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## APPROPRIATE ASSESSMENT

### STAGE 1 SCREENING

#### SOLAR FARM

#### KNOCKHARLEY LANDFILL

#### COUNTY MEATH

**Prepared For: -**

Starrus LFG Ltd

**Prepared By: -**

O' Callaghan Moran & Associates,  
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**February 2018**

Project		Appropriate Assessment Stage 1 Screening Assessment		
Client		Starrus LGG Ltd		
Report No.	Date	Status	Prepared By	Reviewed By
18-138-0401	02/02//2018	Draft	Neil Sandes	Jim O'Callaghan MSc
	09/02/2018	Final		

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# 1. INTRODUCTION

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Starrus LFG Ltd requested O’Callaghan Moran & Associates (OCM) to carry out an Appropriate Assessment Screening of a proposed solar farm development at the Knockharley Landfill in County Meath. The assessment was required to support a planning application for permission to construct the solar farm and the objective was to inform decision making process on the need for Appropriate Assessment.

The European Union (EU) Habitats Directive (92/43/EC) and the EU Birds Directive (2009/147/EC) identify designated areas (Special Areas of Conservation (SAC) and Special Protection Areas (SPA) respectively) that are collectively known as Natura 2000 Sites. The Habitats Directive, which is implemented under the European Communities Birds and Natural Habitats) Regulations 2011 (S.I. No 477 of 2011), requires an “appropriate assessment” of the potential impacts any plan or project that may have an impact on the conservation objectives of any Natura 2000 Site.

Article 6(3) of the Directive stipulates that *any plan or project not directly connected with or necessary to the management of a Natura 2000 Site, but likely to have a significant effect thereon...shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives.*

Guidance documents issued by Department of Environment, Heritage and Local Government and the National Parks and Wildlife Services recommend that the assessment be completed in a series of Stages, which comprise:

## *Stage 1: Screening*

The purpose of this Stage is to determine, on the basis of a preliminary assessment and objective criteria, whether a plan or project, alone and in combination with other plans or projects, could have significant effects on a Natura 2000 Site in respect of the site’s conservation objectives.

## *Stage 2: Appropriate Assessment*

This Stage is required if the Stage 1 Screening exercise identifies that the project is likely to have a significant impact on a Natura 2000 Site.

### *Stage 3: Assessment of Alternative Solutions.*

If Stage 2 determines that the project will have an adverse impact upon the integrity of a Natura 2000 Site, despite the implementation of mitigation measures, it must be objectively concluded that no alternative solutions exist before the plan can proceed.

### *Stage 4: Compensatory Measures:*

Where no alternative solutions are feasible and where adverse impacts remain but imperative reasons of overriding public interest require the implementation of a project, an assessment of compensatory measures that will effectively offset the damage to the Natura Site 2000 is required.

## **1.1 Methodology**

The Screening Assessment was based on a site inspection and the proposed changes to facility operations. It followed the guidance presented in the “Assessment of Plans and Projects significantly affecting Natura 2000 Sites, Methodological Guidance on the provisions of Articles 6(3) and 6(4) of the Habitats Directive 92/43/EEC” (2001); The DEHLG (2009, revised February 2010) Appropriate Assessment of Plans and Projects in Ireland and the NPWS (2010) Circular NPW 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.

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## 2. DESCRIPTION OF PROJECT

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### 2.1 Site Location and Land Use

The proposed development area is within the Knockharley Landfill site. The landfill site encompasses 135.2 ha and is regulated by planning permission granted by Meath County Council and an Industrial Emissions Licence issued by the Environmental Protection Agency (EPA). The area where waste is deposited in engineered landfill cells is in the centre of the site and will eventually occupy approximately 25 ha. The existing site infrastructure includes: -

- Paved Access Road,
- Weighbridges (2 No.),
- Wheel Shake Out and Wheel Wash,
- Waste Quarantine & Inspection Areas,
- Engineered Landfill Cells,
- Leachate Storage Lagoon,
- Surface Water Pond,
- Administration Block (communication room, offices, stores, canteen, toilets and showers),
- Maintenance Garage and Plant Sheds,
- Oil Storage Tank and Standby Generator (Diesel),
- Landfill gas utilisation plant comprising landfill gas powered electricity generators, electrical sub-station and grid connection.

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### 2.2 Surface Water Drainage

The site lies within the Nanny River catchment close to the catchment divide with the River Boyne catchment. The Nanny catchment is characterised by sudden high flows coinciding with high rainfall periods and particularly low flows in the drier summer months. The

Knockharley Stream flows from west to east to the north of the landfill and then turns south to join the Nanny River approximately 1.2km downstream.

All rainfall on the active landfill cells is collected in the leachate collection system. The surface drainage from the all roads, hardstanding areas and all areas of the facility where there is the potential for contamination to occur is directed to a surface water pond in the south of the site. Run-off from completed and restored areas is collected in an open swale around the perimeter of the landfill, which will be connected to the surface water pond.

The pond is sized to accommodate run-off from storm events at the site and the design meets the requirements of the EPA licence. The inlet to the pond is fitted with a Class 1 Full Oil interceptor and the outfall to the Knockharley Stream is controlled by an actuated penstock to ensure that the discharge does not contribute to flooding downstream. The penstock also allows the retention of water within the pond in the event that monitoring identifies surface water contamination.

### **2.3 Geology & Hydrogeology**

The subsoils at the site consists of a locally thick and continuous glacial till (10 >20 m thick) that has a low permeability. The underlying bedrock is part of the Balrickard Formation, which is a coarse sandstone, shale. The Balrickard Formation is classified as a bedrock aquifer that is generally unproductive except for local zones (PI). The aquifer vulnerability rating is Low.

### **2.4 Proposed Development**

The development will consist of solar photovoltaic panels on ground mounted frames, a connection to existing single-storey electrical sub-station/switch room, the installation of three transformers, with associated ducting and underground electrical cabling and ancillary works.

