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# Dublin North Fringe 220kV Reinforcement Project

## Stage 1 Lead Consultant's Report

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PE688-F0154-R00-002-002

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## Change History of Report

Date	New Rev	Author	Summary of Change
26/04/11	1	P. Carroll	Minor corrections and additions
05/08/11	2	P. Carroll	Terms of Reference and revised cable report added

## Executive Summary

This report has been prepared by ESBI Engineering Solutions for the purpose of identifying suitable sites for the construction of a new 220kV indoor station within the Dublin City Council North Fringe area of Dublin on behalf of EirGrid plc, the transmission system operator.

The development of this project follows EirGrid's Project Development Roadmap, the information gathering stage, where a study area for the project is identified, environmental and other constraints within that study area are identified, and site options which seek to avoid these identified constraints are identified and subject to high-level evaluation. The Consultant concludes this stage by stating a preference for a site option. This option is then presented for public and stakeholder consultation, with feedback, as well as ongoing technical and environmental studies facilitating identification of preferred option.

The Dublin North Fringe refers to the northern part of Dublin City and the southern section of Fingal County Council. A Study Area within which to locate the station was identified by EirGrid (see Appendix 1 – Functional Parameters Report) has been generally identified as follows;

- An area north of the M50/N32 corridor;
- An area east of the M1 corridor;
- An area generally south of the line formed by Baskin lane and Kinsealy;
- An area generally west of the Dublin – Belfast mainline rail corridor.

The station will initially be developed to accommodate 1 no. 220kV underground cable feeder and 4 no. 110kV underground cable circuits. The ultimate development of the station will accommodate 4 no. 220kV and 8 no. 110kV underground cable circuits with 4 no. 220/110kV power transformers. Site No. 15 is the best suited site to realise the initial and ultimate development of the station.

Following consideration of technical, environmental and other constraints in the area, of the eleven potential sites within the study area identified for investigation, only six were found to be capable of accommodating the proposed station in its initial phase of development. Of these six sites, three were considered to be capable or potentially capable of accommodating the ultimate development of the station. These three sites are Sites No. 15, 32 & 13.

Site No. 15, land at Clonshaugh and owned by the Industrial Development Authority (IDA), is considered by ESBI Engineering Solutions to be the most suitable location to meet the siting requirements of the planned transmission station.

This site is zoned HT (Provide for office based, research and development and high technology/high technology manufacturing type employment in a high quality built and landscaped environment) under the Fingal County Development Plan 2011 – 2017 and is therefore suited to this form of development. It is well serviced by public roads and is of sufficient size for the ultimate development of the station.

It has been identified as the most suitable site following supplemental environmental and cable route access reports.

### **Terms of Reference**

The client has provided a Functional Parameters Report which presents the justification for the Dublin North Fringe 220kV. This report confirms that the existing load in the north city area is expected to outgrow the available transformer capacity at the existing Finglas 220kV station by 2013. The Dublin North Fringe refers to the northern part of Dublin City and the southern section of Fingal County Council. The report states that a new station should be developed to supply the immediate overcapacity at Finglas 220kV station, to provide security of supply for new and existing load and also be located so as to meet the long-term requirements of future load forecast for the Dublin North Fringe area. The Dublin North Fringe 220kV Reinforcement Project development will also provide the redundancy needed to cover the failure of the 220kV or 110kV busbars at Finglas 220kV station and prevent load shutdowns in North Dublin.

The Functional Parameters Report sets out the technical requirements and corresponding functional parameters used to identify a study area for the new Dublin North Fringe 220kV bulk supply point (BSP).

The technical requirements for the station consist of initial and future plans needed to accommodate equipment to supply the immediate overfill at Finglas 220kV station and for possible future extensions, respectively. The station buildings will initially include 1 x 220kV and 4 x 110kV connection circuits, but should be designed for the following ultimate development;

- 220kV
  - 4 x 220kV transformers
  - 4 x 220kV feeder bays
  - 1 x 220kV double busbar with 3 coupler bays
- 110kV
  - 4 x 110kV transformer bays
  - 8 x 110kV feeder bays
  - 1 x 110kV double busbar with 3 coupler bays

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# 1 INTRODUCTION

## 1.1 Overview

The demand for power in the Dublin north east region has increased significantly in recent years. EirGrid has identified the requirement for a new 220kV transmission station to act as a Bulk Supply Point (BSP) area to improve quality of supply in this area, to be referred to in this project as Dublin North Fringe. This is set out in more detail in the Functional Parameters Report, contained at Appendix 1 of this report.

Finglas 220kV station, which currently feeds the 110kV network in the wider north Dublin city area, is approaching maximum capacity and it is now imperative that a new 220kV station be built to cater for current and future load increases. ESBI Engineering Solutions has been engaged to identify a site upon which to build this new station.

Historically, the electrical load centre in the area is south of a line from the M1/M50 interchange to Baldoyle on the east coast but recent development in the Dublin North Fringe has led to increased power demand in the north east of the city. Siting a high voltage injection station in this area will reinforce the local 110kV and MV networks (including Swords and Dublin Airport) by feeding into the existing Grange and Kilmore 110kV stations (see Figure 1, reproduced to a larger scale at Appendix 2 of this report). It will also potentially feed proposed future stations in the north east of the county and any possible future station within the North Fringe area.

## 1.2 Station Study Area Details

The Study Area lies primarily within the administrative area of Fingal County Council at the southern boundary of the county and incorporates, to various extents, the townlands of Belcamp, Balgriffin, St. Doolagh's, Springhill, Bohammer, Drumnigh, Burgage, Middletown, Kinsaley, Stockhole, Baskin and Clonshaugh. A small section of the Dublin City Council administrative area east of the R107 Malahide Road between the Mayne River and the N32 is also included in the study area.

