and tidal power, solar, landfill gas, biomass, energy crops, forestry waste, biogas from sewage sludge and farm slurry, will be assessed in a similar manner with the policy of the Planning Authority of permitting developments which are environmentally sustainable. In assessing any application, the advice of the relevant statutory bodies will be sought and considered by the Planning Authority. It is advised that applicants consult with the Department of the Environment, Heritage and Local Government as well as the Planning Authority in advance of making a planning application

5.4.4. **Solar Schemes** – The information required with a planning application shall include:

- Location design, specifications, orientation, of the development,
- Location and design of control buildings and on site ancillary works if these apply,
- For solar panels on existing structures an outline of the possible visual effects of the development to be provided. For larger scale developments this may take the form of a photomontage,
- Details of grid connections, where applicable, and alterations to existing electricity cables that are open to public view are to be provided. Note, this may not be necessary in the case of stand-alone developments intended to serve individual dwellings.

5.5. Natural Heritage Designations

5.5.1. The site is not located within a designated Natura 2000 site. However there are 6 no Natura sites within a 15km radius of the proposed Annacotty Solar Farm; 4 Special Areas of Conservation and 2 Special Protection Areas as follows:

- Slievefelim to Silvermines Mountains SPA (Site Code 004165)
- River Shannon and River Fergus SPA (Site Code 004077)
- Lower River Shannon SAC (Site Code 002165)
- Glenomra Wood SAC (Site Code 001013)
- Glenstal Wood SAC (Site Code 001432)
- Clare Glen SAC (Site Code 000930)

6.0 The Appeal

6.1. Grounds of Appeal

6.1.1. The third party appeal has been prepared and submitted by John O'Dwyer on behalf of the residents of Ballyvarra, Lisnagry, Co Limerick and may be summarised as follows:

- The appellants do not accept the Planners decision. Their objections and concerns raised were not adequately or completely addressed.
- The proposed development has been inadequately addressed by the Planning Authority and has been decided in the absence of clear national policy.
- No meaningful consultation with local residents has taken place.
- Glint and glare evaluation does not specify the climate conditions at the time of assessment. Also unclear as to whether more than one interval assessment was undertaken.
- Conditions require the developer to revert to the planning authority with clarification and further information on several aspects. This is a serious concern to the residents.

- No provision for funding to monitor excavation, infrastructure, site access and the building of solar panels.
- 6.1.2. The appeal was accompanied by the appellants submission to the Planning Authority of 24th October 2016 together with OS maps and site and environs photos. The submission may be summarised as follows:
- 6.1.3. **Suitability of the Site** – Significant change of land use requires careful consideration of its impacts on local residents. EIA required. Proposal for 3ha solar farm within 1k (Reg Ref 16/975).
- 6.1.4. **Clarity of Application** – Inconsistency in the planning and documentation between the number of inverters shown on maps and the number referred to (three) in documentation. Clarity required on the lifespan of the project as the documentation refer to both twenty-five and thirty years respectively.
- 6.1.5. **Validity of Application** – Public notices identify the address for the proposed development as Grange Upper Annacotty, Co Limerick. Residents query the accuracy of the address provided and refer to OSI Townland Index Map attached.
- 6.1.6. **Surface Water** – In light of locally documented knowledge of flooding and poor drainage of adjacent lands, concerns have been raised with regard to the possible increased flood risk to adjoining lands, roadways and properties arising from the proposed development. Further the angled slope of the photovoltaic panels will effectively shelter a significant surface area of the site and there will therefore be a consequential significant reduction in the surface area available for natural percolation. As a minimum topographical survey, percolation assessment and review of the potential impact of surface water run-off during and after periods of heavy rainfall by undertaken. An independent technical approval will quantify the risk and provide for the design of appropriate flood risk mitigation. Surface and deeper water contamination due to the use of chemical cleaning agents and possible drainage into the soil and watercourse is a major concern which does not appear to have been addressed. Further the planning approval does not address waste water disposal within the site.
- 6.1.7. **Ecology & Wildlife Provision** – The West Clyduff Stream located on the development site, joins the Rich Hill and Mulkear rivers forming part of the watercourse into the lower Shannon area which is rated high as a local resource of

ecological importance. Inadequate information has been submitted in connection with this application in order to fully assess the environmental impacts of the proposed development on water quality and wintering waterfowl. Stated that residents living in the area are aware of significantly more wildlife than the reported. Peer reviewed studies on the effects of photovoltaic panels on wildlife are needed.

- 6.1.8. **Road Traffic** – The proposed solar farm development is located on the R506 at a location where a traffic speed restriction of 60kph is in place. There is a significant number of residential properties in the area, no public footpath and no street lighting. The R506 has a high level of traffic throughput with major congestion at pressure times daily. The proposed development will increase traffic congestion on the R506 during construction and thereafter, adding to the already pressurised and unsafe situation for residents.
- 6.1.9. Residents consider that the proposed development will endanger public safety by reason of traffic hazard as the proposed access for the development is from an existing access located on the R506 between two bends and at a location where a maximum speed limit of 60kph applies and where there is a history of accidents. Notwithstanding the fact that there is an existing access, the required sightlines for new development is 230m and are not available from the proposed access. Reference is made to Reg Ref 081524 (PL13.232441). Further the impact on road traffic will vary, depending on the height and type of road vehicles.
- 6.1.10. **Glint & Glare** – The planning documentation does not mention the proximity of Solar Panel Arrays to the site perimeter and as such any technical considerations have not been presented in relevant content. Residents are concerned that glint and glare will be produced by this development and will impact on the immediate and surrounding area including residential properties and the adjacent R506. Glint and glare will feature to a greater or lesser extent at different times in the 24-hour period and at different times in the calendar year. The proposed development site is on the flight path of passing international aircraft and also Shannon airport. The Irish Aviation Authority needs to be consulted re possible aircraft safety issues. Reference is made to PL26.244351.
- 6.1.11. **Proximity to Family Homes** – The close proximity of upwards of 50 family homes to the proposed development site, with over 100 residences in the wider area and a

childrens crèche and operates within the Annacotty Industrial Park is a particular concern to residents. The close proximity seriously infringes on the rights of these residents to the privacy and enjoyment of their properties.

