

On behalf of

Vantage Data Centers DUB11 Limited

Date

November 2022

Project Number

1620014883

VANTAGE DATA CENTER DUB-13 ENVIRONMENTAL IMPACT ASSESSMENT REPORT NON-TECHNICAL SUMMARY

VANTAGE DATA CENTER DUB-13
NON-TECHNICAL SUMMARY

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1. INTRODUCTION

1.1 Purpose of Non-Technical Summary

This is the Non-Technical Summary (NTS) of the Environmental Impact Assessment Report (EIAR) which has been prepared by Ramboll UK Limited (Ramboll) and a team of technical specialists in accordance with the statutory procedures set out in the Planning and Development Act 2000 (as amended)¹ (the 'Act') and the Planning and Development Regulations 2001 (as amended)² (the 'Regulations').

The EIAR has been prepared to accompany a planning application for full planning permission (the 'application') made by Vantage Data Centers DUB11 Limited (the 'Applicant') to South Dublin County Council (SDCC) in respect of the proposed development for a data center building and associated development (the 'proposed development') on the Profile Park site, Kilcarbery (the 'site'), situated within the jurisdiction of SDCC.

This NTS presents a summary of the main findings of the environmental impact assessment (EIA) that has been undertaken of the proposed development and that has been reported in the EIAR. The NTS provides:

- a description of the site and surrounding context;
- an outline of the reasonable development alternatives considered by the Applicant and an indication of the main reasons for their choice, taking into account the potential environmental impacts;
- a description of the proposed development; and
- a summary of the likely significant environmental effects predicted and key mitigation measures (as relevant).

The aim of the NTS is to summarise the main findings of the EIAR in a clear and concise manner to assist the public in understanding what the significant environmental effects of the proposed development are likely to be. Reference can be made to the full EIAR if further detail is required.

1.2 Viewing of EIAR and Application

The full EIAR comprises the following:

- Non-Technical Summary (this document);
- Volume 1: Main Environmental Impact Assessment Report;
- Volume 2: Landscape, Visual and Cultural Heritage Impact Assessment; and
- Volume 3: Technical Appendices.

The full EIAR, together with the application and other supporting documents are available for viewing on the SDCC website:

<https://www.sdcc.ie/en/services/planning/planning-applications/search-and-view/>

CD versions of the full EIAR are available for purchase from Ramboll at:

240 Blackfriars Road

London

SE1 8NW

¹ Government of Ireland, 2000. Planning and Development Act 2000 (as amended). ISB. S.I. No. 30/2000.

² Government of Ireland, 2001-2022. Planning and Development Regulations 2001 (as amended). S.I. No. 600 of 2001. ISB.

Tel: 0207 808 1499

1.3 Commenting on Application

Comments on the application should be forwarded to SDCC at:

South Dublin County Council

County Hall Tallaght,

Dublin 24,

D24 A3XC

Email: planningsubmissions@sdublincoco.ie

2. EXISTING SITE AND SURROUNDING CONTEXT

2.1 Site Location

The site is located at Irish grid reference O 03911 30784, within Profile Park, as presented in Figure 2-1.