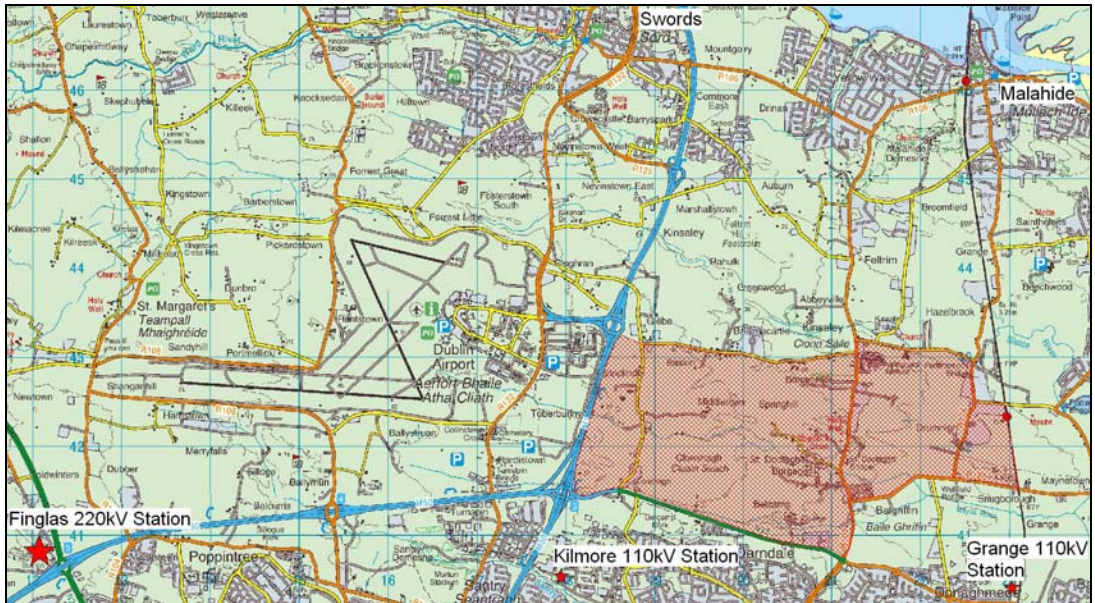


Figure 1 EirGrid study area shown in red (1:50,000 Series Mapping OSI)

The study area incorporates the lands between Baskin Lane to the north, the N32 to the south, the M1 motorway to the west and the Belfast - Dublin railway line to the east. The N32 and the R107 Malahide Road are the main roads in the area.

The area is zoned as predominantly greenbelt with some residential, commercial and industrial zoned land along the N32. The availability of roads and their proximity to potential sites is the major consideration in appraising any potential site.

Greenbelt zoning does not prohibit infrastructural development such as this 220kV transmission station.

Within the study area there are some obvious settlement centres, Baskin Lane & St. Doolagh's among them, as well as ribbon development along the key roads. There are also farmhouses set back from the roads in open farmland.

There are no gas transmission corridors in the study area.

Dublin Airport Public Safety Zones (PSZ's) for the runway approach paths run through the study area.

### 1.3 Planned Development

The initial development required for the new 220kV GIS station is as follows;

- 9m high control building to accommodate the 220kV switchgear
- 7m high control building for the 110kV switchgear
- 1 no. 220/110kV power transformer
- short term equipment lay down areas
- connections (all underground cables)

1 no. 220kV from Finglas 220kV station

2 no. 110kV from Kilmore 110kV station



1 no. 110kV from Grange 110kV station

1 no. 110kV from future station 110kV in the Swords area

- parking for delivery vehicles and maintenance personnel

EirGrid has specified that the station's layout design should allow for an ultimate development as follows;

- 220kV
  - 4 x 220kV transformers
  - 4 x 220kV feeder bays
  - 1 x 220kV double busbar with 3 coupler bays
- 110kV
  - 4 x 110kV transformer bays
  - 8 x 110kV feeder bays
  - 1 x 110kV double busbar with 3 coupler bays

The station compound area required for the new 220kV GIS station was identified by the project design engineers as being 85m x 85m, equating to 1.8 acres. A further 10-15m between the compound boundary wall and the property boundary fence will be required for screening and landscaping, bringing the total area for the station compound and landscaping/screening up to a possible 2.5 acres.

Further land will be required for road and/or cable access with some sites. All access roads to the station from the public road will be a minimum of 4m wide and, including the entrance splays, will be sufficient to accommodate delivery of transformers and other equipment.

#### 1.4 Existing Circuits and Proposed Connections to the Station

The proposed station will be connected to the 220kV transmission network via underground cable circuits as there is no scope for 220kV overhead line (OHL) in this area. The first circuit will be from Finglas 220kV station and the second will be from Shellybanks 220kV station (Ringsend).

Electrical power at the proposed station will ultimately be off-loaded by up to eight 110kV underground cable circuits. The initial demand is for four 110kV circuits; a loop into the existing Kilmore / Grange 110kV (two circuits), a new 110kV line to Kilmore and a new 110kV line to the proposed new 110kV station in the Swords area. Depending on the location of the station site and its proximity to a public road, cable easements of up to 20m wide will be required to accommodate the potential ultimate development of proposed HV circuits with underground cables.

There is an existing 38kV OHL within the study area running from Grange 110kV station to Collinstown 38kV station across open farmland which is directly underneath one of the Dublin Airport flight paths and within the associated Public Safety Zones (PSZ's). This 38kV line can be seen on the accompanying drawing PE688-D154-004-001-001 in Appendix 6.

Previous ESB Networks projects in the vicinity of Cork Airport have utilised 110kV OHL's built to the same height as 38kV lines i.e. 15m. There is a possibility that the proposed 110kV line running north from the Balgriffin 220kV station to the new Swords station could be designed across this open area of land along a similar corridor to the existing 38kV line but a more in depth study of any proposal including route selection and planning consideration would be required to verify this.