- 6.1.12. **Noise Threshold** – Residents are concerned at the absence of any reference in the planning submission to the possibility of noise emanating from inverters, transformers and the solar panels together with the potential impact of high winds on surfaces. Queried if an independent noise level modelling assessment and monitoring has been undertaken as part of the planning assessment.
- 6.1.13. **Site Security** – Security arrangements, site monitoring, intrusion from light and noise are not adequately covered in the planning submission. CCTV and site security arrangements could be intrusive to the privacy of local residents. Further there is a clear need for an emergency plan and access for emergency services.
- 6.1.14. **Fire** – Documentation provided with the planning submission does not include a comprehensive fire risk assessment by the Chief Fire Officer.
- 6.1.15. **Visual Impact / Screening** – Residents consider that the planning application needs to be informed by an independent Visual Impact Assessment (VIA) including appropriate photomontages and details of a Zone of Theoretical Visibility (ZTV). The absence of an independent Landscape and Visual Impact Assessment (LVIA) is a serious omission and means the appellant has failed to undertake a critical and proper evaluation to determine the impact, adverse or otherwise, that the proposed development may have on residents and traffic in the immediate and wider area. Solar arrays will be visually intrusive for residents and the appearance of a solar panel array in the Landscape will be a significant departure from the existing.
- 6.1.16. **Boundary Screening / Hedgerows** – Current boundary screening is inadequate with the site clearly visible from the R506 roadway at a number of locations, including three gateway entrances and at numerous points in boundaries with neighbouring properties. The proposed site boundary landscaping is inadequate and fails to address matters or boundary heights, set back and buffer areas, planting distances and intervals.
- 6.1.17. **Health Concerns** – Solar photovoltaic systems are known to emit a wide range of electromagnetic interference effects that are known to cause illness in some people. These technologies are a health hazard to people who have electromagnetic

hypersensitivity (EHS). There is increasing evidence that solar glare associated with photovoltaic power systems is a contributory factor to issues impacting on human health. The range of long term health effects from the various exposures to solar photovoltaic systems is just emerging and it will be some time before the available evidence is fully understood. In the event of an adverse event such as fire, it is distinctly possible that hazardous fumes will be released from the solar panels which if inhaled will pose a most serious risk to human health. In these projects, assurances regarding strict compliance with environmental regulation and overseeing the implementation of best practise protocols at operation level is absolutely essential.

6.1.18. **Safety Concerns** – The effects of construction and the eventual decommissioning of solar energy facilities include increased noise, electromagnetic field generation, microclimate alteration, pollution and water consumption. The applicant has failed to address these issues in the planning submission. Further the Construction Management Plan submitted by the applicant is sparse.

6.1.19. **Archaeology** – It is obligatory that construction work ceases should historical or archaeological artefacts be uncovered and the appropriate Government Department informed.

6.1.20. **Decommissioning** – The lifespan of the project is stated to be 25 years or 35 years depending on which section of the planning application is referred to. The proposed development is a significant change of land use that is not readily reversible. Confidence is not encouraged by the absence of a detailed restoration plan on how the solar farm site, its structures and foundations, will be decommissioned and the site reinstated for conventional agricultural use. No provision for a financial bond, transfer for ownership, closure, restoration and aftercare plan has been presented.

6.2. Applicant Response

6.2.1. There is no response from the applicant recorded on the appeal file.

6.3. Planning Authority Response

6.3.1. There is no response from the Planning Authority recorded on the appeal file.

6.4. Observations

6.4.1. There is no observations recorded on the appeal file.

6.5. Further Responses

6.5.1. There is no further responses recorded on the appeal file.

7.0 Assessment

7.1. Limerick City and County Council issued a notification of decision to grant permission for 25 years subject to 33 conditions on 9th June 2016. Conditions of note are as follows:

- **Condition No 1** required that the development be carried out in accordance with plans and particulars submitted on 20th September 2016 as amended on 16th May 2017.
- **Condition No 2** states that the period during which the development may be carried out shall be 10 years from the date of notification.
- **Condition No 3** requires that all structures including foundations shall be removed not later than 25 years from the date of commencement and the site reinstated.

7.2. The application submitted to Limerick City and Country Council on 26th September 2016 was for a 5 year permission² for a 30 acre (12.1 ha) solar farm comprising photovoltaic panels on ground mounted frames, 3 no. single storey inverter/transformer stations, 1 no. single storey sub-station (37.4sqm), security fencing, and all associated ancillary development works. Further information was received on 16th May 2017. Accordingly this assessment is based on the plans and particulars submitted on **26th September 2016** as amended on **16th May 2017**.

7.3. I note the concerns raised by the appellant regarding inconsistencies in the planning documentation between the number of inverters shown on maps and the number referred to in documentation. I also note the concerns regarding the lifespan of the project as the documentation refer to both twenty-five and thirty years respectively. Limerick City & County Council in their request for further information asked the

² Planning Report (June 2016) Bamford & Bonner Urban & Rural Planning Solutions refers

applicant to clarify if the end of life of the site was 25 or 35 years and the number of invertors proposed (Item 7(iii) refers). The response from the applicant states that the proposed life of the solar farm is 25 years, with 3 no inverter / transformers proposed, with one substation.

- 7.4. I note the concerns raised regarding the adequacy of the assessment by Limerick City & County Council. However I do not consider this to be a matter for An Bord Pleanála. I would point out for the purpose of clarity that the current development before the Board is considered “de novo”. That is to say that the Board considers the proposal having regard to the same planning matters to which a planning authority is required to have regard when making a decision on a planning application in the first instance and this includes consideration of all submissions and inter departmental reports on file together with the relevant development plan and statutory guidelines, any revised details accompanying appeal submissions and any relevant planning history relating to the application.
- 7.5. With regard to the concerns raised that no meaningful consultation has taken place with local residents I refer to the letter and map attached to the planning application, prepared by the applicant, Rengen Power, and issued to *local residents within a 100m radius of the development*. The letter set out the nature and extent of the development, that the applicant will address any questions arising and, most importantly, that a planning notice will be placed in the Limerick Leader. Direct public consultation, while considered good planning practise in many cases, is not mandatory. I refer to the statutory requirement to publish / erect public notices (newspaper and site notice) the purpose of which is to inform the public of the proposed development and alert them as to its nature and extent. Third parties may then examine the files in detail at the planning office (or on the authority’s website, where applications are put on the website) and, if they so wish, may lodge a submission or objection. In this regard I am satisfied that the public notices in this case are in accordance with the relevant statutory requirements and that the applicant has engaged in a public consultation process with the local residents. The extent or effectiveness of the public consultation process initiated by the applicant is not a matter for this appeal.
- 7.6. The appellant submits that the public notices identify the address for the proposed development as Grange Upper Annacotty, Co Limerick. However the accuracy of

the address is queried and therefore concern is raised with regard to the validity of the application. It is not for An Bord Pleanála in this instance to determine whether the application was in breach of the Planning and Development Regulations 2001. I do not therefore consider these issues in this context to be material to the consideration of this appeal and therefore I do not propose to deal with these matters in this assessment.