The panel arrays will be located on the top of the engineered landfill cells that have been capped and reinstated in accordance with the EPA Licence. They will occupy 3.87 ha and the proposed panel layout is shown on Drawing No. 17-243-100. The typical panel details and mounting system arrangement and a typical inverter substation plan and elevations are shown on Drawing No. 17-243-700.



PAINESTOWN

RATHDRINAGH

TUTTERATH

SITE NOTICE

DWG 17-243-500

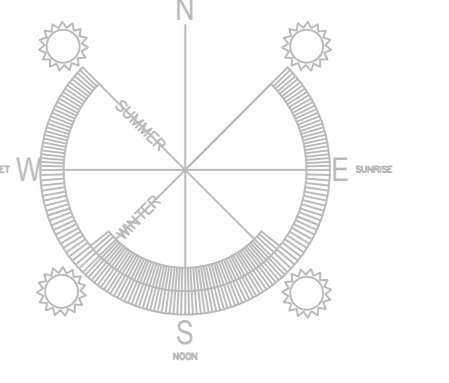
SEE DWG 17-243-300

SEE DWG 17-243-600

KNOCKHARLEY

SEE DWG 17-243-400

SEE DWG 17-243-200



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- LEGEND**
- BOUNDARY OF LANDFILL FACILITY
  - APPLICATION SITE BOUNDARY
  - LAND TO BE COVERED BY SOLAR PANELS
  - EXISTING TREES
  - EXISTING ACCESS TRACK / ROAD
  - PROPOSED SOLAR MODULES
  - PROPOSED TRANSFORMER
  - EXISTING ESB SUBSTATION
  - EXISTING CCTV POLE LOCATION

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**Client**  
STARRUS LFD LTD.