The Irish Aviation Authority has advised that they have no objections to overhead lines in this area once the maximum levels are less than 80m Above Mean Sea Level (AMSL). Ordnance Survey Ireland 1:1,000 mapping for the area shows levels of up to 40m on the Clonsaugh Road and up to 32m on the R107 Malahide Road

Due to the nature of the existing road network in the area it will not be possible at present or in the near future to accommodate the full development with underground cabled circuits. Reliance must be placed on future development in the locality of the station to provide the necessary road infrastructure.

1.5 Project Development Roadmap

You are Here



EirGrid has prepared a Project Development Roadmap, which is generally applied in respect of all transmission infrastructure development projects. This Roadmap is intended to have a threefold purpose:-

- To ensure and demonstrate a **consistency of approach** by EirGrid and its consultants in the planning and development of all projects which require statutory consent – whether large or small, and whether linear (e.g. lines) or site-based (e.g. substations);
- To **provide clarity** to the public, stakeholders, and the consenting authority (An Bord Pleanála or the Planning Authority as relevant) about where a process or deliverable occurs at any point in time, relative to overall project development;
- To **co-ordinate** project deliverables and project progress with public and other consultation and engagement, and to ensure adequate **opportunity for public and stakeholder input** at all stages of the process of shaping the development proposal;

This Lead Consultant's Stage 1 Report is, as per the Project Development Roadmap, the culmination of the Stage 1 Information Gathering process. The Report will form the basis for more structured public and other stakeholder consultation, which up until now has been informal, albeit extremely useful. This has the objective and benefit of deriving feedback upon which project options can be more fully evaluated, prior to moving into the decision-making process of Stages 2 and 3, and ultimate preparation of an application for Approval of the proposed development in Stage 4.

## 2 ENVIRONMENTAL ASSESSMENT OF STUDY AREA

A full report on the environmental issues relating to the study area is contained in Appendix 4. The report, "Review of Constraints", was produced by ESBI Environmental Group.

### **Summary of Findings**

The study area was assessed under a variety of environmental constraints including;

- Land Use
- Zoning
- Natural Heritage
- Biodiversity and Ecology
- Architectural and Archaeological Heritage
- Traffic and Transport
- Water Courses
- Flood Risk

The report finds no contentious issues which would affect the location of the station within the study area.

Three rivers run through the study area, the Mayne, the Sluice and the Cuckoo, which is a tributary of the Mayne and all were found to have potential for flooding at certain points along their courses, although not close to any potential site.

Several recorded monuments exist within the study area and within some of the sites investigated but none which impact on the candidate sites.

The greenbelt zoning over most of the study area is to protect the rural and agricultural nature of the area but infrastructural development such as the proposed station is permitted under the 2011-2017 Fingal County Development Plan.

The report identifies Site No. 15, the lands owned by the Industrial Development Authority, as being the most suitable for the construction of the station as it is least constrained on issues such as hydrology, ecology, airport flight path Public Safety Zones (PSZ's) and road networks (to carry underground cables) as well as its current zoning as ST1, Science and Technology and proposed HT zoning under the County Development Plan 2011 - 2017. The report also recommends that a full investigation of the illegal dumping on a portion of the site be carried out to assess the full extent of the problem and to ensure that there is no impact on the development of the 220kV station in the area.

All necessary environmental documentation, as determined by An Bord Pleanála, will be undertaken as part of any planning application for the proposed 220kV station development.

### 3 SELECTION OF SUITABLE AND POTENTIAL SITES

#### 3.1 Methodology for Initial Folio Identification

Initially a desktop study was carried out including review of Ordnance Survey 1:50,000 and 1:1,000 series mapping. Consequently a preliminary visit by ESBI staff to the study area assessed conditions/topography, existing infrastructure and local constraints to identify folios that would accommodate the proposed station development. Taking into consideration the indicative design footprints of the station compound, as outlined in Section 1.3, the property ownership of these folios was determined using the Property Registration Authority Ireland (PRAI) website [www.landdirect.ie](http://www.landdirect.ie) to identify landholdings large enough to cater for the development. Folios with connectivity to public roads were specifically selected as potential sites.

From these sources 33 potential sites were identified and these are listed in Figure 2. The accompanying drawing PE688-D154-004-001-001 shows these sites within the study area.

#### 3.2 Initial Site Appraisals

Having identified possible sites from the desktop study, those which were sufficiently large, had road frontage or potential access to the main public roads and were not adjacent to housing or similar development were noted and assessed as to their suitability. Further site visits and use of aerial photography resulted in a significant number of sites being eliminated as unsuitable at an early stage resulting in eleven possible sites selected for investigation.

#### 3.3 Site Cable Constraints

The main evaluation criterion for any site is that a sufficient road network be available nearby to accommodate the volume of underground HV cables required to feed and offload the station.

A single cable easement of up to 20m will accommodate all of the 220kV and 110kV cables required for the ultimate development from the station to the public road. However, it is not possible for any single road (within the study area) to accommodate all these cables and therefore it will be necessary to divide the cables into at least two narrower easements. Some of these cable easements may be contained within the station entrance road depending on the particular site.

#### 3.4 Identification of Potential Sites

A more detailed analysis of the eleven selected sites resulted in six sites being deemed capable of accommodating the initial phase of the 220kV station development with regard to the key requirements of the project outlined above. These were sites nos. 5, 6, 13, 15, 24 & 32.

Access to sites with the ultimate number of required cable circuits and the proximity of certain sites to nearby housing were key considerations in deeming certain sites unsuitable for the proposed development.