- 7.7. There is one third party appeal on file, prepared and submitted by John O'Dwyer on behalf of the residents of Ballyvarra, Lisnagry, Co Limerick. The main issues raised relate to glint and glare, suitability of the site, surface water, impact to ecology and wildlife, road traffic and safety, proximity to family homes, noise, site security and fire, boundary screening / hedgerows, health and safety concerns and decommissioning.
- 7.8. Having regard to the information presented by the parties to the appeal and in the course of the planning application and to my site inspection of the appeal site, I consider the key planning issues relating to the assessment of the appeal can be addressed under the following general headings:
- Principle / Policy Considerations
 - Site Access & Traffic Impact
 - Residential Impact
 - Visual Impact & Screening
 - Health & Safety
 - Decommissioning
 - Surface Water & Flooding
 - Archaeology
 - Conditions
 - Appropriate Assessment
 - Screening for Environmental Impact Assessment
 - Development Contributions

8.0 Principle / Policy Considerations

- 8.1. The application is for a 5 year permission for a 30 acre (12.1 ha) solar farm comprising photovoltaic panels on ground mounted frames, 3 no. single storey inverter/transformer stations, 1 no. single storey sub-station (37.4sqm), security fencing, and all associated ancillary development works. The proposed development is made up of multiple rows of solar photovoltaic (PV) modules angled at between 15 and 30 degrees, facing south to best capture the solar resource. The height at the highest point of the structure (the back of the module array) of the proposed configuration would be approximately 2.6m. The panels will lead to an inverter station and also to a substation which contains inverters and transformers all located on site. The DC electricity generated by the solar panels will be converted to AC voltage by inverters to enable transmission onto the national grid. To enable efficient transmission though long distance a transformer is used to step up the voltage. The further information submission clarified that the proposed solar farm will be connected to the National Grid approximately 230m north west of the site at the Ahane Substation via an underground cable with a 10m wide wayleave (5m on each side) (refer to Grid Route Drawing No G-202 submitted on 16th May 2017).
- 8.2. The National Spatial Strategy, Draft National Policy Framework (A Roadmap for the delivery of the National Planning Framework 2016), Regional Planning Guidelines and the County Development Plan are considered to be supportive of the development of renewable energy technology particularly in the context of reducing the carbon emission of the country and meeting renewable energy production targets. The proposed development is therefore supported by national, regional and local policies in terms of renewable energy. Accordingly, I consider that the proposal together with layout and design to be acceptable in principle and would contribute to the diversity of sources of energy supply and hence the security of supply. I would note that the acceptability of the proposal is contingent on other issues addressed below.
- 8.3. With regards to the period during which the development may be carried out I note the application stated 5 years. Condition No 2 of the notification of decision to grant permission confirmed this. However having regard to the nature of the proposed

development I consider it reasonable and appropriate to specify a period of permission in excess of 5 years namely 10 years.

9.0 Site Access & Traffic Impact

- 9.1. Concern is raised that the proposed development will increase traffic congestion on the R506 during construction and thereafter, adding to the already pressurised and unsafe situation for residents. It is further submitted that notwithstanding the fact that there is an existing access, the required sightlines are not available.
- 9.2. The proposed exit / entrance is onto and from the R506 Murroe Road at a point where a speed limit of 60km/h applies. As noted on day of site inspection the existing sight lines in the direction of the Old Dublin Road R445 (north) are satisfactory however the sightlines in the direction of Murroe (south) are restricted. In response to the request for further information where concerns regarding sightlines were raised the applicant submitted a revised Traffic Sightlines Plan (Drg No T-202 submitted 16th May 2017) showing the proposed entrance / exit onto the R506 with proposals to trim the existing tree in order to provide adequate sightlines. I agree with the Area Engineer (Operations and Maintenance Services, Central Services) in their second report of 24th May 2017 that a condition should be attached requiring that adequate sightlines are maintained at the entrance / exit and that a vehicular entrance / exit be constructed together with stop road markings and stop sign in accordance with the Traffic signs Manual.
- 9.3. It is stated that the traffic movement associated with the proposed solar farm would be articulated trucks with deliveries and construction workers for the construction phase and decommissioning phase. The construction phase and decommissioning phase is proposed to last circa 20 weeks. With that the construction of the solar farm, including site works and the installation and commissioning of the plant, will take 3 months. It is stated that the solar panels will be delivered in palletized form on 40 tonne articulated goods vehicles. Each lorry will carry approximately 59 pallets. This equates to 9 deliveries of modules to the site. Switchgear, inverters transformers and frames are also delivered on 40 tonne articulated goods vehicles and there will be approximately 20 deliveries in total. Therefore, construction traffic for this scheme is calculated as follows:

- Total 40 tonne semi-trailers = 20
 - Employee vans during construction = 10 per day
- 9.4. It is stated that during the initial phase of the construction period there will be approximately 6 – 8 six wheel lorry loads of hard core for track ways and foundation bases for electrical buildings. During the second week, there will be 2 or 3 deliveries of site offices and site facilities temporary buildings. During the decommissioning phase, the same number of vehicle movements is to be expected.
- 9.5. During the operational stage trips to / from the site will be limited to visits by maintenance staff accessing the site by car or light goods van. It is inevitable that during the construction and decommissioning phase potential temporary nuisance to the local population during project works may occur particularly in terms of noise and traffic. Having regard to the foregoing I am satisfied that the negative impact on traffic and amenity as a result of the construction and decommissioning phase of this scheme would be temporary in nature and matters of particular concern such as construction traffic management can be dealt with by condition.

10.0 Residential Impact

- 10.1. A number of issues have been raised in the appeal pertaining to the impact of the proposed scheme on the residential amenities of adjoining properties. The issues raised are addressed below.
- 10.2. The appellants considered that the glint and glare produced by this development will impact on the immediate and surrounding area including residential properties and the adjacent R506.
- 10.3. I refer to the Glint and Glare report prepared by Inis Planning and Environmental Consultants and submitted with the planning application on 26th September 2016. The report assessed the potential glint and glare impacts associated with the proposed solar farm development upon the surrounding dwelling and roads. The assessment considered 32 dwellings in the vicinity of the site and vehicular receptors on the R506 that runs adjacent to the proposed site. The report concluded the following:

- Of the 32 assessed dwellings, 11 could experience reflections on a geometric basis. Stated that when terrain and screening are taken into account, it is anticipated that no dwellings will experience reflections.
- Negligible glint and glare effects are predicted for road users. A 0.4km section of the R506 is geometrically predicted to experience glint and glare effects for approximately 10-15 minutes per day between March and September. Stated that current and additional screening proposed by the developer would reduce the impact of reflections significantly.
- The proposed 2.5m screen height on the western edge of the site boundary would remove glint and glare for road users.

10.4. In response to the request for further information the applicant submitted a Further Glint and Glare report on 16th May 2017 that further evaluated the impacts of glint and glare on the R506 Regional Road and adjoining residential units at different times in a 12 month period. In addition a Zone of Theoretical Visibility study was also undertaken; a process the applicant states *has informed and validated the receptor selection process and increased the robustness of the analysis*. This analysis has also taken cognisance of all boundary planting in respect of potential effects on first floor rooms and different types of vehicles with height variations.

10.5. In relation to dwellings the analysis found that glint and glare effects would be geometrically possible towards some dwellings to the east and west in the “bare earth” scenario. In relation to the R506 the analysis also found that glint and glare effects would be geometrically possible towards this public road. This again is based on “bare-earth” terrain and does not consider screening from terrain or hedgerows. The site survey in both scenarios revealed that existing screening in the form of hedgerows and vegetation already restricts the visibility of the site to a large extent.

10.6. I agree with the applicant that existing screening restricts the visibility of the site and that further screening, as proposed, will ensure a barrier between the panels and all dwellings and the R506 that could otherwise be affected. It is noted that the screening is stated to reach a minimum height of 6 metres and that once this height is reached, there will be no visibility of the panels and no glint and glare impacts. Overall I accept the findings of the report that no significant nuisance is predicted to surrounding dwellings or along surrounding roads from glint and glare generated by the proposed solar farm once the proposed screening is in place and has reached

sufficient height. To ensure the success of the proposed screening it is recommended that should the Board be minded to grant permission that a condition be attached requiring careful monitoring of the proposed landscape screening and that any trees or hedgerow that are removed, die or become seriously damaged or diseased within five years from planting shall be replaced within the next planting season by trees or hedging of similar size and species, unless otherwise agreed in writing with the planning authority.