**Project Title**  
PROPOSED SOLAR FARM AT KNOCKHARLEY  
BROWNSTOWN NAVAN COUNTY MEATH

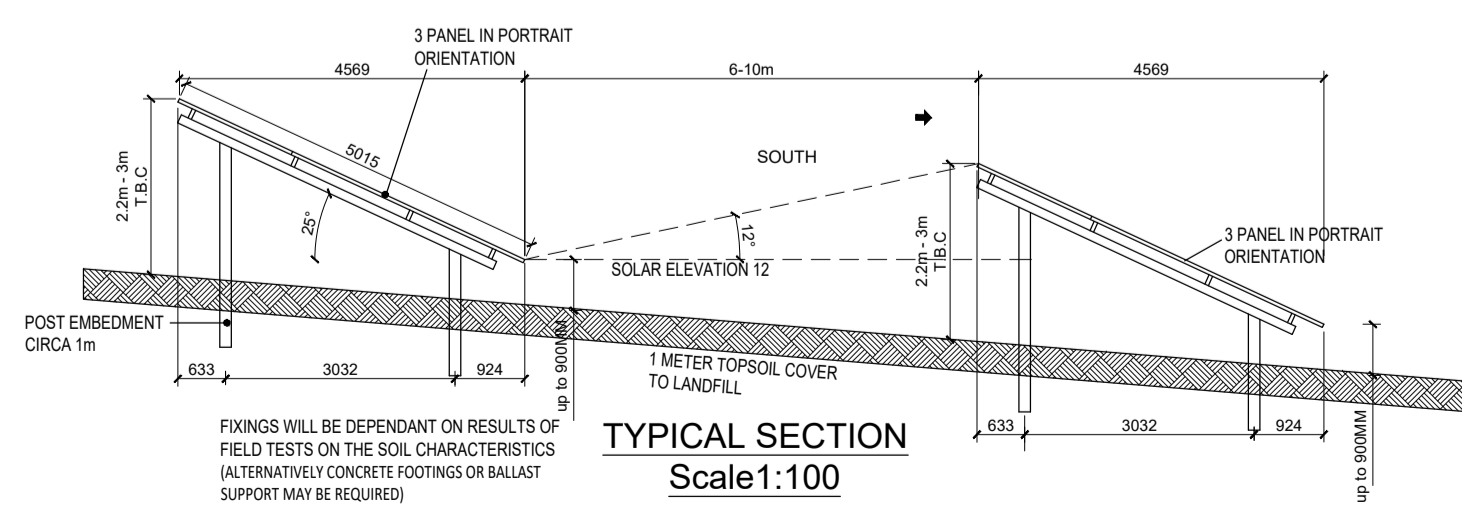
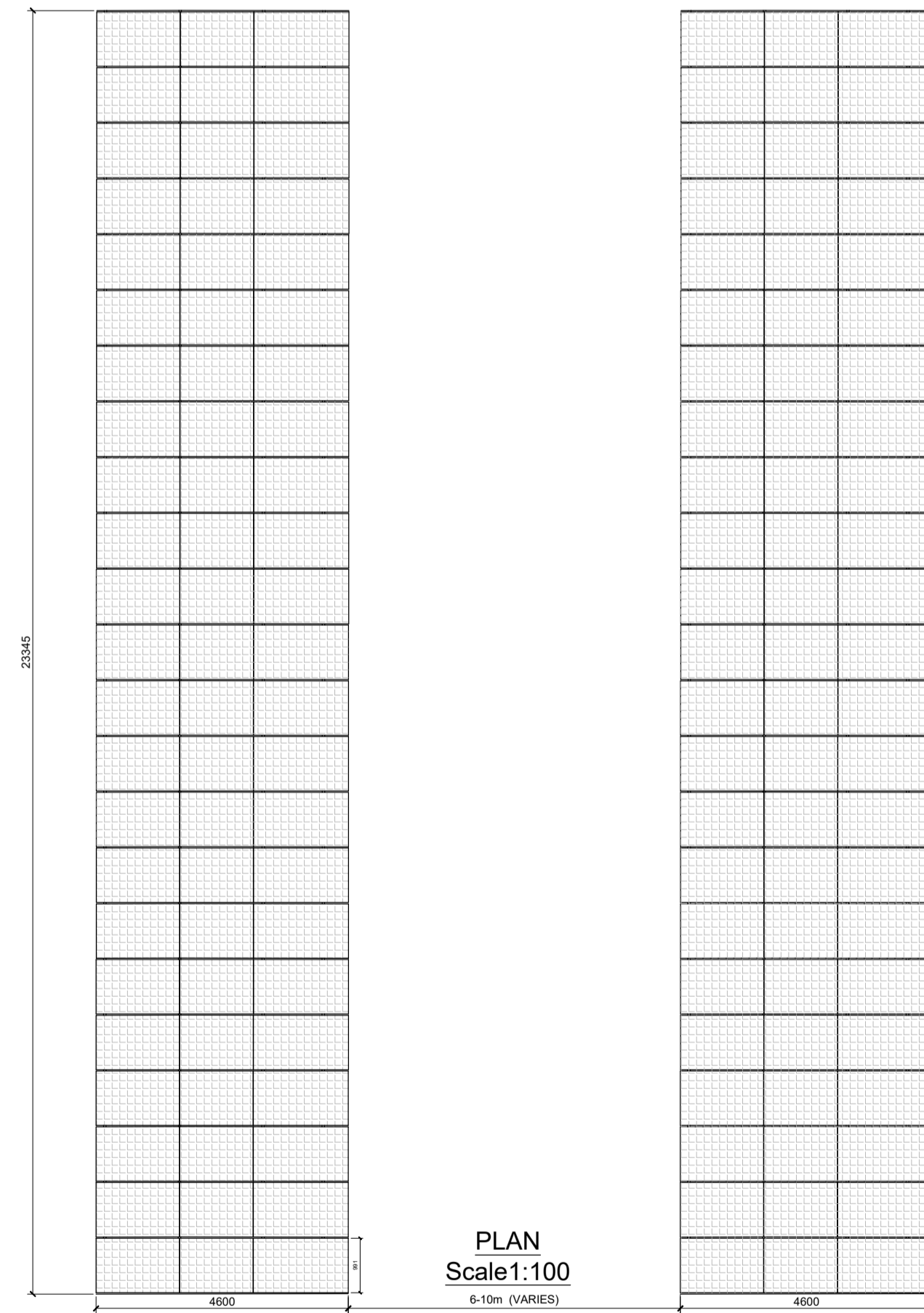
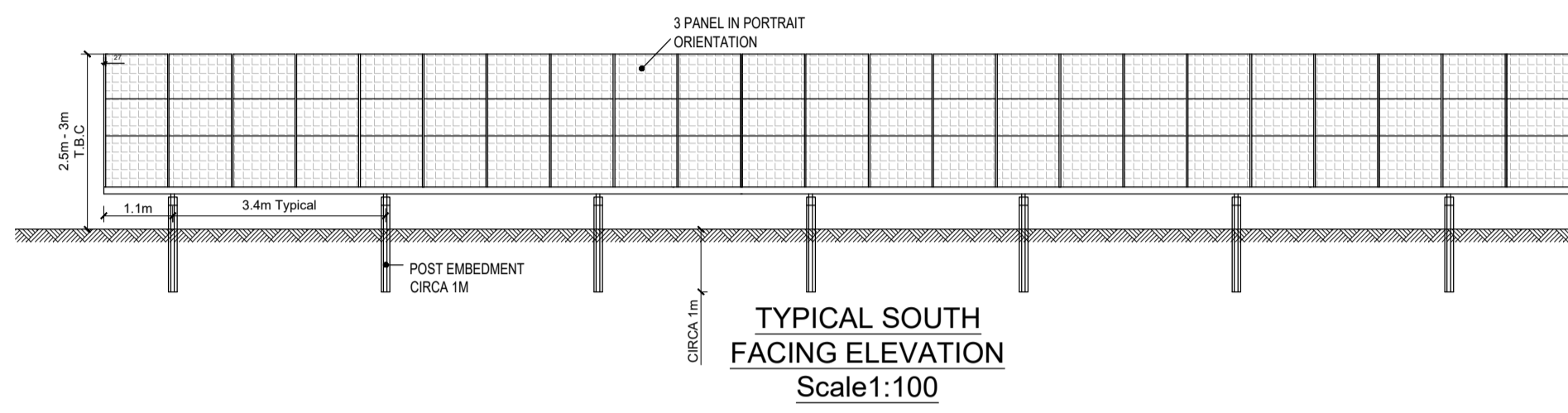
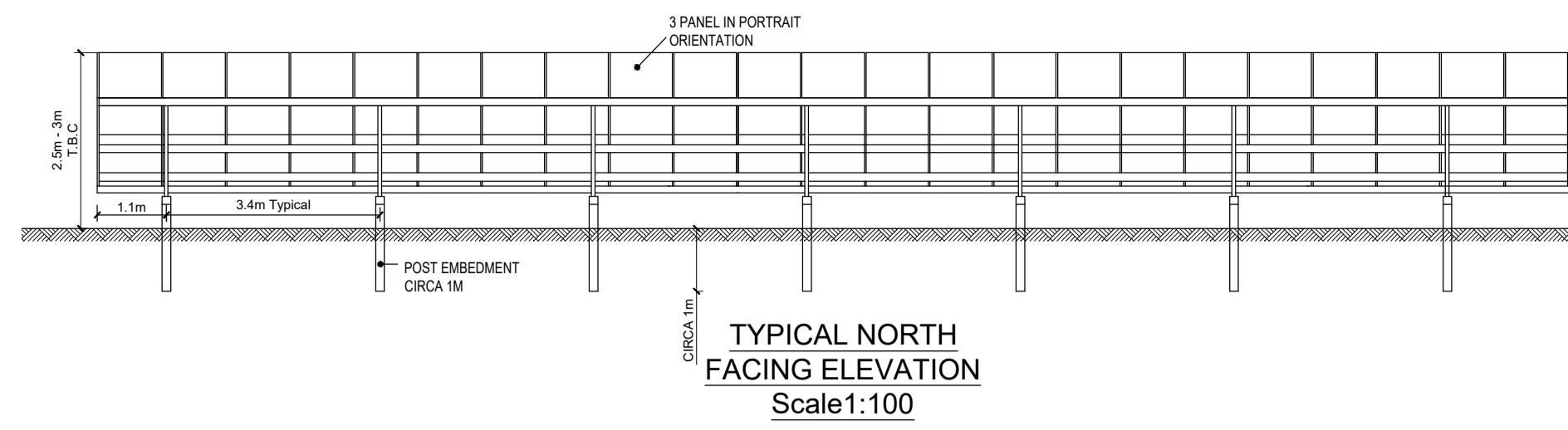
**Drawing Title**  
SITE LOCATION PLAN & FULL LANDHOLDING  
OVERALL SITE PLAN OF KNOCKHARLEY LAND FILL