<b>SITE NO.</b>	<b>FOLIO NO.</b>
0	DN15671
1	DN7302
2	DN9232, DN3042, DN80183F
3	DN58077F
4	DN1020F
5	Unregistered
6	Unregistered
7	DN109855F
8	DN93205F
9	DN170692F
10	DN134653F
11	DN59617F
12	DN19738F
13	DN3320, DN3551, DN158909F
14	Unregistered
15	DN123167F, DN123644F, DN94183F,
16	DN32674F
17	DN112916F
18	DN558
19	DN117701F
21	DN67564F
22	DN3335
23	DN23478F
24	DN7483
25	DN2243
26	DN3013
27	DN3554
28	DN2649
29	DN14786
30	DN182387F
31	DN2414F
32	DN9150
33	Unregistered

Figure 2. Table showing sites within the Study Area

See also drawing PE688-D154-004-001-001

## 4 APPRAISAL OF POTENTIAL SITES

### 4.1 Site No. 5



Figure 4. Site No. 5 – Aerial photography (Bingmaps.com)

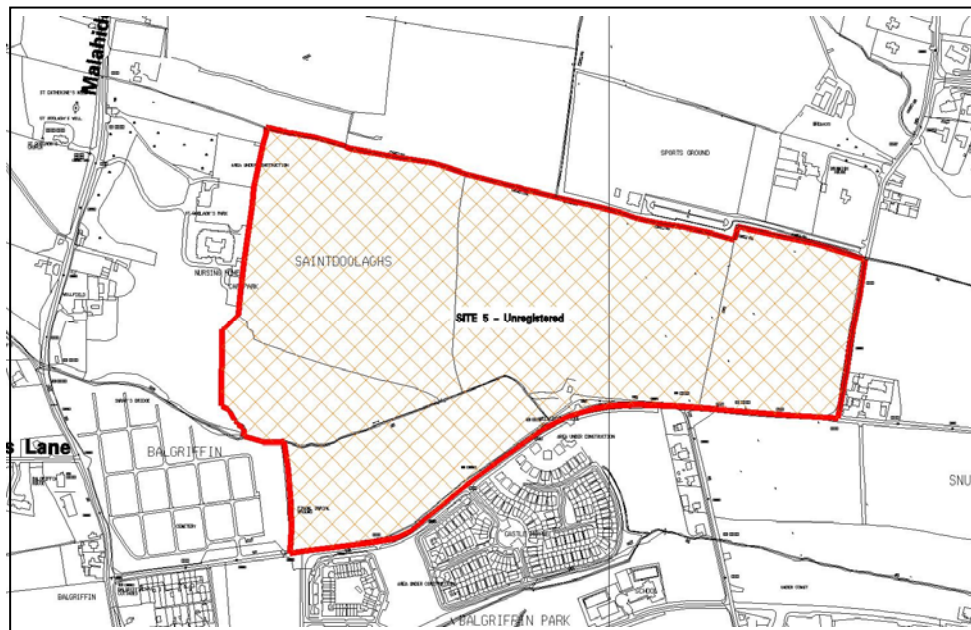


Figure 5. Site 5 - 1:1,000 Series Mapping OSI

#### **Location**

This site is owned by Bovale Developments and is located east of the Malahide Road and north of the R123 Mayne Road.

#### **Zoning**

This site lies within the Greenbelt zone.

#### **Topography**

The site is flat and well drained and is currently under tillage. A stream, the Cuckoo, runs through the southern portion.



**Road Access**

The site is bounded to the south by the Mayne Road which connects to the Malahide Road, ca. 300m to the west. Direct access to the Malahide Road may also be possible through a strip of land ca. 25m wide from the northeast corner of the site. Any development of this access would require the removal of a large no. of mature trees of differing quality, age and species.

**Cable Access**

Cable access to the site would be via the Mayne Road and along routes to the Malahide Road.

**Proximity to Housing**

There are no houses within the holding but there is a nursing home and an Alzheimer's treatment clinic along the boundary of the adjacent property to the west.

**Archaeology**

The National Monuments database indicates a possible ring ditch, DU015-011, in the northwest corner of the site.

**Flooding History**

There is no history of flooding on the site ([www.floodmaps.ie](http://www.floodmaps.ie)) although there is a possibility of the Cuckoo stream flooding at the boundary with Fingal Cemetery to the south of the site according to "Fingal East Meath Flood Risk Assessment and Management Study" website [www.fingaleastmeathframs.ie](http://www.fingaleastmeathframs.ie)

## 4.2 Site No. 6



Figure 6. Site No. 6 – Aerial photography (Bingmaps.com)

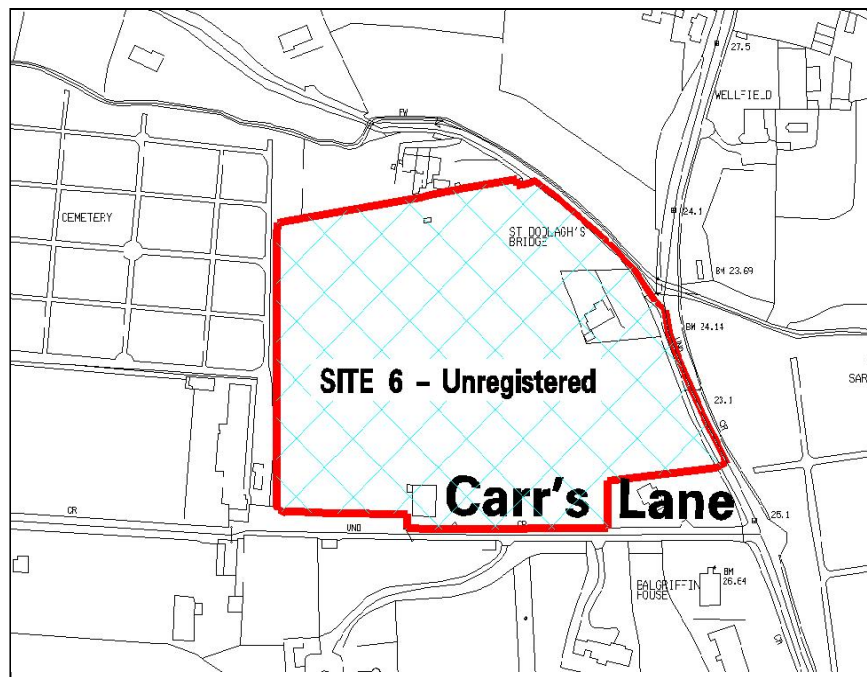


Figure 7. Site No. 6 - 1:1,000 Series Mapping OSI

### **Location**

The site lies on the Malahide Road with Carr's Lane as its southern boundary and Balgriffin Cemetery as its western boundary.