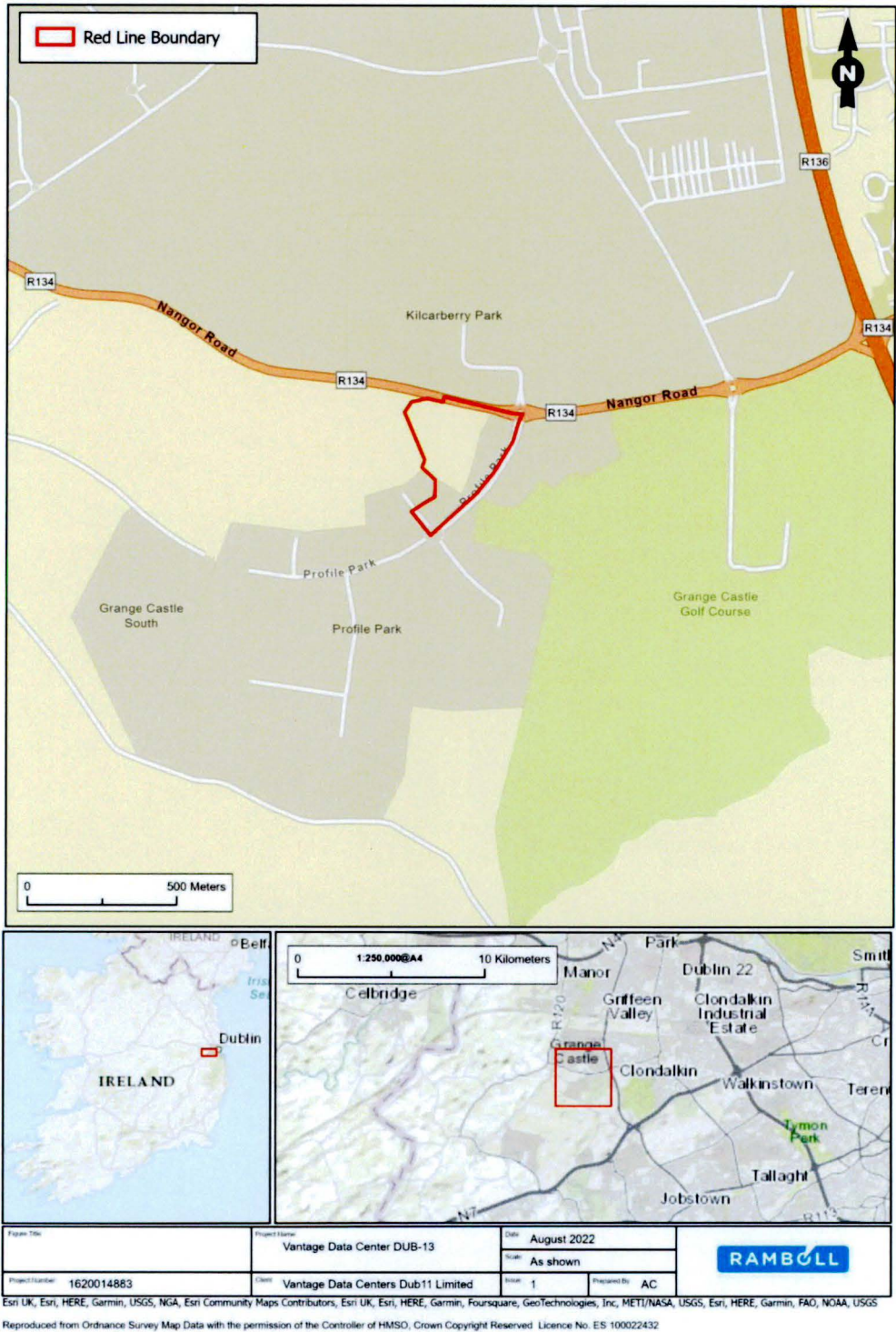


Figure 2-1: Site Location Plan

2.2 Site Description

The site boundaries are defined by:

- New Nangor Road (R134) to the north;
- Falcon Avenue, an Equinix data center development site [planning reference SD22A/0156] and Grange Castle Golf Club to the east;
- Falcon Avenue to the south; and
- The permitted Vantage data center development [planning reference SD21A/0241] to the west, currently agricultural fields.

The site covers an area of 3.79 hectares (ha).

The site is a roughly triangular parcel of agricultural land, with a residential dwelling located in the north-west corner of the site, and an area of hardstanding within the south-west of the site. The Baldonnell Stream runs adjacent to the sites southern boundary and enters the southern section of the site, orientated in a north-west to south-east direction, flowing towards the east.

Representative photographs of the site are shown in Figure 2-2.



Figure 2-2: Site Photographs (left upper image looking north-west across the site, left lower image looking south-west across the site, right upper image looking north-east across the site, and right lower image looking south-east at the residential dwelling on site)

2.3 Environmental Considerations

2.3.1 Water Resources

The nearest surface water feature is the Baldonnell stream, located adjacent to the sites western boundary which enters into the southern section of the site. The Grand Canal is located approximately 2 km directly north of the site and is classified as a proposed Natural Heritage Area (NHA).

2.3.2 Ecology

There are no ecologically protected sites (such as Special Protection Areas (SPA), Special Areas of Conservation (SAC), National Parks or Nature Reserves) located within 1 km of the site.

2.3.3 Below and Above Ground Heritage

There are no structures included in the statutory Register of Protected Structures or assets on the Record of Monuments and Places or the Register of Historic Monuments within the site. The closest statutory designated heritage asset is Grange Castle (RPS, RM) located 1 km to the north.

2.3.4 Landscape Character

The surrounding landscape context is predominantly industrial to the north and west, agricultural to the south, with commercial and residential properties to the east and the Grange Castle Golf Club to the south-east.

2.3.5 Transport and Accessibility

The site benefits from good road network structure within Profile Park connecting to the local road network. The site is directly bordered to the north by New Nangor Road (R134) and to the east and south by Falcon Avenue.