Drawn By	Date	Scale
Stephen Hickey	07.02.2018	1:2500 @ A0
Revision	Draw Status	Draw No.
	PLANNING	17-243-100

SITE LOCATION PLAN 1:2500  
KNOCKHARLEY LANDFILL BOUND IN BLUE  
APPLICATION SITE AREA BOUND IN RED: 14.31 HECTARES  
RECLAIMED LAND TO BE COVERED BY SOLAR PANELS: 3.87 HECTARES

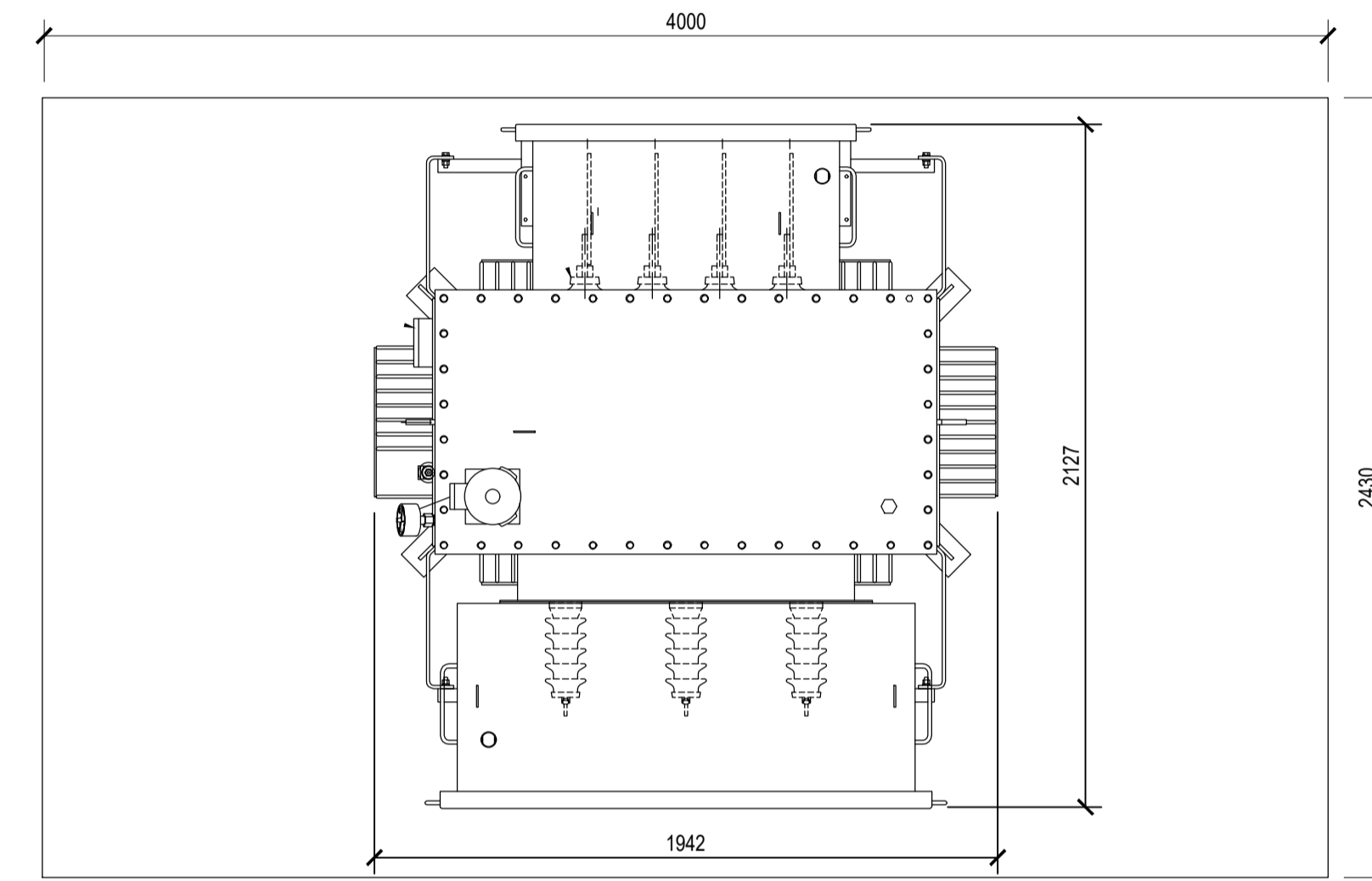
EXTRACT FROM O.S. SHEET NO. DIGITAL MAP 2509