### **Zoning**

This site lies within the greenbelt zone.

### **Topography**

The land rises from the Malahide Road to the south western corner. It is well drained and currently tilled with a small area at Carr's Lane under concrete.

**Road Access**

Road access from the Malahide Road is via Carr's Lane.

**Cable Access**

A number of cable circuits could be installed along Carr's Lane. It should be noted that an additional cable easement to the Malahide Road of up to 16m would be required to accommodate the remaining circuits.

**Proximity to Housing**

The site is located directly across the lane from a private dwelling and is ca. 80m from two other houses. There is also a graveyard bounding the site to the west.

**Archaeology**

There are no known archaeological monuments on the site.

**Flooding History**

The site is elevated from the Malahide Road by approx 5m and has no history or risk of flooding ([www.floodmaps.ie](http://www.floodmaps.ie)).

### 4.3 Site No. 13



Figure 8. Site No. 13 – Aerial photography (Bingmaps.com)

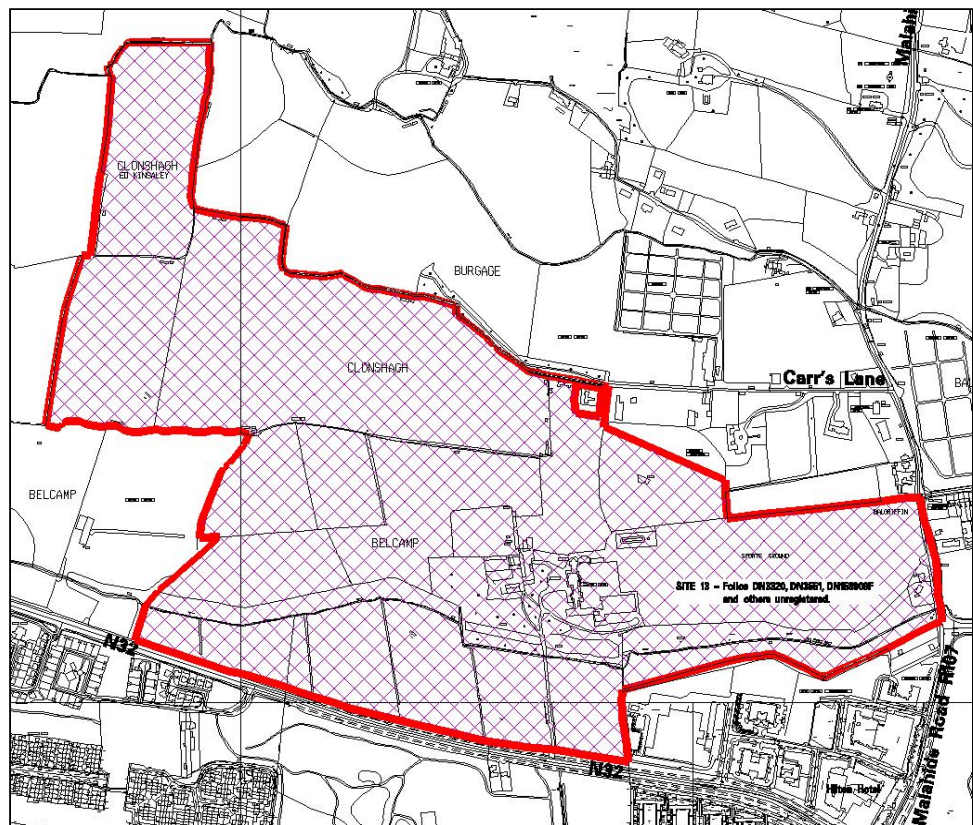


Figure 9. Site No. 13 - 1:1,000 Series Mapping OSI

#### Location

Site No. 13 refers to a large tract of land in the Belcamp area and not to a specific location. It is centred on the former Belcamp College campus and there are plans at an advanced stage to develop a 'town centre' type residential and commercial

development on the site. These plans do not relate to the entire site however and there is scope for a station site within the land holding.

### **Zoning**

This site lies within the greenbelt zone.

### **Topography**

The majority of the land is under tillage and has good topography. The land is relatively flat with the Cuckoo stream running by its northern boundary and the river Mayne running through it to the south.

### **Road Access**

There is no existing road infrastructure within the holding other than the access road to Belcamp College. The only viable location for a station within this area would be to the south with access to the N32.

### **Cable Access**

With no roads infrastructure in place other than the college access road, cable access would be from the N32 and from the Malahide Road.

### **Proximity to Housing**

The extent of the land holding gives scope to locate the planned new station away from any existing adjacent housing or future housing development.

### **Archaeology**

The National Monuments database indicates a ringfort, DU015-033, recorded within the curtilage of Belcamp College which lies within the site.

### **Flooding History**

The Mayne River runs through site but there is no recorded history of flooding ([www.floodmaps.ie](http://www.floodmaps.ie))

4.4 Site No. 15



Figure 10. Site No. 15 – Aerial photography (Bingmaps.com)