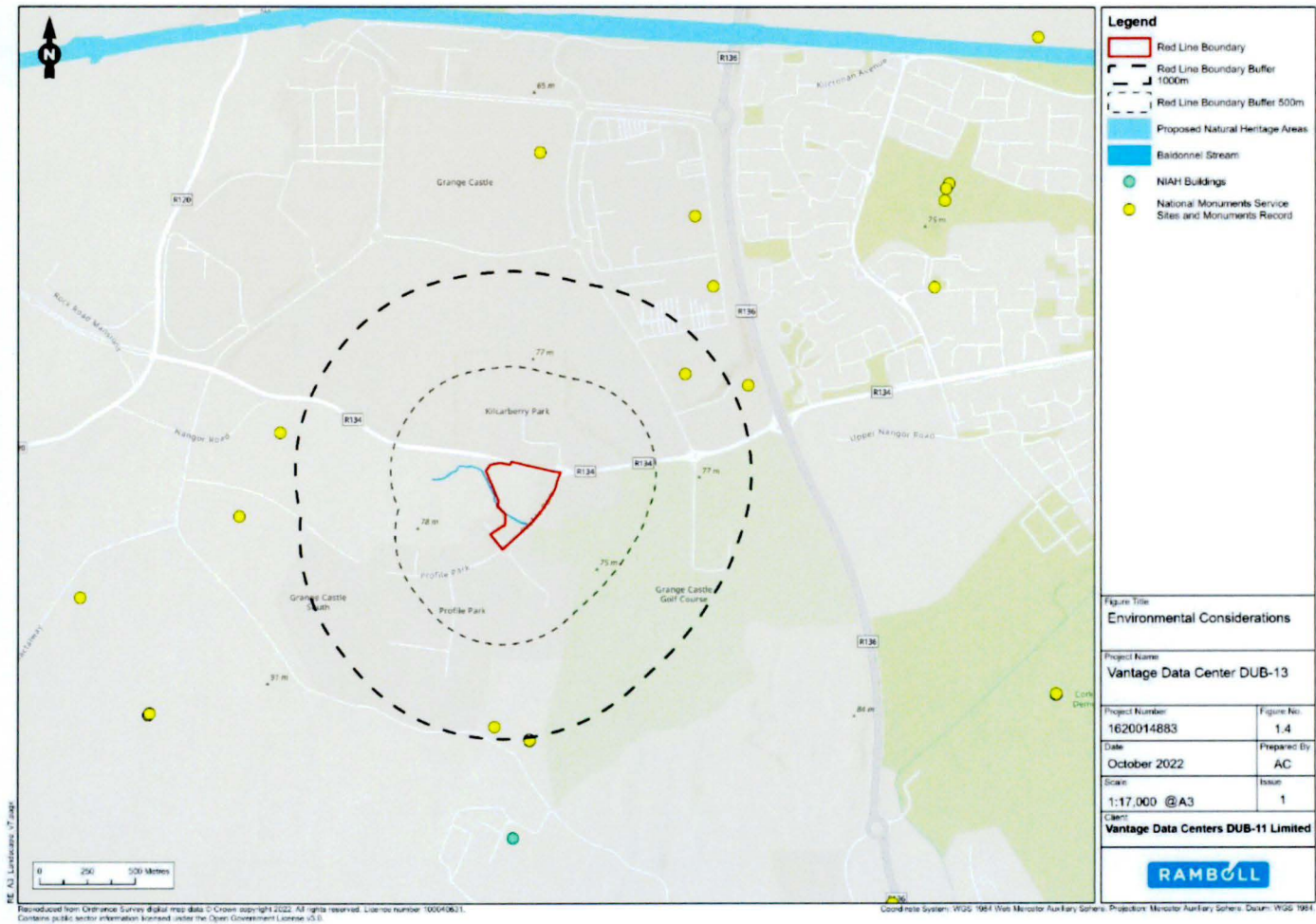


Figure 2-3: Surrounding Environmental Considerations

3. PLANNING CONSIDERATIONS

3.1 Policy Context and Designations

In respect of the EIA Regulations, the proposed development is not listed under Annex I of the EIA Directive³⁴ and is below the 15 ha threshold under Part 2, Schedule 5 of the Regulations. However, the scale and nature of the proposed development provides the potential for significant effects on the environment and an EIA has been undertaken on this basis.

For the application, it is necessary to consider the proposed development against relevant policies and guidance at a national, regional, and local levels. At the national level, planning policy and guidance is contained within the following; National Planning Framework (NPF)⁵; National Development Plan (NDP)⁶; Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy⁷; National Climate Action Plan⁸.

At the regional level planning policy comprises the:

- Regional Spatial and Economic Strategy for the Eastern and Midlands Regional Assembly (2019)⁹.

The local planning policy for the site comprises the:

- South Dublin County Council Corporate Plan 2020-2024¹⁰
- South Dublin County Council Development Plan 2022-2028¹¹.

Under the South Dublin County Council Development Plan the site is classified under Objective EE: to provide for enterprise and employment related uses.

In addition, a range of regional supplementary guidance documents are relevant to the determination of the application and have been considered in undertaking the EIA.

3.2 Planning History

There are no relevant historical planning applications at the site in the last five years. The Applicant submitted a full planning application (planning reference SD21A/0241) in March 2022 for the "construction of 2 no. two storey data centers with plant at roof level of each facility and associated ancillary development that will have a gross floor area of 40,589 sqm" on land adjacent to the site's western boundary. The application was granted permission on 19 July 2022 (hereafter referred to as the 'July 2022 DUB-1 permitted development'). The proposed DUB-13 development

³ European Union, 2011. Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment Text with EEA relevance Official Journal of the European Union. Document 32011L0092.

⁴ European Union, 2014. Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment Text with EEA relevance. Official Journal of the European Union. Document 32014L0052.

⁵ Government of Ireland, 2018. National Planning Framework (NPF) – Ireland 2040 Our Plan (February 2018) [online]. Available at: <https://npf.ie/wp-content/uploads/Project-Ireland-2040-NPF.pdf> [Accessed on 23/08/2022].

⁶ Government of Ireland, 2021. National Development Plan 2021-2030 (last updated 4 October 2021) [online]. Available at: <https://www.gov.ie/en/publication/774e2-national-development-plan-2021-2030/> [Accessed on 23/08/2022].

⁷ Government of Ireland, 2022. Government Statement of the Role of Data Centres in Ireland's Enterprise Strategy [online]. Available at: <https://enterprise.gov.ie/en/publications/publication-files/government-statement-on-the-role-of-data-centres-in-irelands-enterprise-strategy.pdf> [Accessed 23/08/2022].