TYPICAL TRANSFORMER  
ABB-SOLAR READY TRANSFORMER

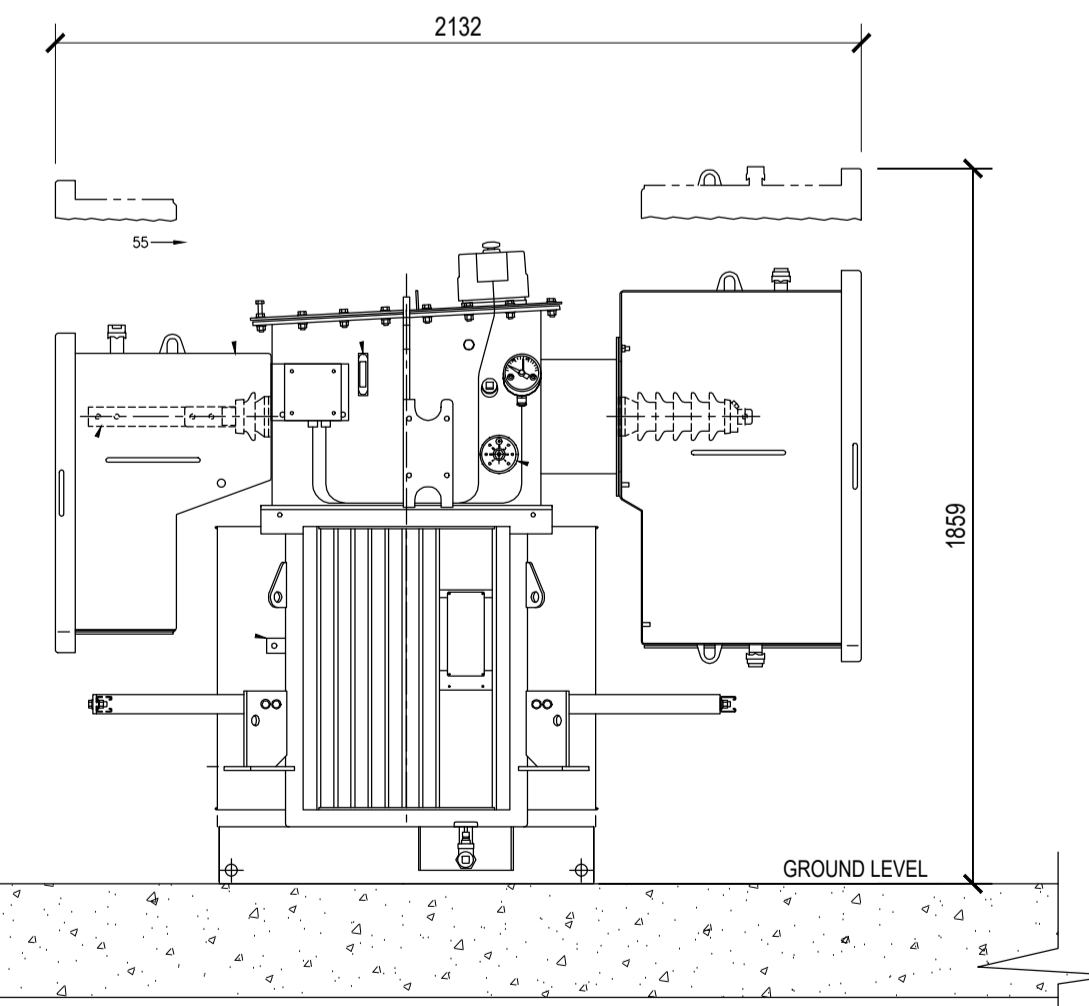
Note:  
All information subject to Final Design.  
For orientation refer to Site Plan.



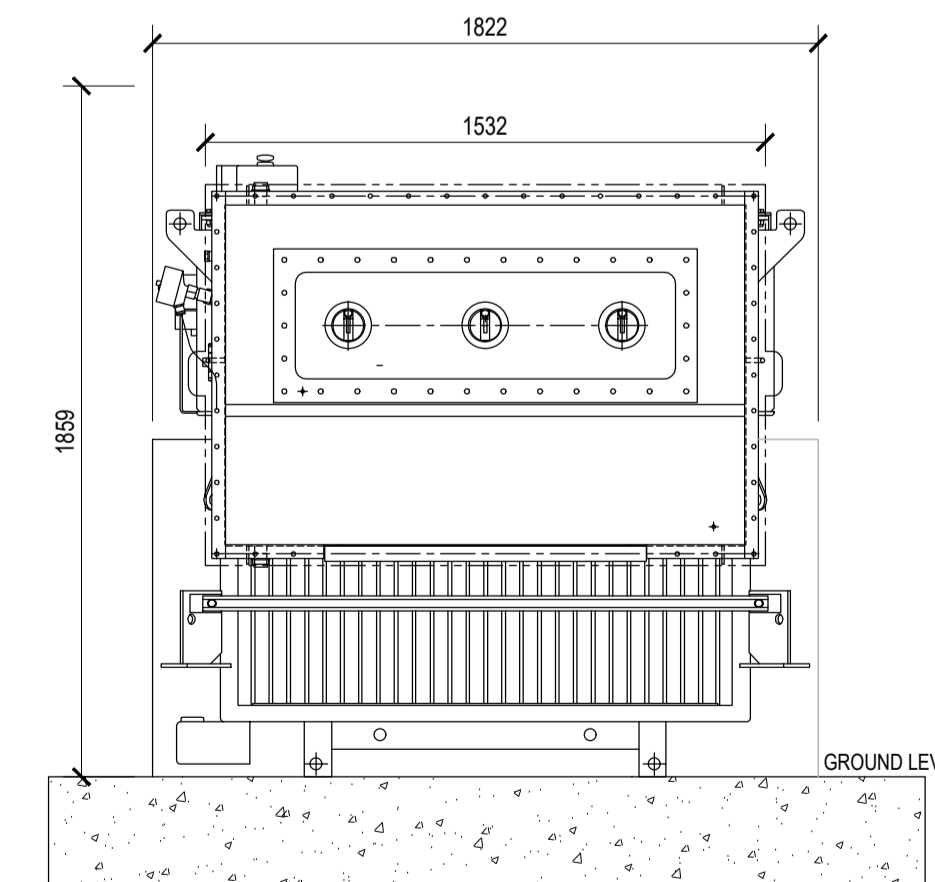
TYPICAL TRANSFORMER  
PLAN VIEW 1:20

Note:  
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SECTIONAL ELEVATION 1:20



SIDE ELEVATIONS 1:20

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Client: STARRUS LFD LTD.