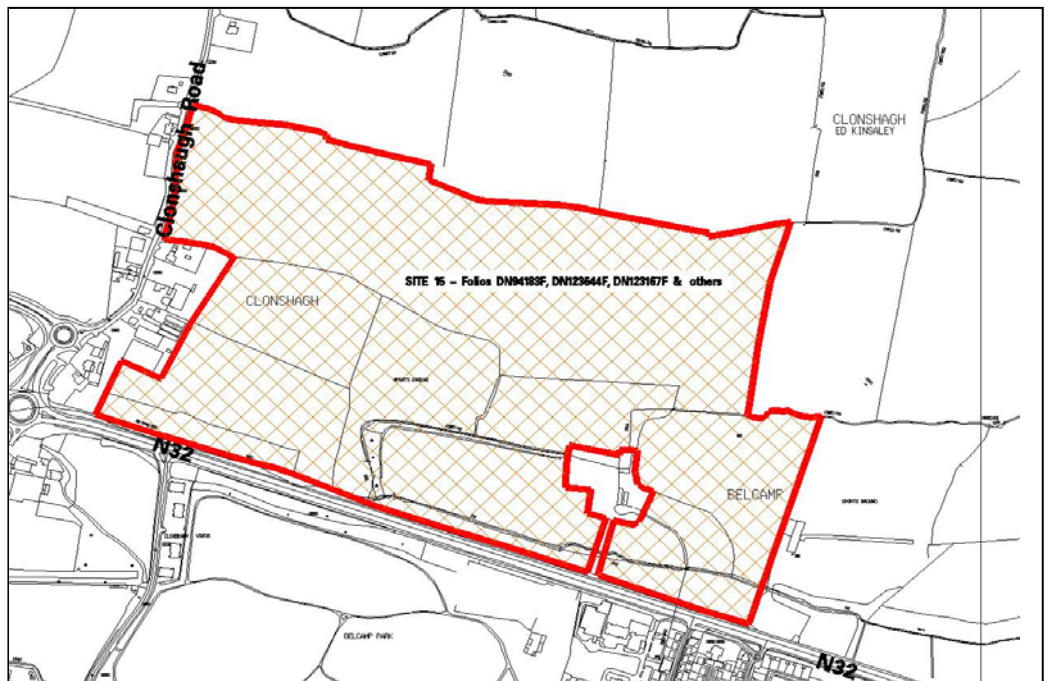


Figure 11. Site No. 15 - 1:1,000 Series Mapping OSI

**Location**

The Industrial Development Authority (IDA) owns a large land holding along the N32 which is intended for development as a business park. It is located adjacent to and north of the N32 with Clonshagh Road bounding it to the west.

### **Zoning**

The lands are designated as HT – ‘provide for office based, research and development and high technology / high technology manufacturing type employment in a high quality built and landscaped environment’ under the 2011-2017 Fingal County Development Plan.

### **Topography**

The land is generally flat and the Mayne river runs along the southern boundary. While the bulk of this land is currently under tillage, an area of ground in the southwest corner of the site has been used for illegal dumping in the past and contains some hospital waste and among general waste. This area runs along the N32 and has been fenced off.

### **Road access**

The N32 and Clonshaugh Road could both be used to access the site depending on the progress of the business park development. The IDA has confirmed that it has been in consultation with Fingal County Council regarding opening up this land with roads from the N32 and Clonshaugh Road but plans are at a high level with no agreement as yet.

### **Cable access**

Cable access would be to the south to the N32 and to the west onto the Clonshaugh Road. There is also the possibility of developing overhead lines through the open land to the north.

### **Proximity to Housing**

There are some houses along the eastern side of the Clonshaugh Road but these are all close to existing commercial enterprises.

### **Archaeology**

There are no recorded monuments on the site but the now demolished Belcamp House, which is encompassed by the IDA lands, was a listed 18<sup>th</sup> century building which was recently destroyed by fire.

### **Flooding History**

There is no history of flooding in the area ([www.floodmaps.ie](http://www.floodmaps.ie)) although the river Mayne runs through the site to the south.

## 4.5 Site No. 24



Figure 12. Site No. 24 – Aerial photography (Bingmaps.com)

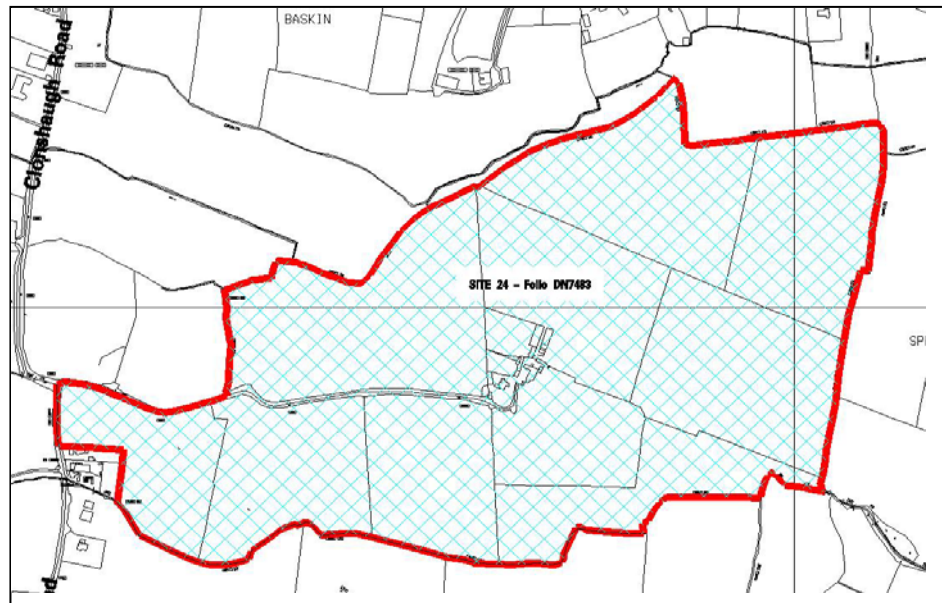


Figure 13. Site No. 24 - 1:1,000 Series Mapping OSI

#### Location

Middletown House is a 60 hectare farm. It is accessed from Clonshaugh Road where it has ca. 100m of road frontage. The existing estate entrance is located at a dangerous bend in the road.

#### Zoning

The farm lies within the greenbelt zone.

#### Topography

The farm is primarily flat grassland with some tillage. The Cuckoo Stream runs along southern boundary of the site.



**Road access**

Road access is from Clonshaugh Road along a narrow roadway up to the farmhouse. Any development within this site would require major alterations to this roadway or development of an alternative access route.

**Cable access**

There is the option of routing cables along Clonshaugh Road but there is not sufficient capacity available for the required amount of circuits. Another possibility is to use Baskin Lane as an additional cable corridor and bring cables cross country or along field boundaries, crossing other land holdings, to a site within the Middletown lands to supplement the cable access from Clonshaugh Road.