⁸ Government of Ireland, 2021. Climate Action Plan. Department of the Environment, Climate and Communications (last updated 2 June 2022) [online]. Available at: <https://www.gov.ie/en/publication/6223e-climate-action-plan-2021/> [Accessed 23/08/2022].

⁹ Eastern & Midland Regional Assembly, 2019. Regional Spatial & Economic Strategy 2019-2031 [online]. Available at: https://emra.ie/dubh/wp-content/uploads/2020/05/EMRA_RSES_1.4.5web.pdf [Accessed on 23/08/2022]

¹⁰ SDCC, 2019. South Dublin County Council Corporate Development Plan 2020-2024, [online]. Available at: [corporate-plan-2020-24.pdf \(sdcc.ie\)](https://www.sdcc.ie/en/devplan2022/adopted-plan/corporate-plan-2020-24.pdf) [Accessed on 23/08/2022]

¹¹ SDCC, 2022. South Dublin County Council Development Plan 2022-2028 [online]. Available at: <https://www.sdcc.ie/en/devplan2022/adopted-plan/country-development-plan-written-statement/country-development-plan-written-statement.pdf> [Accessed on 23/08/2022].

is an extension to the July 2022 DUB-1 permitted development and would be operated as part of the wider co-ordinated data center campus.

4. ENVIRONMENTAL IMPACT ASSESSMENT

4.1 EIA Process and Methodology

EIA is a process that identifies the likely significant environmental effects (both positive and negative) of a proposed development. The process aims to prevent and, where prevention is not possible, to reduce and/or mitigate any significant negative environmental effects, where these are identified, and to enhance any positive effects. It is an iterative process which proactively seeks to integrate mitigation within the development proposals so as to avoid significant effects from arising.

The EIA process adopted for the proposed development has followed best practice guidelines, as set out by the Institute of Environmental Management and Assessment (IEMA) Quality Mark scheme. The process involved the following key steps:

- Consultation with key stakeholders such as SDCC, on the issues to be considered within the EIA;
- Collection, use and assessment of the baseline information and likely evolution of that baseline without the proposed development or in the future;
- Interpretation of the proposed development planning drawings and schedules, as well as the formulation of assumptions in the absence of information, as the basis for the individual technical assessments;
- Use of relevant guidance and good practice methods to predict the likely nature, scale, and significance of any environmental change; and
- Reporting of the results of the EIA process in the EIAR in a transparent way, to provide the information required to inform the decision-making process.

4.2 EIA Scoping

The Applicant has not produced a formal EIA Scoping Opinion Request Report, rather a more informal discussion was held with SDCC at a pre-application meeting on 21 September 2022. SDCC, the Applicant and Ramboll all attended this pre-application meeting. The purpose of this meeting was to discuss the nature of the proposed development, the scope of the planning application and EIA and the proposed approach that would be adopted for the EIAR.

4.3 Topics Included in EIA

The following topics were scoped into the EIA as technical assessment chapters:

- Population and Human Health;
- Transport and Accessibility;
- Air Quality;
- Noise and Vibration;
- Water Resource and Flood Risk;
- Ecology;
- Ground Conditions;
- Climate Change;
- Waste;
- Material Assets;
- Landscape and Visual Impact Assessment; and
- Culture Heritage.

4.4 Topics Excluded from the EIA

The following topics were scoped out of the EIA as technical assessment chapters:

- Daylight, Sunlight and Overshadowing;
- Wind Microclimate; and
- Major Accidents and Disasters.

4.5 Assessment Approach

The EIAR provides assessments of potential significant environmental effects during demolition and construction and once the proposed development is in operation. Each technical assessment considers different types of effects including direct, indirect, reversible, irreversible, and cumulative; momentary, brief, temporary short-term, medium-term, along-term and permanent; positive, neutral, and negative effects.

Each of the above scoped-in environmental topics have been addressed in a separate technical assessment chapter in EIAR Volumes 1 and 2. In each chapter, a description of the assessment methodology is given together with the existing and 'future baseline'. The existing baseline represents the existing environmental conditions of the site and the surrounding study areas at the time of the assessments. When completed, the proposed development would operate as an extension to the July 2022 DUB-1 permitted development campus and would utilise the wider campus for power provision. The future baseline is therefore a projection of likely environmental conditions in the future with the July 2022 DUB-1 permitted development constructed and operational.

This is followed by an assessment of the likely effects of the proposed development taking into account mitigation measures that are embedded in the development proposals; the consideration of the need for additional mitigation or any recommendations for enhancement measures to reduce or offset any significant negative effects identified during the assessment; and a concluding assessment on the residual effects that would remain after these measures have been implemented.

The technical assessment chapters report upon the likely scale as defined in EPA Guidelines¹² (Imperceptible, Not-Significant, Slight, Moderate, Significant, Very Significant and Profound), nature (positive, neutral, and negative) and significance in terms of EIA (significant and not significant) of environmental effects. For the purposes of the NTS, effects ranging from imperceptible to not-significant are considered to be low, effects ranging from slight to moderate are considered to be medium, effects ranging from significant to very significant are considered to be high and effects classified as profound are considered to be very high.