Project Title: PROPOSED SOLAR FARM AT KNOCKHARLEY BROWNSTOWN NAVAN COUNTY MEATH

Drawing Title: TYPICAL SOLAR PANEL & MOUNTING SYSTEM ARRANGEMENT & TYPICAL TRANSFORMER PLANS AND ELEVATIONS

Drawn By	Date	Scale
Stephen Hussey	07.02.2018	VARIES @ A1
Revision	Drawn Status	Draw. No.
	PLANNING	17-243-700

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### 3. NATURA 2000 SITES

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SACs are selected for the conservation and protection of habitats listed on Annex I and species (other than birds) listed on Annex II of the Habitats Directive, and their habitats. The habitats on Annex I require special conservation measures. SPAs are selected for the conservation and protection of bird species listed on Annex I of the Birds Directive and regularly occurring migratory species, and their habitats, particularly wetlands. The selected habitats and species are termed Qualifying Interests.

A statement of Conservation Objectives is prepared for each designated site which identifies the qualifying interests or conservation features. The Conservation Objectives are intended to ensure that the relevant habitats and species present on a site are maintained, and where necessary restored, at a Favourable Conservation Status.

Favourable Conservation Status of a habitat, as defined in 2011 Birds and Natural Habitats Regulations, is when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

Conservation Status of a species is when:

- the favourable population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats,
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

### 3.1 Natura 2000 Sites Potentially Affected by the Project

The facility is not located in or immediately adjacent to a Natura 2000 Site. The closest Natura 2000 Site is the River Boyne and River Blackwater Special Area of Conservation (SAC) and Special Protection Area (SPA) (002299/004232), the closest stretch of which is approximately 4 km to the north, as shown on Figure 3.1.

The site was selected as an SAC for alkaline fen and alluvial woodlands, both habitats listed on Annex I of the E.U. Habitats Directive and also for the following species listed on Annex II of the same directive – Atlantic Salmon, Otter and River Lamprey. The site was selected as an SPA as it is a breeding ground for Kingfishers. The site synopses are included in Appendix 1.

Summary details of the designated sites, including the qualifying interests and the potential for effects from the proposed development are shown in Table 3.1.

**Table 3.1 Designated Site**

Designated Site	Distance (km)	Qualifying Interests	Assessment of Potential Effects
River Boyne and Blackwater SAC (002165)	5.5km to the North-East of the site	Annex I Habitats: Alkaline Fen, Alluvial Woodlands. Annex II species: Atlantic Salmon, Otter and River Lamprey.	No perceptible impact.
River Boyne and River Blackwater SPA (004232)	5.5km to the North-East of the site	SPA qualifying interest: breeding ground for Kingfishers.	No perceptible impact.





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CLIENT

Starrus LFG Ltd.

TITLE

Natura 2000 Sites

Details:

- Site Location
- SPAs
- SACs

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Figure 3.1



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## 4. LIKELY EFFECTS

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### 4.1 Plan or Project

The proposed development will not give rise to any emission to surface water, groundwater or atmosphere. The construction stage will be a source of noise emissions, but the operational phase will not give rise to noise emissions.

### 4.2 Direct Impacts

The facility is not located within any designated Natura 2000 Site and therefore the operation does not result in any direct habitat loss or fragmentation of a Natura 2000 Site. The closest Natura 2000 Site is approximately 4km to the north-east of the site and the proposed development does not present any risk of a direct adverse effect on either the habitats or species for which the Natura 2000 Site is selected.

### 4.3 Indirect Impacts

Disturbance impacts during the construction stage were considered with regard to the potential for effects on the Annex II species for which the River Boyne/Blackwater SAC and SPAs are designated. Given the distance between the site and the Natura 2002 Site the development will not be a source of disturbance to the listed species.

### 4.4 Cumulative Effects

The development will not contribute to cumulative impacts on the SAC and the SPA.

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## 5. SCREENING CONCLUSION & STATEMENT

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The proposed development facility does not present a significant risk to the Qualifying Interests and Conservation Objectives of the River Boyne/Blackwater SAC and SPA. Therefore a Natura Impact Statement is not required.

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# **APPENDIX 1**

Site Synopses

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## Site Name: River Boyne and River Blackwater SAC

### Site Code: 002299

This site comprises the freshwater element of the River Boyne as far as the Boyne Aqueduct, the Blackwater as far as Lough Ramor and the Boyne tributaries including the Deel, Stoneyford and Tremblestown Rivers. These riverine stretches drain a considerable area of Meath and Westmeath, and smaller areas of Cavan and Louth. The underlying geology is Carboniferous Limestone for the most part, with areas of Upper, Lower and Middle well represented. In the vicinity of Kells Silurian Quartzite is present while close to Trim are Carboniferous Shales and Sandstones. There are many large towns adjacent to but not within the site, including Slane, Navan, Kells, Trim, Athboy and Ballivor.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

- [7230] Alkaline Fens
- [91E0] Alluvial Forests\*
- [1099] River Lamprey (*Lampetra fluviatilis*)
- [1106] Atlantic Salmon (*Salmo salar*)
- [1355] Otter (*Lutra lutra*)