- 10.7. With regard to general concerns raised regarding the proximity of the scheme to adjoining family homes it is noted that the scheme was amended from that originally submitted with the result that a buffer zone has been provided along the road boundary. I refer to the revised Site Layout Drg No PI-202 submitted on 16th May 2017 incorporating a 60m buffer zone between the R506 and the solar arrays together with 2 no drainage detention ponds in the north east corner of the site and that are separated by the site access route. It is noted that in order to mitigate the concerns raised at Local Authority level the planning authority directed the set back of the arrays by 60m from the site boundary. In this regard I agree with the applicant that *an appropriate balance has been struck between the needs of the application and the amenities of the residents in the area*. Having regard to the nature and layout of the proposed development as amended I am satisfied that there will no significant nuisance effects to surrounding dwellings by reason of proximity of the proposed solar farm.
- 10.8. The appellants are concerned at the absence of any reference in the planning submission to the possibility of noise emanating from inverters, transformers and the solar panels together with the potential impact of high winds on surfaces. I refer to the Noise Report (May 2017) submitted in response to the request for further information. It is stated that residents are located on the adjoining lands to the east and to the south of the proposal. The baseline noise survey locations were selected on the basis of their location relative to the layout of the solar farm (Table 3 of the report refers). The noise levels are summarised in Table 4 of the report into daytime, evening and night time mean levels. The main noise sources associated with the development are:
- Transformer / inverter station which will be self-contained inside a sound proof container located on site.

- Inverter Station which is housed inside a sound proof container located on site
- Construction activity associated with the development

10.9. The report states that noise will only be generated from the operation of the solar farm during daylight hours when the solar panels are generating electricity. During hours of darkness no power will be generated and therefore no noise will be generated by the solar farm. It is stated that the predicted noise levels from the solar farm will be well below noise guidelines for low background noise as set out by the EPA at 35dBA for night and within the WHO night-time noise guidance. Further any noise generated by the wind effect on low level mounted solar panels will be masked by the night noise level generated from other objects and structures at a higher elevation. Construction will be of short duration and well below levels recommended by the National Roads Authority Guidelines. The report concludes that the noise generated by the transformer will be equivalent to that of a substation transformer within a residential street and that there should be no detectable noise generated from the solar panels due to the effects of elevated wind speed (high wind).

10.10. Having regard to the information available on the appeal file together with the nature and layout of the proposed development together with proximity to adjoining residential dwellings I am satisfied that there will no significant noise nuisance effects to surrounding dwellings from by the proposed solar farm.

11.0 Visual Impact & Screening

11.1. The appellants consider that the planning application needs to be informed by an independent Visual Impact Assessment (VIA) including appropriate photomontages and details of a Zone of Theoretical Visibility (ZTV) and that the absence of same is a serious omission. Concern is also raised that both the current boundary screening and the proposed site boundary landscaping is inadequate.

11.2. The environment surrounding the development is rural and contains many hedgerows, tree lines and similar obstructions that effect the visibility of the site area. I refer to the Landscape and Visual Impact Assessment (LVIA) and photomontages prepared by MEHS together with the Zone of Theoretical Visibility Assessment prepared by EKO Integrated Services submitted to Limerick City & County Council

on 16th May 2017 in response to their request for further information. The Zone of Theoretical Visibility Assessment was prepared in order to comprehensively evaluate the potential visibility of the scheme and also inform the glint and glare analysis. I have noted the contents of both documents. I am satisfied that together with my site inspection that there is adequate information available to assess the visual impact of the proposed development.

- 11.3. The Landscape and Visual Impact Assessment and associated photomontages considered landscape character, value and sensitivity; magnitude of likely impacts and significance of landscape effects in assessing the potential impacts of the scheme on the landscape resulting from the proposed development. Having regard to the Limerick County Development Plan 2010-2016 there are no designated scenic landscape areas within the environs of Limerick and no designated scenic routes or prospects proximate to the appeal site. As result no designated views will be influenced by the proposed development and are not therefore given any further consideration in the assessment.
- 11.4. The site is however, located in the landscape character area “Shannon Integrated Coastal Management Zone”. While the Development Plan does not designate any specific visual landscape status to the area, the area can be considered to be part of a distinctive section of the Lower River Shannon, characterised by the riparian vegetation, islands and fast flowing sections of river. The landscape character of the site and surrounding landscape is described as flat, edge of city, industrial and suburban with the appeal site described as agricultural and on the edge of this zone. The landscape type has been categorised as being of “modest value” (the lowest of three categories) and of “medium sensitivity”. Within the Development Plan it states that landscapes designated as having low to medium sensitive character types “*can absorb a certain amount of development once the scale and forms are kept simple and surrounded by adequate screen boundaries and appropriate landscaping to reduce impact on the rural character of the surrounding roads*”.
- 11.5. Visual impacts were assessed at 6 no viewpoint locations representing a variety of distances, angles and viewing contexts. It is submitted that at none of these locations (or any other locations within the public realm) will this proposal be readily visible due to its setback from the surrounding road network and screening from intervening hedgerows and treelines. Indeed, at only two locations (VP1 & VP2) is

there considered to be a noticeable view of some of the solar panels from a lack of hedgerow or a gateway, across a field and through gaps in scrubby hedgerow. This pre-mitigation glimpse of solar panels is deemed to result in a slight imperceptible significance of visual impact. It I stated that this will reduce to “imperceptible” along with all of the other residual impacts once mitigation screen planting becomes established and prevents a view of the scheme.

- 11.6. There is no doubt that there will be an impact on landscape character as a result of the development, due to the introduction of a new and relatively intense form of built development within a landscape that can be generally characterised as flat agricultural farmland. However in terms of landscape impacts the proposed scheme is considered to have only a minor physical impact on the site as it is contained within the existing dense hedgerow network and will not require significant excavation works to construct either the solar panels or the access and maintenance tracks. In reality, any changes in landscape character brought about by the proposed solar farm will be very difficult to perceive (visually) as the development will be substantially screened from view. The R506 will have visibility until the mitigation measures take hold. Following decommissioning, the Development will be removed and the site returned to its former state.
- 11.7. As part of the scheme, significant planting is proposed in order to screen the development from view. It is stated that the minimum height of the planting to the east and west of the development will be 6 metres. The site survey confirmed that, whilst the terrain in general appears relatively flat, vegetation limits views to and from the site in all directions. The assessment concluded that the visibility of the site area is restricted. Views of panels with a height of 2.3m will be restricted in practise to the immediate area (within approximately 500m of the site centre). The proposed screening will reduce views further.
- 11.8. Having regard to the information available together with my site inspection I am satisfied that the overall design of the development (as amended) has had due regard to its setting within the confines of these agricultural lands and wider rural landscape to ensure it limits its effects upon landscape and visual receptors. Based on the landscape and visual impact judgements provided throughout the LVIA, the proposed solar energy development is not considered to give rise to any significant residual impacts. It is submitted that due to the flat nature of the terrain, the setback

of the site from local receptors and the degree of screening afforded by surrounding hedgerows the significance of landscape and visual impacts is “slight” at worst and generally “imperceptible”. The proposed screening is designed to restrict views further. Accordingly I have no objection to the proposed scheme (as amended) in terms of visual impact.