Consideration is also given to the cumulative effects of the proposed development. The following two types of cumulative effects have been assessed:

- Intra-Project effects are different types of impacts from the proposed development that could interact to jointly affect a particular receptor or receptor group at the site. Potential impact interactions could include the combined effects of noise and dust during demolition and construction activities on a particular sensitive receptor; and
- Inter-Project effects which are combined, or additive effects generated from the proposed development together with other 'approved or existing projects' ('cumulative developments') as defined by the Planning and Development Regulations 2001 (as amended)¹³. These

¹² Environmental Protection Agency, 2022. Draft Guidelines on the information to be contained in Environmental Impact Assessment Report.

¹³ Government of Ireland, 2001-2022. Planning and Development Regulations 2001 (as amended). S.I. No. 600 of 2001. ISB.

cumulative schemes may generate their own individually insignificant effects but when considered together could amount to a significant cumulative effect, for example, combined transport and accessibility impacts from two or more schemes.

The proposed list of cumulative schemes is provided in EIAR Volume 1, Chapter 2: EIA Process and Methodology.

A list of 12 cumulative schemes were identified for assessment during this process. The locations of these cumulative schemes are presented in Figure 4-1.

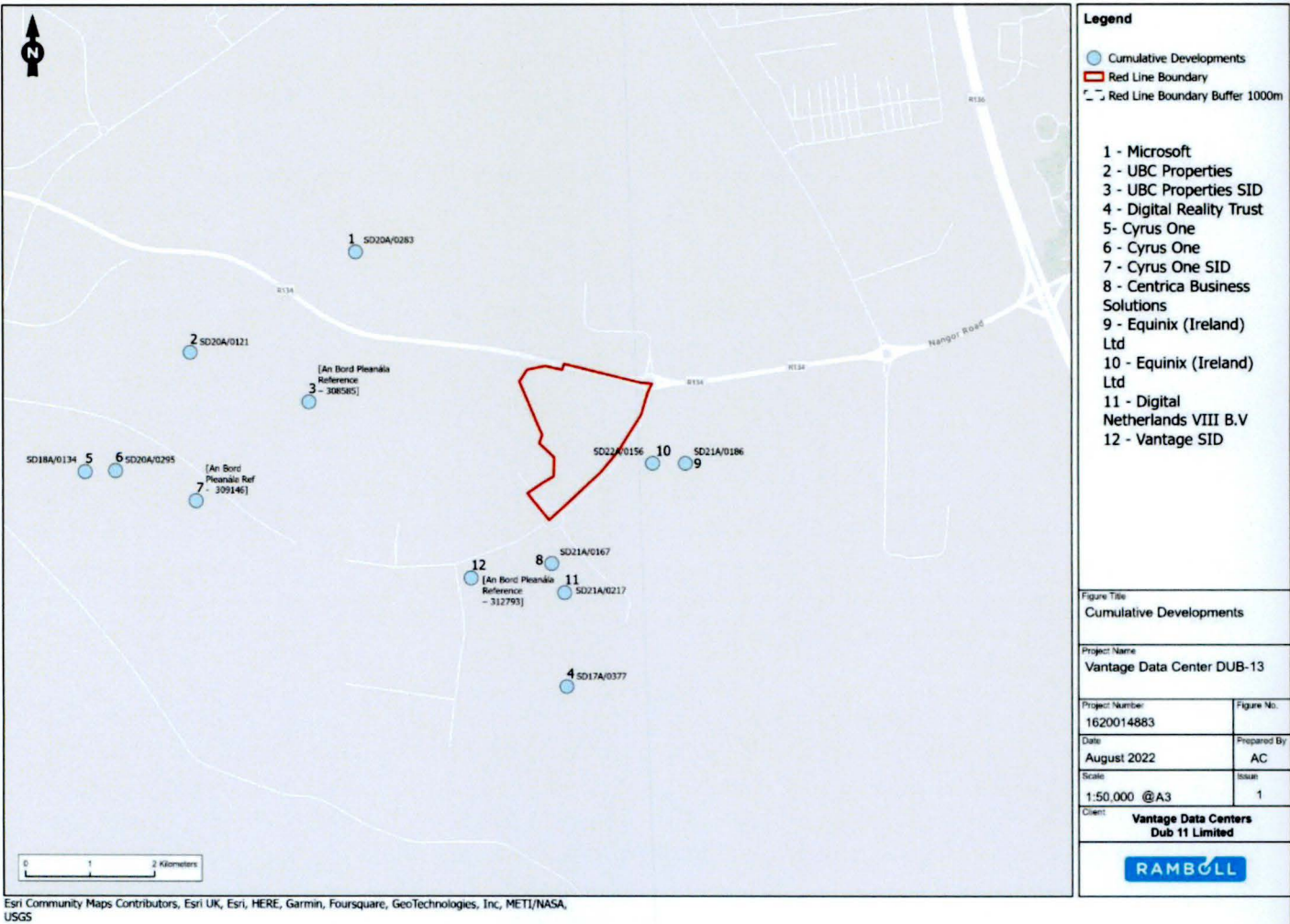


Figure 4-1: Location of Cumulative Developments

5. DESIGN EVOLUTION AND ALTERNATIVES

European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018^{14,15} requires that information provided by the developer in an EIAR shall include a description of the reasonable alternatives (for example in terms of development design, location, size and scale) studied by the Applicant¹⁶, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of environmental effects.