The main areas of alkaline fen in this site are concentrated in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. The hummocky nature of the local terrain produces frequent springs and seepages which are rich in lime. A series of base-rich marshes have developed in the poorly-drained hollows, generally linked with these three lakes. Open water is usually fringed by Bulrush (*Typha latifolia*), Common Club-rush (*Scirpus lacustris*) or Common Reed (*Phragmites australis*), and this last species also extends shorewards where a dense stand of Great Fen-sedge (*Cladium mariscus*) frequently occurs. This in turn grades into a sedge and grass community (*Carex* spp. and Purple Moor-grass, *Molinia caerulea*), or one dominated by Black Bog-rush (*Schoenus nigricans*). An alternative aquatic/terrestrial transition is a floating layer of vegetation. This is normally based on Bogbean (*Menyanthes trifoliata*) and Marsh Cinquefoil (*Potentilla palustris*). Other species gradually become established on this cover, especially plants tolerant of low nutrient status e.g. bog mosses (*Sphagnum* spp.). Diversity of plant and animal life is high in the fen and the flora includes many rarities. Plants of interest include Narrow-leaved Marsh-orchid (*Dactylorhiza traunsteineri*), Fen Bedstraw (*Galium uliginosum*), Cowbane (*Cicuta virosa*), Frogbit (*Hydrocharis morsus-ranae*) and Least Bur-reed (*Sparganium minimum*). These species tend to be restricted in their distribution in Ireland. Also notable is the abundance of aquatic stoneworts (*Chara* spp.) which are characteristic of calcareous wetlands.

The rare plant Round-leaved Wintergreen (*Pyrola rotundifolia*) occurs around Newtown Lough. This species is listed in the Red Data Book and this site represents its only occurrence in Co. Meath.

Wet woodland fringes many stretches of the Boyne. The Boyne River Islands are a small chain of three islands situated 2.5 km west of Drogheda. The islands were formed by the build-up of alluvial sediment in this part of the river where water movement is sluggish. All of the islands are covered by dense thickets of wet, willow (*Salix* spp.) woodland, with the following species occurring: Osier (*S. viminalis*), Crack Willow (*S. fragilis*), White Willow (*S. alba*), Purple Willow (*Salix purpurea*) and Rusty Willow (*S. cinerea* subsp. *oleifolia*). A small area of Alder (*Alnus glutinosa*) woodland is found on soft ground at the edge of the canal in the north-western section of the islands. Along other stretches of the rivers of the site Rusty Willow scrub and pockets of wet woodland dominated by Alder have become established, particularly at the river edge of mature deciduous woodland. Ash (*Fraxinus excelsior*) and Downy Birch (*Betula pubescens*) are common in the latter, and the ground flora is typical of wet woodland with Meadowsweet (*Filipendula ulmaria*), Wild Angelica (*Angelica sylvestris*), Yellow Iris (*Iris pseudacorus*), horsetails (*Equisetum* spp.) and occasional tussocks of Greater Tussock-sedge (*Carex paniculata*).

The dominant habitat along the edges of the river is freshwater marsh, and the following plant species occur commonly in these areas: Yellow Iris, Creeping Bent (*Agrostis stolonifera*), Canary Reed-grass (*Phalaris arundinacea*), Marsh Bedstraw (*Galium palustre*), Water Mint (*Mentha aquatica*) and Water Forget-me-not (*Myosotis scorpioides*). In the wetter areas Common Meadow-rue (*Thalictrum flavum*) is found. In the vicinity of Dowth, Fen Bedstraw (*Galium uliginosum*), a scarce species mainly confined to marshy areas in the midlands, is common in this vegetation. Swamp Meadow-grass (*Poa palustris*) is an introduced plant which has spread into the wild (naturalised) along the Boyne approximately 5 km south-west of Slane. It is a rare species which is listed in the Red Data Book and has been recorded among freshwater marsh vegetation on the banks of the Boyne in this site. The only other record for this species in the Republic of Ireland is from a site in Co. Monaghan.

The secondary habitat associated with the marsh is wet grassland and species such as Tall Fescue (*Festuca arundinacea*), Silverweed (*Potentilla anserina*), Creeping Buttercup (*Ranunculus repens*), Meadowsweet and Meadow Vetchling (*Lathyrus pratensis*) are well represented. Strawberry Clover (*Trifolium fragiferum*), a plant generally restricted to coastal locations in Ireland, has been recorded from wet grassland vegetation at Trim. At Rosnaree river bank on the River Boyne, Round-Fruited Rush (*Juncus compressus*) is found in alluvial pasture, which is generally periodically flooded during the winter months. This rare plant is only found in three counties in Ireland. Along much of the Boyne and along tributary stretches are found areas of mature deciduous woodland on the steeper slopes above the floodplain marsh or wet woodland vegetation. Many of these are planted in origin. However the steeper areas of King Williams Glen and Townley Hall wood have been left unmanaged and now have a more natural character. East of Curley Hole the woodland has a natural appearance with few conifers. Broadleaved species include oaks (*Quercus* spp.), Ash, willows, Hazel (*Corylus avellana*), Sycamore (*Acer pseudoplatanus*), Holly (*Ilex aquifolium*), Horse-chestnut



(*Aesculus hippocastanum*) and the shrubs Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*) and Elder (*Sambucus nigra*). Southwest of Slane and in Dowth, some more exotic tree species such as Beech (*Fagus sylvatica*), and occasionally Lime (*Tilia cordata*), are seen. The coniferous trees Larch (*Larix* sp.) and Scots Pine (*Pinus sylvestris*) also occur. The woodland ground flora includes Barren Strawberry (*Potentilla sterilis*), Enchanter's-nightshade (*Circaea lutetiana*) and Ground-ivy (*Glechoma hederacea*), along with a range of ferns. Variation occurs in the composition of the canopy - for example, in wet patches alongside the river, White Willow and Alder form the canopy.

Other habitats present along the Boyne and Blackwater include lowland dry grassland, improved grassland, reedswamp, weedy waste ground, scrub, hedge, drainage ditch and canal. In the vicinity of Lough Shesk, the dry slopes of the morainic hummocks support grassland vegetation which, in some places, is partially colonised by Gorse (*Ulex europaeus*) scrub. Those grasslands which remain unimproved for pasture are species-rich, with Common Knapweed (*Centaurea nigra*), Creeping Thistle (*Cirsium arvense*) and Ribwort Plantain (*Plantago lanceolata*) commonly present. Fringing the canal alongside the Boyne south-west of Slane are areas with Reed Sweet-grass (*Glyceria maxima*), Great Willowherb (*Epilobium hirsutum*) and Meadowsweet.