12.0 Health & Safety

- 12.1. The appellants raise concern that CCTV and site security arrangements could be intrusive to the privacy of local residents. I share these concerns and recommend that should the Board be minded to grant permission that a condition be attached requiring that no artificial lighting shall be installed or operated on site unless authorised by a prior grant of planning permission and that CCTV cameras are fixed and angled to face into the site and shall not be directed towards adjoining property or the road in order to protect residential amenity.
- 12.2. With regard to site fencing it is noted that the site will be enclosed by a 2.0m high green mesh fence, sat behind the proposed and existing landscaping. A local key holder will provide access via the access gate during emergencies. The substation is enclosed within a housing structure, this door is a galvanised steel substation door to ESB specifications 08100 and only the ESB have access keys. The inverters are enclosed in a container equipped with lockable steel doors. This doors will be locked at all times and the keys with a local key holder. There will be no monitoring, security arrangements for the proposed site. External lighting will be used during the construction period and decommissioning period only between the hours of 08.00 and 18.00 if required. These lights will be pointed inwards so as to not affect residential amenity and wildlife in tree canopies.
- 12.3. With regard to the requirement for an emergency response plan and access for emergency services it is submitted in their repose to the request for further information that a response plan will be included in the Health and Safety Plan – Construction Stage, to be completed before commencement. It is further stated that all Health and Safety on site will adhere to Regulation 16 of SI 291 of 2013, the Irish Safety, Health and Welfare at Work (Construction) Regulation 2013. Further internal road widths and the access gates comply with Technical Guidance Document – Fire

Safety (Part B) Section 5, Table 5.2 Vehicle access route specifications. Together with 24-hour monitoring by a closed circuit television (CCTV) system and proper routine testing, servicing and maintenance will in all likelihood ensure that there will be no significant additional increase of fire at this location.

- 12.4. I consider the foregoing arrangements and proposals to be acceptable and I am satisfied that they will not interfere with the residential amenities of adjoining properties.
- 12.4.1. I note the concerns raised the possible health effects of living in such proximity to Solar PV Farms of this scale. I refer to the further information response re Health Concerns where the applicant submits that the European Commission conducted a report in 2011 which concluded there are no adverse health effects created by EMF. Furthermore the Communications Impact Assessment report submitted with the further information response document illustrated that there were no harmful levels of EMF from the solar installation in regards to human health and communications interference. Having regard to the information available together with the location and layout (as amended) of the scheme I am satisfied that in all likelihood there will be no significant impact on occupants of nearby houses.

13.0 Decommissioning

- 13.1. The appellants raise concern that the proposed development is a significant change of land use that is not readily reversible and that confidence is not encouraged by the absence of a detailed restoration plan on how the solar farm site, its structures and foundations, will be decommissioned and the site reinstated for conventional agricultural use.
- 13.2. I refer to the Method Statement Plans and the Decommissioning Statement prepared by EKO Integrated Services and submitted to Limerick City & County Council on 16th May 2017 in response to their request for further information. The report outlines proposed decommissioning methodology for the individual elements of the solar farm from PV modules and structures to the inverters, transformers and substation, electrical cabling, site security fencing, landscaping to the access route. It is stated that following the cessation of electricity generation by the solar farm at the end of the 25 year period for which planning consent is sought, the site will be fully

decommissioned and the land reinstated to its former agricultural use within the first year of the cessation of power production at the solar farm. The land will then be reinstated to its previous condition within 6 months of the end of project decommissioning. In total the decommissioning and restoration phases will take up to 18 months to complete. On removal of all solar farm infrastructure and associated electrical cabling and the completion of any required backfilling (as per the Option Agreement between the applicant and the landowner), the site shall be reinstated to its former agricultural use, or to a condition to the agreed in writing by the Local Planning Authority within 6 months of the cessation of power production. As there will be no hazardous waste generated it is submitted that there will be no need for complex environmental remediation. Matters of noise and traffic movements are all addressed and it is considered that there will be no significant adverse noise impacts from decommissioning activities and that the number of traffic movements during the decommissioning phase will broadly reflect the numbers experienced during the construction phase. The report was also accompanied by spread sheet setting out recycling values stating that the total cost of disassembly and disposal is in the amount of €112,251.06. It is intended that these funds would cover decommissioning costs. Based on this assessment the application was satisfied that no decommissioning financial bond was required.

- 13.3. I am satisfied that the foregoing statement provides satisfactory details for the decommissioning, restoration and after care plan for the end of the 25 year life of the solar farm. However with regard to the cost of decommissioning I refer to the Heritage Officers second report of 7th June 2017 where it was stated that proposals whereby the scrap value of the installation would cover the decommissioning works was unacceptable. The Heritage Officer stated that it would be best if a bond was fixed prior to any grant to ensure cost of decommissioning is not borne by the Council. I agree with the approach of the planning authority in terms of the requirement for a financial bond and recommended that should the Board be minded to grant permission that a condition similar to Condition No 5 of the notification for decision to grant permission be attached requiring the provision of a bond to secure the decommissioning of the solar farm.

14.0 Surface Water & Flooding

- 14.1. The appellants raise concerns with regard to the possible increased flood risk to adjoining lands, roadways and properties arising from the proposed development. Refer to reports, drainage drawings and details submitted 16th May 2017
- 14.2. I refer in particular to the Drainage Report, prepared by JBA Consultants and submitted by way of further information on 16th May 2017. The report states that the site drains in two separate directions. The northern most part of the site, c 7.7ha drains to an existing open drain along the northern boundary of the site. This drain is currently holding stagnant water as a result of shallow gradients within the drains, partial blocked / blocked culverts and little by way of historic maintenance. Part of the R506 is understood to drain to the existing open drain forming the northern boundary of the site. Based on levels from the site survey, it is submitted that there is potential for surface water ponding along the southern boundary of the site during extreme rainfall events. The south eastern part of the site relies on infiltration within the topsoil layers with any exceedance flows draining and being stored within the existing open drain forming the south eastern boundary. The report states that the development does not increase run off from a site.
- 14.3. The proposed drainage strategy for the site includes inter alia:
- Current open drains will be made good and opened up with blockages and restrictions removed
 - Overland flows will be captured by interception / infiltration trenches throughout the site
 - Perimeter collector drains will collect any residual overload flows not picked up by the interceptor / infiltrator trenches and prevent ponding to adjacent third parties
 - Extent of site draining to the south eastern boundary will be minimised
 - A detention basin / pond x 2 to be located adjacent to the northern boundary will restrict downstream flows. Drg No 1017s5846 002 refers. Stated that the detention pond is for a 1 in 100 storm event plus 10% climate change
 - Following installation of the panels the site will be chisel ploughed and seeded with native meadow grass

- A soil management plan to keep the soil in good condition during the operational / decommissioning phase

14.4. It is submitted that on balance, using the site for solar power generation has the potential to provide betterment to the existing land use in terms of surface water runoff rates and flood risk. Overall the proposed surface water measures set out in the report provide sufficient flood mitigation measures to facilitate the proposed development and will enhance the overall drainage regime in the immediate area. I do not consider that the proposed development would exacerbate the risk of flooding in the area.