The design evolution has been informed by the Applicant's development objectives, policy considerations, site design considerations and environmental considerations.

The EIAR considers the following alternatives:

- The 'Do-Nothing' alternative;
- Alternative locations and uses; and
- Alternative design/layouts of the proposed development.

5.1 'Do Nothing' Scenario

The 'Do Nothing' scenario is a hypothetical alternative conventionally considered in EIA as a basis for comparing the development proposal under consideration. The 'Do Nothing' scenario, in the sense that the site is left in its current state, is not considered to be a viable or reasonable alternative and is therefore not a realistic scenario when considering the following:

- The site consists of largely unused agricultural land and the site needs to be re-purposed;
- The site is located within Profile Park, on current agricultural land, which is designated in the SDCC Development Plan 2022-2028: Objective EE to provide for enterprise and employment uses. This gives the encouragement for development which seeks to provide alternative uses to those that have recently occupied the site. Furthermore, the provision of the proposed data center would support RPO 8.25 to promote Ireland as a sustainable international destination for ICT infrastructures (such as data centres);
- The Applicant owns the site and the adjacent site for which planning permission was secured in July 2022 for the development of two data centers i.e., the July 2022 DUB-1 permitted development;
- The proposed development, consisting of one data center building, would sit within a cluster of data centres within Profile Park;
- The Profile Park area has excellent fibre connectivity; and
- The 'Do-Nothing' alternative does not meet any of the developers objectives for the site.

In the event that the proposed development at the site, or any other development, did not come forward, a number of negative effects and lost opportunities would result:

- Loss of opportunity for further economic and employment growth;
- Loss of opportunity to maximise the productive use of the site;
- Loss of national and international data storage capacity and IT infrastructure;

¹⁴ Government of Ireland, 2018. European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018. S.I. No. 296/2018. ISB.

¹⁵ Later amended to: Government of Ireland, 2018. European Union (Planning and Development) (Environmental Impact Assessment) (Amendment) Regulations 2018. S.I. No. 646/2018. ISB.

¹⁶ See Article 5(1)(d) of Directive. See Schedule 6(1)(d) to the Regulations.

- Loss of opportunity to further establish Profile Park and the surrounding area as a data center hub; and
- Loss of opportunity to improve on-site biodiversity.

5.2 Alternative Sites

No alternative sites were considered for the following reasons:

- The site is owned by the Applicant and therefore the Applicant did not consider alternative sites which are the property of a third-party;
- The site is adjacent to the July 2022 DUB-1 permitted development site which is under the Applicants ownership and provides an opportunity for an extended and co-ordinated data center campus;
- The site is located within an area identified in SDCC's Development Plan 2022-2028 as an area for enterprise and employment uses (as previously stated);
- The site would provide a key development opportunity to contribute to the regeneration of an underutilised site and with the land use identified in ROP 8.25 (as previously stated);
- The site sits within a wider area dominated by data centers which has good network provision and fibre suppliers, that suit the needs of the site and is thus an ideal location for the proposed development to be situated;
- Alternative sites in the Dublin area may lack adequate power provision and alternative sites in the west of Ireland may lack fibre connectivity;
- A new EirGrid substation is to be constructed (subject to a SID application to ABP, as outlined above) located to the immediate south of the site;
- Under the July 2022 DUB-1 permitted development, the Applicant will provide on-site power generation to provide support and capacity to ensure that the development would reinforce the grid and not lead to supply disruption in the surrounding area at peak demand;
- Existing trees along the north and east boundaries creates a natural visual screen;
- There is no evidence of site contamination; and
- The level terrain is suitable for large floorplate buildings.

5.3 Alternative Land Uses

The proposed land use has been informed by prevailing local and regional policy (as previously stated). Accordingly, no other land uses were considered outside of the proposed development.

5.4 Alternative Site, Height, and Massing Layouts

Through the design and development process a series of concept options were explored. These sought to define the most appropriate design response for the site. The alternative layouts, designs and design evolution of the proposed development is presented in Table 5-1.

Table 5-1 Alternative Layouts, Design Evolution and Environmental Considerations of the Proposed Development