The Boyne and its tributaries form one of Ireland's premier game fisheries and the area offers a wide range of angling, from fishing for spring salmon and grilse to sea trout fishing and extensive brown trout fishing. Atlantic Salmon (*Salmo salar*) use the tributaries and headwaters as spawning grounds. Although this species is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the Habitats Directive. Atlantic Salmon run the Boyne almost every month of the year. The Boyne is most important as it represents an eastern river which holds large three-sea-winter fish from 20-30 lb. These fish generally arrive in February, with smaller spring fish (10 lb) arriving in April/May. The grilse come in July, water permitting. The river gets a further run of fish in late August and this run would appear to last well after the fishing season. The salmon fishing season lasts from 1st March to 30th September. The Blackwater is a medium sized limestone river which is still recovering from the effects of the arterial drainage scheme of the 1970s. Salmon stocks have not recovered to the numbers that existed pre-drainage. The Deel, Riverstown, Stoneyford and Tremblestown Rivers are all spring-fed, with a continuous high volume of water. They are difficult to fish because some areas are overgrown, while others have been affected by drainage with resultant high banks.

This site is also important for the populations of two other species listed on Annex II of the E.U. Habitats Directive which it supports, namely River Lamprey (*Lampetra fluviatilis*), which is present in the lower reaches of the Boyne River, and Otter (*Lutra lutra*), which can be found throughout the site. In addition, the site also supports many more of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger and Irish Hare. Common Frog, another Red Data Book species, also occurs within the site. All of these animals, with the addition of the Stoat and Red Squirrel, which also occur within the site, are protected under the Wildlife Act, 1976.

Whooper Swans winter regularly at several locations along the Boyne and Blackwater Rivers. Known sites are at Newgrange (approx. 20 in recent winters), near Slane (20+ in recent winters), Wilkinstown (several records of 100+) and River Blackwater from Kells to Navan (104 at Kells in winter 1996/97, 182 at Headfort in winter 1997/98, 200-300 in winter 1999/00). The available information indicates that there is a regular wintering population of Whooper Swans based along the Boyne and Blackwater River valleys. The birds use a range of feeding sites but roosting sites are not well known. The population is substantial, certainly of national, and at times international, importance. Numbers are probably in the low hundreds.

Intensive agriculture is the main land use along the site. Much of the grassland is in very large fields and is improved. Silage harvesting is carried out. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the lakes. In the more extensive agricultural areas sheep grazing is carried out.

Fishing is a main tourist attraction on the Boyne and Blackwater and there are a number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. The Eastern Regional Fishery Board have erected fencing along selected stretches of the river as part of their salmonid enhancement programme. Parts of the river system have been arterially dredged. In 1969 an arterial dredging scheme commenced and disrupted angling for 18 years. The dredging altered the character of the river completely and resulted in many areas in very high banks. The main channel from Drogheda upstream to Navan was left untouched, as were a few stretches on the Blackwater. Ongoing maintenance dredging is carried out along stretches of the river system where the gradient is low. This is extremely destructive to salmonid habitat in the area. Drainage of the adjacent river systems also impacts on the many small wetland areas throughout the site. The River Boyne is a designated Salmonid Water under the E.U. Freshwater Fish Directive.

The site supports populations of several species listed on Annex II of the E.U. Habitats Directive, and habitats listed on Annex I of this Directive, as well as examples of other important habitat types. Although the wet woodland areas appear small there are few similar examples of this type of alluvial wet woodland remaining in the country, particularly in the north-east. The semi-natural habitats, particularly the strips of woodland which extend along the river banks, and the marsh and wet grasslands, increase the overall habitat diversity and add to the ecological value of the site, as does the presence of a range of Red Data Book plant and animal species and the presence of nationally rare plant species.

**Site Name: River Boyne and River Blackwater SPA**

**Site Code: 004232**

The River Boyne and River Blackwater SPA is a long, linear site that comprises stretches of the River Boyne and several of its tributaries; most of the site is in Co. Meath, but it extends also into Cos Cavan, Louth and Westmeath. It includes the following river sections: the River Boyne from the M1 motorway bridge, west of Drogheda, to the junction with the Royal Canal, west of Longwood, Co Meath; the River Blackwater from its junction with the River Boyne in Navan to the junction with Lough Ramor in Co. Cavan; the Tremblestown River/Athboy River from the junction with the River Boyne at Kilnagross Bridge west of Trim to the bridge in Athboy, Co. Meath; the Stoneyford River from its junction with the River Boyne to Stonestown Bridge in Co. Westmeath; the River Deel from its junction with the River Boyne to Cumber Bridge, Co. Westmeath. The site includes the river channel and marginal vegetation.

Most of the site is underlain by Carboniferous limestone but Silurian quartzite also occurs in the vicinity of Kells and Carboniferous shales and sandstones close to Trim.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive of special conservation interest for the following species: Kingfisher.

A survey in 2010 recorded 19 pairs of Kingfisher (based on 15 probable and 4 possible territories) in the River Boyne and River Blackwater SPA. A survey conducted in 2008 recorded 20-22 Kingfisher territories within the SPA. Other species which occur within the site include Mute Swan (90), Teal (466), Mallard (219), Cormorant (36), Grey Heron (44), Moorhen (84), Snipe (32) and Sand Martin (553) – all figures are peak counts recorded during the 2010 survey.

The River Boyne and River Blackwater Special Protection Area is of high ornithological importance as it supports a nationally important population of Kingfisher, a species that is listed on Annex I of the E.U. Birds Directive.