15.0 Archaeology

15.1. The appellant submits that it is obligatory that construction work ceases should historical or archaeological artefacts be uncovered and the appropriate Government Department informed.

15.2. The planning application was supported by an Archaeological Assessment. The report notes that as the site works occupy an overall area of 30 acres it is envisaged that pre-development testing will be required and the amount and scale of testing will be determined by the extent of ground works to be carried out. Further, the north-western most corner of the project fields is potentially the most archeologically sensitive area of the site. This is due to the fact that it lies closer to recorded monument Rath (006-038) and the outer limits of this *Rath* may have either bordered this field or even extended into this field. It may also be the case that any associated external features at this *Rath* could exist in the field. The report concluded that ultimately the nature of the proposed works will determine the amount of pre-development testing at this site.

15.3. The Local Authority Executive Archaeologist in their first report noted that there was a Recorded Monument abutting the north-west corner of the proposed site, albeit that the R506 divided the two. As part of Further Information the applicant was asked to redesign the layout at the north west in order to reduce the impact on the recorded monument and to establish a buffer of 20m from the outer known edge where no new tree planting, landscaping, soil disturbance or subsequent exempted development occurs in perpetuity. In response to this request a 20m buffer zone

was introduced around the recorded monument and the grid route wayleave and associated landscaping was adjusted accordingly. I refer to Grid Route drawing No G-202 submitted 16th May 2017. The Executive Archaeologist in their report of 2nd June 2017, and having considered the further information, has no stated objection to the scheme subject to conditions requiring the provision of a 20m buffer as set out in Drawing L202 (date stamped 16th May 2017) and archaeological monitoring. Attention is drawn to Condition No. 23 and No 24 of the notification of decision to grant permission.

15.4. I have considered the Archaeological Assessment and further information submitted on file together with amended proposals and the proposed 20 m buffer area. Overall I am satisfied that subject to a suitably worded condition requiring compliance with amended plans received and whereby the applicant is required to employ a suitably qualified archaeologist in advance of development and that any material found is notified to the Department and that recording of any such material found shall be facilitated that there is no objection to the scheme as amended.

16.0 Development Contributions

16.1.1. Condition No 4 of the notification of decision to grant permission requested the developer pay the Local Authority a Section 48 financial contribution in the amount of €75,000.00. Limerick City and County Council has adopted a Development Contribution scheme under Section 48 of the Planning and Development Act 2000 (as amended). Limerick City and County Council Development Contribution Scheme 2017 – 2021 refers. Section 8 sets out the categories of development which will be exempted from the requirement to pay a development contribution under the scheme. The proposed development does not fall under the exemptions listed in the scheme. Accordingly, it is recommended that should the Board be minded to grant permission that a suitably worded condition be attached requiring the payment of a Section 48 Development Contribution in accordance with the Planning and Development Act 2000.

17.0 Conditions

17.1.1. The appellant raised concern that a number of the conditions require the developer to revert to the planning authority for clarification and further information on several aspects. It is submitted that *this is cause of serious concern to the residents*. While the applicant does not specify which conditions are of particular concern I have considered the notification of decision to grant permission and note that the following conditions require further consultation / agreement:

- Condition No 7** Detailed restoration plan to be agreed
- Condition No 12** Specific waste management plan to be agreed
- Condition No 21** Access roads / tracks / access gates shall be agreed
- Condition No 22** Construction Traffic Management and Delivery Plan shall be agreed
- Condition No 25** Construction Environmental Management Plan shall be agreed
- Condition No 31** Surface water run-off from the public road shall continue to be accommodated within the site unless otherwise agreed

17.1.2. Section 34(5) of the Planning and Development Act 2000 (as amended) states that conditions may provide that points of detail relating to a grant of permission may be agreed between the planning authority and the person to whom the permission is granted. However, the Development Management Guidelines (2007) recommend that the use of conditions that require matters to be agreed should be avoided where the matters involved are of a fundamental nature or such that third parties could be affected.

17.1.3. I have considered the details of these condition and I am satisfied that the matters so be agreed relate to points of detail and are not a fundamental nature or such that third parties could be affected.

18.0 Appropriate Assessment

18.1. The application was accompanied by an Ecological Impact Assessment (February 2016) and a Stage 1 Appropriate Assessment Screening Report (February 2016).

The further information was accompanied by an Ecological Impact Assessment (May 2017) and a Stage 2 Natura Impact Statement (May 2017). I have noted the contents of these documents.

- 18.2. The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of priority habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directive. Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. The site specific conservation objectives aims to define favourable conservation condition for a particular habitat or species at that site. The detailed conservation objectives are available from the NPWS.
- 18.3. The site is not located within a designated Natura 2000 site. However there are 6 no Natura sites within a 15km radius of the proposed Annacotty Solar Farm; 4 Special Areas of Conservation and 2 Special Protection Areas as follows:
- Slievefelim to Silvermines Mountains SPA (Site Code 004165)
 - River Shannon and River Fergus SPA (Site Code 004077)
 - Lower River Shannon SAC (Site Code 002165)
 - Glenomra Wood SAC (Site Code 001013)
 - Glenstal Wood SAC (Site Code 001432)
 - Clare Glen SAC (Site Code 000930)
- 18.4. The Lower River Shannon SAC (Site Code 002165) is the closest Natura Site to the appeal site located approximately 980m to the south. The Lower River Shannon SAC is a very large site stretching along the Shannon Valley from Killaloe in Co Clare to Loop Head / Kerry Head, a distance of some 120km. The site is of great ecological interest as it contains a high number of habitats and species listed on Annexes I and II of the EU Habitats Directive. The general conservation objective for the Lower River Shannon SAC is to restore favourable conservation conditions for the
- 18.5. A lowland depositing stream, the West Clyduff, runs along the north eastern section of the appeal site. The West Clyduff is hydrologically connected to the Lower River Shannon SAC as it is a tributary of the Mulkear River, which in turn is designated within the SAC. It is stated that the streams flow is very slow and there is extensive

vegetation growth in the river channel. The proposed grid connection would span this stream by way of directional drilling.