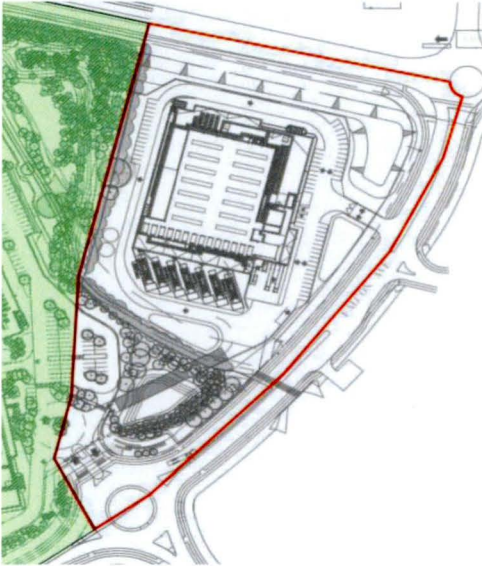
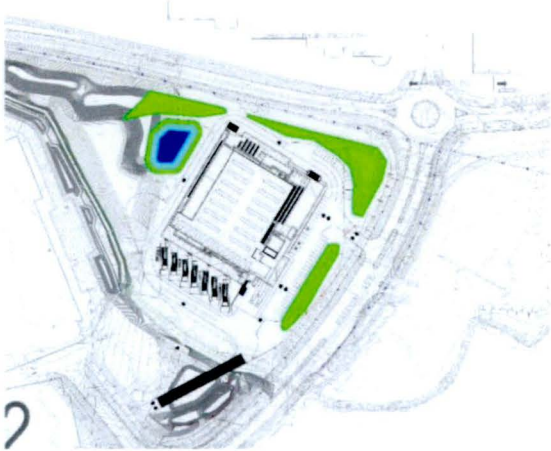
Concept Option	Concept Layout and Environmental Considerations
1 – Early-Stage Design	<div></div> <p>In the early stages of design and appraisal, the proposed development was orientated parallel to New Nangor Road with offices facing north.</p> <p>This option limits space for natural solutions, SuDS, and green infrastructure to increase stormwater attenuation and reduce flood risk. The drainage strategy would have encroached onto the Baldonnel Stream riparian strip.</p> <p>From a transport perspective an existing access point to the proposed development is located to the south of New Nangor roundabout, along the eastern boundary. A second access point was added to the south of the proposed development in the form of a road crossing over the Baldonnel Stream.</p>
2 – Shift in Orientation	<div><p>A change in the size and shape of the data center building, and a shift in orientation.</p></div> <p>Landscape and Visual</p> <p>The clockwise shift in the building allows the more “aesthetically pleasing” face of the proposed development to be seen from New Nangor Road. This</p>

Table 5-1 Alternative Layouts, Design Evolution and Environmental Considerations of the Proposed Development

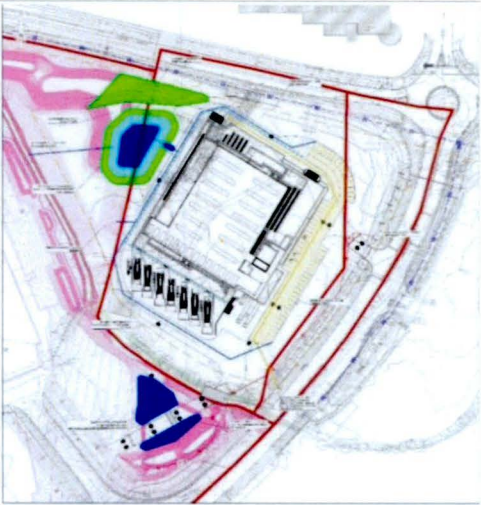
	<p>alignment reduced the visual impact along the northern frontage, particularly the view from New Nangor Road roundabout.</p> <p>Berms and landscaping, consistent with the that implemented for the July 2022 DUB-1 consented development, were implemented along the northern and eastern boundaries to provide screening of the proposed development from New Nangor Road and Falcon Avenue, respectively.</p> <p>SuDS and Ecology</p> <p>This orientational shift resulted in the proposed development building footprint avoiding the riparian strip which runs adjacent to the site’s western boundary and enters the southern section of the site. An attenuation pond was proposed in the north western corner of the site.</p> <p>Berms and landscaping creation along the northern and eastern boundaries would act as a green infrastructure corridor linking new habitats and would act as an extension to the existing habitat created through the July 2022 DUB-1 consented development.</p> <p>Transport and Access</p> <p>The access strategy was refined to allow service and maintenance vehicles to cross between the July 2022 DUB-1 consented development and the proposed development. The aim of the second access was to increase health and safety through segregating service vehicles from the main site entrance proposed east off Falcon Avenue, used for cars, pedestrians, and cyclists.</p> <p>Despite improvements across the environmental factors above, this option was not taken forward because attenuation volume for the site could be improved.</p>
3 – Attenuation Provision	<div data-bbox="616 1314 1091 1816">The diagram is a site plan showing a proposed development. A large, rectangular building footprint is centrally located. To its north-west, there is a green-shaded area containing a blue pond. To the south of the building, there is another blue pond. The site is bordered by roads, with a red line indicating a boundary or access point. The plan also shows various internal roads and parking areas.</div> <p>SuDS and Ecology</p> <p>This option incorporates a second attenuation pond to the south of the proposed development to accommodate the required attenuation volume of the site. However, this option does not include landscaping and biodiversity</p>

Table 5-1 Alternative Layouts, Design Evolution and Environmental Considerations of the Proposed Development