**Proximity to houses**

There are houses along Baskin Lane and at the Clonshaugh Road entrance to the site.

**Archaeology**

There is one known monument within the site, an enclosure (DU015-008) to the north.

**Flooding History**

There is no history of flooding in the area ([www.floodmaps.ie](http://www.floodmaps.ie)).

4.6 Site No. 32



Figure 14. Site No. 32 - Aerial photography (Bingmaps.com)

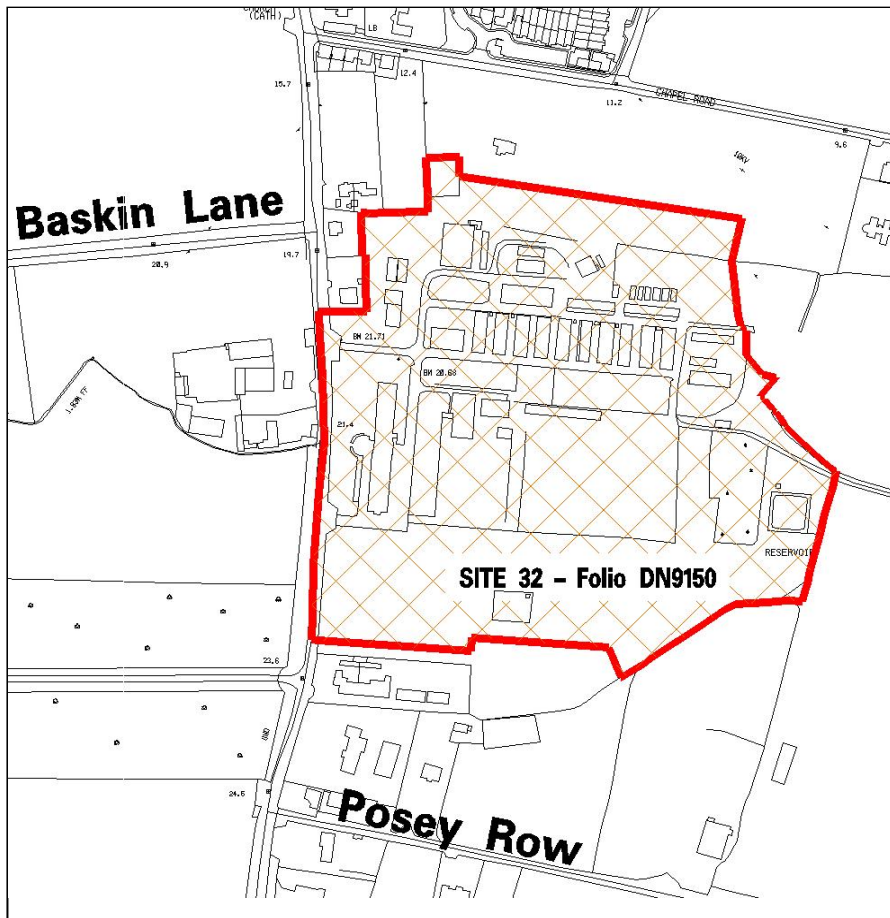


Figure 15. Site No. 32 - 1:1,000 Series Mapping OSI

**Location**

Site 32 is the Teagasc agricultural research facility in Kinsealy on the Malahide Road. The site is bounded to the south west by a national school. The proposed location for the station is to the rear of the facility on a site currently used as an irrigation pond.

**Zoning**

The site lies within the greenbelt zone.

**Topography**

Land is generally flat, rising slightly to the east. The current land use is mixed agricultural.

**Road access**

The station entrance road would be from the Malahide Road along the southern boundary of the Teagasc property from the Malahide Road.

**Cable access**

Cable easements to this site would be along the access road and would need to be supplemented with another easement south to Posey Row across other land holdings.

**Proximity to houses**

There are houses and farm buildings ca. 200m away from the proposed site. The national school building is ca. 200m away with the school's playing field ca. 100m from the proposed station site.

**Archaeology**

There are no monuments on the site however there is a national monument (DU015-002002, the ruins of a graveyard) ca. 280m away to the north.

**Flooding History**

There is no history of flooding on the site which is close to, but elevated from, a stretch of the Sluice River to the north which has flooded in the past.

4.7 Comparison of Appraised Sites

Site No.	Zoning	Topography	Road Access	Cable Access	Proximity to Houses	Archaeology on Site	Flood history / potential
5	GB	Flat	2	2	Yes	Yes	Yes
6	GB	Rises	1	2	Yes	No	No
13	GB & ST1	Flat	2	3	No	Yes	No
15	ST1	Flat	1	1	No	No	No
24	GB	Flat	3	3	No	Yes	Yes
32	GB	Flat	1	2	Yes	No	No

GB= Greenbelt ST1 =Science & Technology  
 1 = Good, 2 = Fair, 3 = Poor

Figure 16 The table above summarises the appraisals of each of the potential sites.

While it is technically possible to develop the planned station on all six sites, Site No. 15 is located in lands with the most suitable zoning for this form off industrial style development. It has good site topography, very good potential road & cable access and the site is isolated from housing. There are no known archaeological features or flooding recorded on this site.