- 18.6. The Stage 1 Appropriate Assessment Screening Report (February 2016) stated that the construction phase of the proposed scheme has the potential to deteriorate water quality of watercourses in the vicinity of the proposed works but that there are no potential risks identified that may arise during the operational phase of this project. Following consideration of the scale of the project, the site specifics of the works location and the particular qualifying interests of the designated sites, the Lower River Shannon SAC was the only site evaluated in the screening report.
- 18.7. This Screening Report stated that due to the low ecological value of the site and the short time scale of the project, the proposed works were unlikely to cause direct or indirect impact to the qualifying interests of the Lower River Shannon SAC. Moreover it stated that due to the small scale, localised nature of the work it was deemed that no cumulative effects would arise as part of these works and that as such in combination effects are not possible. In addition it was stated that following the application of Best Practise work methods for the works there is no pathway for indirect impacts on any Natura sites within 15km. The report concluded that there are no likely significant impacts on the special conservation interests of any identified Natura 2000 sites within 15km of the proposed works and therefore an Appropriate Assessment was not required for this project.
- 18.8. In contrast to the foregoing conclusion and in response to the report of the Department of Arts, Heritage, Regional, Rural and Gaeltacht (November 2017) as set out in the request for further information the applicant submitted a Stage 2 Natura Impact Statement (NIS) (May 2017). The NIS noted that a hydrological connection exists between the Lower River Shannon SAC and the appeal site and therefore there are pathways for potential indirect impacts from the proposed works on the qualifying interests of the SAC. Therefore, a Stage 2 Appropriate Assessment was required.
- 18.9. As set out, in order to facilitate the development proposed grid connection the development will need to span the West Clyduff stream by way of directional drilling. The West Clyduff is hydrologically connected to the Lower River Shannon SAC as it is a tributary of the Mulkear River, which in turn is designated within the SAC. There

is no direct impacts predicted on any Natura 2000 site as a result of the proposed development. However construction works associated with the proposed solar farm have the potential to cause a decline in water quality in the Lower River Shannon SAC, with consequent negative impacts on the qualifying interests of this site.

- 18.10. Many of the habitats of qualifying interest occur only in the coastal / marine environment. The proposed development is not located within or hydrologically connected with any Margaritifera (Freshwater Pearl Mussel) Sensitive Area. The NIS states that there is no habitat or ecological functionality within the site to support the aquatic ecological communities which are associated with the Mulkear and qualifying interests of the Lower River Shannon SAC. Further there is no hydrological connection to the marine species habitat of the Bottlenose Dolphin.
- 18.11. Following the precautionary principle effects to aquatic ecological communities such as Atlantic Salmon, Sea Lamprey, Brook Lamprey and River Lamprey cannot be ruled out due to hydrological connectivity. Likely effects come from potential for indirect effects on these fish species through a deterioration in water quality by virtue of silt laden run-off and release of hydrocarbons during the construction phase.
- 18.12. The NIS states that although there were no signs of Otter recorded during the site visit, this species is known to occur and utilise habitat in close proximity to the proposed development and as such there is potential for impact as a result of the proposed development. Likely effects come from potential for indirect effects on Otter due to a deterioration in water quality which has the potential to reduce prey density by virtue of silt laden run-off and release of hydrocarbons during the construction phase.
- 18.13. In the event of a large release of suspended sediment into the onsite watercourse during construction works, there is potential for significant indirect impacts downstream of the development area. As the Lower River Shannon SAC is c 3.6km downstream of the development area, there is potential for indirect impacts via water quality on the key species and key habitats for which this Natura 2000 site has been designated. In the event of siltation or pollution of watercourses from the site, the aquatic habitats and species of the Lower River Shannon SAC could be indirectly damaged by changes to water turbidity and water quality.

- 18.14. Populations of Otter along the Mulkear River could be affected indirectly through reduction in prey item densities, thus affecting the integrity of the population of the Lower Shannon River SAC. This could in turn reduce prey availability of breeding and foraging Otter in the Lower River Shannon SAC. There could be similar potential effects on the fish species of qualifying interest; Atlantic Salmon, Sea Lamprey, Brook Lamprey and River Lamprey which are known to spawn and forage in the Mulkear.
- 18.15. The integrity of the Lower River Shannon SAC could be indirectly affected by the proposed development through a reduction in water quality and foraging for aquatic species such as Otter and its prey, some species of which are also qualifying interests of the SAC. This could in turn lead to reduced number or reduced breeding success of Otter, Atlantic Salmon, Sea Lamprey, Brook Lamprey and River Lamprey
- 18.16. The applicant has outlined a range of mitigation measures to prevent any impacts to water quality and are outlined in Section 4.3.1 Mitigation Measures Relating to Water Quality of the NIS. The mitigation measures are specific to the proposed grid connection that would span the West Clyduff stream by way of directional drilling. Specific Best Practise Environmental Measures relating to the protection of water quality at the grid connection stream crossing are detailed in Section 3.3 in the Method Statement provided in Appendix of the NIS. Mitigation measures include the supervision of all construction works at the watercourse to be supervised by an onsite Ecological Clerk of Works, damming of the site prior to commencement of works and removal of same when works are completed, provision of a silt trap downstream etc. I consider the mitigation proposals are acceptable.
- 18.17. I am satisfied that an examination of the potential impacts has been analysed and evaluated using the best scientific knowledge. Significant effects on Natura 2000 sites were identified. Where potential adverse effects were identified, mitigation measures are prescribed to remove risks to the integrity of the European site. I am satisfied based on the information available that if the mitigation measures are undertaken, maintained and monitored as detailed, adverse effects on the integrity of Natura 2000 sites will be avoided.
- 18.18. I consider it reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, that the

proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the Lower River Shannon SAC (Site Code 002165) or any other European site, in view of the site's Conservation Objectives.

19.0 Screening for Environmental Impact Assessment

- 19.1. The current requirements for EIA are outlined in Part X of the Planning and Development Act, 2000, as amended and Part 10 of the Planning and Development Regulation 2001, as amended. The prescribed classes of development and thresholds that trigger a mandatory EIS are set out in Schedule 5 of the Planning and Development Regulations 2001, as amended.
- 19.2. The proposed development does not fall into a class of development contained in Schedule 5, Parts 1 or 2 and therefore the requirements for an EIA can be screened out. In respect of sub-threshold criteria, the applicant has carried out an examination of whether the proposed development would or would not, individually and in combination with other developments, be likely to have significant effects on the environment having regard to the criteria set out in Schedule 7 of the Planning and Development Regulations 2001 (as amended). The EIA Screening Report (May 2017) submitted in response to the request for further information concluded that the proposed development is not likely to have significant effects on the environment having regard to the criteria set out in Schedule 7 of the of the Planning and Development Regulations 2001 (as amended).
- 19.3. I am satisfied that the proposed development does not come within the scope of the classes of development requiring the submission of a mandatory EIS as set out in Schedule 5 of the Planning and Development Regulations 2001, as amended nor is it likely to have significant effects on the environment having regard to the criteria set out in Schedule 7 of the of the Planning and Development Regulations 2001 (as amended). Accordingly I am satisfied that the proposed development would not be likely to have significant effects on the environment such that an Environmental Impact Assessment is required.

20.0 Recommendation

20.1. Having considered the contents of the application (as amended), the provision of the Development Plan, the grounds of appeal and the responses thereto, my site inspection and my assessment of the planning issues, I recommend that permission be **GRANTED** for the reasons and considerations set out below.