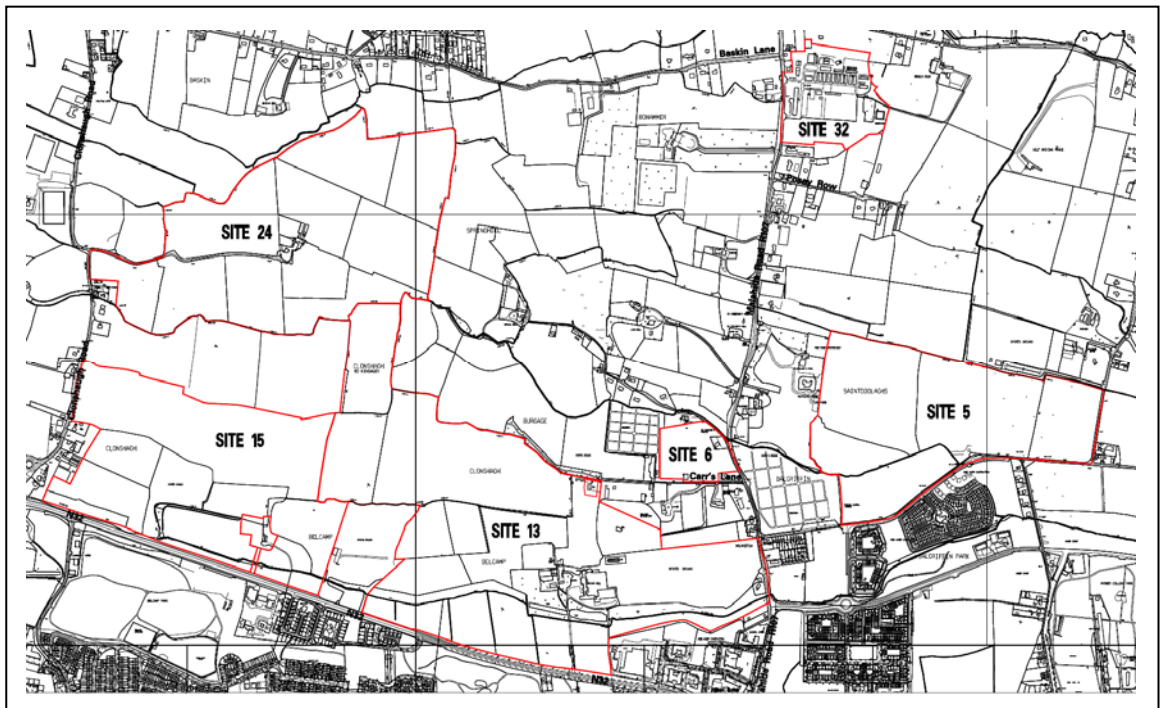


Figure 17. Map showing the six sites within the Study Area

## 5 POTENTIAL CABLE ACCESS ROUTES WITHIN THE STUDY AREA

The report "Potential Cable Access Routes within the Study Area" can be found at Appendix 5. (Report number PE424-F8006-R00-001-000)

### **Summary of Findings**

This cable access report assesses the suitability of each candidate station site in relation to possible underground cable access for future 220kV and 110kV circuits.

The availability of road networks within the study area is a critical constraint for the development of the proposed station. The four roads which bound the study area have varying degrees of capacity to carry the required underground cables.

A road utility study using ground penetrating radar along slit trenches in the carriageway of three of these roads (the N32 was not surveyed) found that there was capacity in each road to carry at least one double circuit 110kV trench.

Having analysed the results of the utility survey and identified possible route options available at present, all sites identified with access from the N32 or the Malahide Road are suitable for development as a 220kV station, with two sites selected as preferred options.

Site No.32, the Teagasc site, located to the east of the Malahide road is also a preferred location. This assumes that a suitable access road would be constructed from the Malahide Road to the station compound. The existence of Posey Row is also a distinct advantage to this potential station site location. A third party easement, up to 8m wide, would be required to access Posey Row from the potential station site.

Site No. 15, the IDA site, located to the north of the N32 with potential access onto the Clonshaugh Road, is the preferred location. This is assuming that a station access road is constructed from the N32 national road and that a cable easement is acquired to the west onto the Clonshaugh Road. This cable easement would be up to 8m wide, and most likely located along the northern boundary.

Overall, the preferred site identified in relation to both initial and ultimate development cable access requirements is Site No. 15. The cables required for the initial development phase, as outlined Section 1.3, can be accommodated within the existing road network while further cable requirements for the station will require potential development of new roads or agreed cable easements.

## 6 CONCLUSIONS AND CONSULTANT'S RECOMMENDATIONS

This report identified a number of potential sites for the proposed North Fringe 220kV station development.

Six candidate sites were selected from the project study area for appraisal (Section 3), which included environmental assessment and suitability for road and cable access.

On the basis that the most suitable site must have adequate cable access possibilities to service the immediate needs of the local network and have potential for expansion in the future, the report identifies Site No. 15 as the preferred location for the station.

This site is also located in lands with the most appropriate zoning in the study area for a development of this nature.

A portion of these lands was used for illegal dumping in the past. The affected area is now fenced off and being monitored for groundwater contamination. The overall site is large enough for the proposed development to be located a sufficient distance away from any impacted lands.

The identification of Site No. 15 as the preferred site at this stage in no way eliminates the other potential suitable sites, or indeed, any other identified sites, from further consideration at a later stage should such consideration be necessary or appropriate.

The Fingal East Meath Flood Risk Assessment and Management Study (FEM FRAMS) is a catchment-based flood risk assessment and management study conducted by Fingal county Council, Meath County Council and the Office of Public Works. Draft consultation mapping prepared for the FEM FRAMS study highlights areas of potential flood risk in the study area. These maps indicate that the majority of the IDA lands are in Zone C, which is appropriate for development of electricity sub-stations.

It is recommended that full site investigations, topographical surveys, environmental impact statement/environmental report and flood risk analysis be carried out as part of any detailed design of the proposed development.

## 7 APPENDICES

Due to the large amount of data within the appendices they are contained separately. These appendices can either be viewed or downloaded from the project website:

[www.eirgridprojects.com/projects/dublinnorthfringe](http://www.eirgridprojects.com/projects/dublinnorthfringe)

Or requested from the project manager at the address provided below:

Project Manager (Dublin North Fringe 220 kV Reinforcement) EirGrid Plc The Oval 160 Shelbourne Road Ballsbridge Dublin 4 Tel: +353 (0)1 702 6642
dublinnorthfringe@eirgrid.com

Any member of the general public is welcome to make submissions on the emerging preferred site location and can do so by writing to the Project Manager at the postal address and/or email address provided above.