21.0 Reasons and Considerations

21.1. Having regard to the scale, extent and layout of the proposed development and to the current Limerick County Development Plan 2010 - 2016, it is considered that, subject to compliance with the conditions set out below, the proposed solar farm would not seriously injure the visual and residential amenities of the area, would not endanger human health or the environment and would be acceptable in terms of landscape impacts and of traffic safety and convenience. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

22.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application on 26th September 2016, as amended by the further plans and particulars submitted on the 16th May 2017 and by the further plans and particulars received by An Bord Pleanála, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

Reason: In the interest of clarity

2. The period during which the development hereby permitted may be carried out shall be 10 years from the date of this Order.

Reason: Having regard to the nature of the proposed development, the

Board considered it reasonable and appropriate to specify a period of the permission in excess of five years.

3. (a) Adequate sightlines at the entrance / exit to the site on the R506 shall be maintained to the satisfaction of Limerick City and County Council.
- (b) A clear vehicular entrance / exit shall be constructed. The height shall not exceed 1.0m with a splay of 45 degrees and shall include a suitable surface to provide road marking to inform users to stop prior to existing on the R506. A stop road markings and stop sign in accordance with the Traffic Signs Manual shall also be provided. Details shall be agreed in writing with the Planning Authority prior to commencement of work on site.
- (c) Details of road signage, warning the public of the entrance and of proposals for traffic management at the site entrance, shall be submitted to and agreed in writing with the planning authority prior to commencement of development

Reason: In the interest of traffic safety.

4. The permission shall be for a period of 25 years from the date of the commissioning of the solar array. The solar array and related ancillary structures shall then be removed unless, prior to the end of the period, planning permission shall have been granted for their retention for a further period.

Reason: To enable the planning authority to review the operation of the solar array in the light of the circumstances then prevailing.

5. Water supply and drainage arrangements, including the attenuation and disposal of surface water, shall comply with the requirements of the planning authority for such works and services.

Reason: In the interest of public health.

6. All public service cables for the development, including electrical and telecommunications cables, shall be located underground throughout the site.

Reason: In the interest of visual amenity.

7. (a) The proposed development shall be undertaken in compliance with all environmental commitments made in the documentation supporting the application.
- (b) A suitably qualified on-site environmental manager/ecological clerk of works shall supervise compliance with mitigation measures recommended in the NIS, particularly in relation to water quality control and management. The ecological clerk-of-works shall be empowered to ensure compliance with mitigation measures and/or to halt construction works if they deem a pollution event is likely. Contact details for this individual shall be forwarded to the Planning Authority at the commencement notice stage of the development.
- (c) Suitable measures shall be implemented in advance of any development works commencing on site to ensure that polluting matter (includes sedimentation) is not discharged to any watercourses. These measures shall be fully maintained thereafter. These measure shall be agreed in writing with the Planning Authority prior to commencement of works on site.

Reason: To protect the environment.

8. All landscaping, including augmentation of existing boundary trees and hedgerows, shall be planted to the written satisfaction of the planning authority prior to commencement of development. Any trees or hedgerow that are removed, die or become seriously damaged or diseased within five years from planting shall be replaced within the next planting season by trees or hedging of similar size and species, unless otherwise agreed in writing with the planning authority. Existing field boundaries including hedgerows and trees shall be retained.

Reason: In the interest of biodiversity, the visual amenities of the area, and the amenities of dwellings in the vicinity.

9. (a) The inverter/transformer stations shall be dark green in colour.
- (b) The external walls of the proposed substation shall be finished in a neutral colour such as light grey or off-white and the roof shall be of black tiles.

(c) The detailing of the substation shall be agreed in writing with the Planning Authority prior to commencement of work on site.

Reason: In the interest of the visual amenity of the area.

10.
 - i. No artificial lighting shall be installed or operated on site unless authorised by a prior grant of planning permission.
 - ii. CCTV cameras shall be fixed and angled to face into the site and shall not be directed towards adjoining property or the road.
 - iii. Each fencing panel shall be erected such that for a minimum of 300 millimetres of its length, its bottom edge is no less than 150 millimetres from ground level.
 - iv. The solar panels shall have driven or screw pile foundations only, unless otherwise agreed in writing with the planning authority.
 - v. Cables within the site shall be located underground.

Reason: In the interest of clarity, of visual and residential amenity, traffic safety, and to allow wildlife to continue to have access to and through the site.

11.
 - i. Prior to commencement of development, a detailed restoration plan, including a timescale for its implementation, shall be submitted to, and agreed in writing with, the planning authority.
 - ii. On full or partial decommissioning of the solar array, or if the solar array ceases operation for a period of more than one year, the site, including access road, shall be restored and structures removed in accordance with the said plan within three months of decommissioning/cessation, to the written satisfaction of the planning authority.

Reason: To ensure the satisfactory reinstatement of the site on full or partial cessation of the proposed development.

12. The developer shall facilitate the archaeological appraisal of the site and shall provide for the preservation, recording and protection of archaeological materials or features which may exist within the site. In this regard, the developer shall:

- a. notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, and
- b. employ a suitably-qualified archaeologist prior to the commencement of development. The archaeologist shall assess the site and monitor all site development works.

The assessment shall address the following issues:

- i. the nature and location of archaeological material on the site, and
- ii. the impact of the proposed development on such archaeological material.

A report, containing the results of the assessment, shall be submitted to the planning authority and, arising from this assessment, the developer shall agree in writing with the planning authority details regarding any further archaeological requirements (including, if necessary, archaeological excavation) prior to commencement of construction works. In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation (in-situ or by record) and protection of any archaeological remains that may exist within the site.

13. The construction of the development shall be managed in accordance with a Construction Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall provide details of intended construction practice for the development, including:
 - a) construction Traffic Management Plan to be put in place to facilitate the traffic movements from the R506 onto the site and from the site onto the R506.
 - b) details of site security fencing and hoardings,
 - c) details of the timing and routing of construction traffic to and from the construction site and associated directional signage, to include

- proposals to facilitate the delivery of abnormal loads to the site,
- d) measures to obviate queuing of construction traffic on the adjoining road network,
 - e) measures to prevent the spillage or deposit of clay, rubble or other debris on the public road network,
 - f) details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels,
 - g) containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained; such bunds shall be roofed to exclude rainwater,
 - h) details of on-site re-fuelling arrangements, including use of drip trays,
 - i) details of how it is proposed to manage excavated soil, and
 - j) means to ensure that surface water run-off is controlled such that no deleterious levels of silt or other pollutants enter local surface water drains or watercourses

A record of daily checks that the works are being undertaken in accordance with the Construction Management Plan shall be kept for inspection by the planning authority.

Reason: In the interest of environmental protection, amenities, public health and safety.

14. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the reinstatement of public roads which may be damaged by the transport of materials to the site, coupled with an agreement empowering the planning authority to apply such security or part thereof to the satisfactory reinstatement of the public road. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: In the interest of traffic safety and the proper planning and sustainable development of the area

15. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or other security to secure the satisfactory reinstatement of the site as envisaged in condition number 10 above. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: To ensure the satisfactory completion and maintenance of the development until taken in charge.

16. The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or Intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Bord Pleanála to determine the proper application of the terms of the Scheme.

Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

Mary Crowley

Senior Planning Inspector

5th January 2018