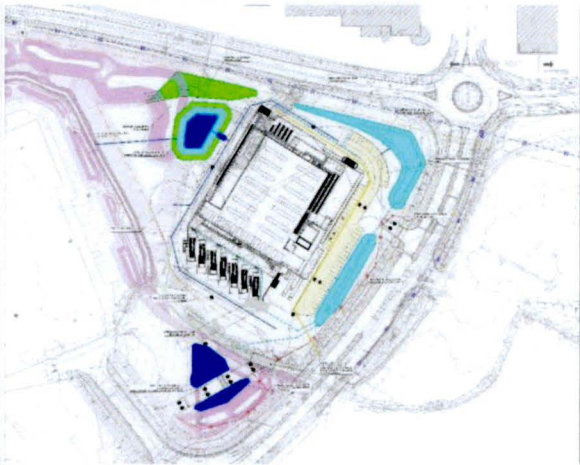

	improvements along the northern and eastern boundaries, which would have been detrimental to visual impacts.
4 – Wetland Provision to the North and East	<div></div> <p>SuDS and Ecology</p> <p>This option incorporates wetland/attenuation areas in the north and along the eastern frontages of the site. Although a benefit from a flood risk reduction and stormwater attenuation perspective, this limits space for further landscaping and biodiversity improvements which would have been detrimental to visual impacts.</p> <p>An attenuation outfall from wetland would connect to the attenuation pond in the south.</p>
5 – The Proposed Development	<div></div> <p>This is the preferred outcome and best-balanced key environmental considerations including landscaping biodiversity, and surface water attenuation. The preferred development:</p> <ul style="list-style-type: none">• Incorporates high quality architectural material palette along the dominant facades visible along New Nangor Road and Falcon Avenue;

Table 5-1 Alternative Layouts, Design Evolution and Environmental Considerations of the Proposed Development

	<ul style="list-style-type: none">• Avoids the riparian strip and will result in a significant improvement to landscaping and biodiversity;• Retains existing trees along the site boundary;• Additional planting of berm and large trees along the northern and eastern frontages to provide further visual screening;• Planting hedgerow is proposed to act as a biodiversity corridor linking habitats and creating ecological connectivity between the July 2022 DUB-1 consented development and the proposed development;• Attenuation of surface water is provided through the two attenuation ponds and a permeable paving sub-base; and• Wetland meadows in the north west corner of the site are integrated with the landscape strategy for the July 2022 DUB-1 permitted development, providing biodiversity benefits.
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6. PROPOSED DEVELOPMENT

6.1 Proposed Development Description

The Applicant is seeking full planning permission for the following:

"We, Vantage Data Centers DUB11 Ltd. are applying for permission for development at this site that includes a two storey residential property on lands to the south of the New Nangor Road (R134), Dublin 22; and on land within the townlands of Ballybane and Kilbride within Profile Park, Clondalkin, Dublin 22 on an overall site of 3.79hectares. The development will consist of the demolition of the two storey dwelling (207.35sqm) and associated outbuildings and farm structures (348.36sqm); and the construction of 1 no. two storey data center with plant at roof level and associated ancillary development that will have a gross floor area of 12,893sqm that will consist of the following:

- 1 no. two storey data center (Building 13) with a gross floor area of 12,893sqm. It will include 13 no. emergency back-up generators of which 12 will be double stacked and one will be single stacked within a compound to the south-western side of the data center with associated flues that each will be 22.316m in height and 7 no. hot-air exhaust cooling vents that each will be 20.016m in height;*
- The data center will include data storage rooms, associated electrical and mechanical plant rooms, loading bays, maintenance and storage spaces, office administration areas, and plant including PV panels at roof level as well as a separate house generator that will provide emergency power to the admin and ancillary spaces. Each generator will include a diesel tank and there will be a refuelling area to serve the proposed emergency generators;*
- The data center will have a primary parapet height of 14.246m above ground level, with plant and screen around plus a plant room above at roof level. The plant room has an overall height of 21.571m;*
- Construction of an internal road network and circulation areas, with a staff entrance off Falcon Avenue to the east, as well as a secondary vehicular access for service and delivery vehicles only across a new bridge over the Baldonnel Stream from the permitted entrance as granted under SDCC Planning Ref. SD21A/0241 from the south-west, both from within Profile Park that contains an access from the New Nangor Road (R134);*
- Provision of 60 no. car parking spaces (to include 12 EV spaces and 3 disabled spaces), and 34 no. cycle parking spaces;*
- Signage (5.7sqm) at first floor level at the northern end of the eastern elevation of the data center building; and*
- Ancillary site development works will include footpaths, attenuation ponds that will include an amendment to the permitted attenuation pond as granted to the north of the Baldonnel Stream under SDCC Planning Ref. SD21A/0241, as well as green walls and green roof. The installation and connection to the underground foul and storm water drainage network, and installation of utility ducts and cables, that will include the drilling and laying of ducts and cables under the internal road network within Profile Park. Other ancillary site development works will include hard and soft landscaping that will include an amendment to the permitted landscaping as granted under SDCC Planning Ref. SD21A/0241, lighting, fencing, signage, services road, entrance gates, and sprinkler tanks.*

An Environmental Impact Assessment Report (EIAR) has been submitted with this application. This application and EIAR may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy, at the offices of South Dublin County Council during its public opening hours of 9am – 4pm, Mon-Fri, and a submission or observation may be made to South Dublin County Council in writing and on payment of the prescribed fee (€20.00) within the period of 5 weeks beginning on the date of receipt by South Dublin County Council of the application."

In summary, the proposed development would comprise the following:

- Demolition of the existing double-story dwelling;
- Erection of the proposed development along with associated emergency generators and flues with a gross floor area of approximately 12,893 m²; and
- Provision of 60 car parking spaces (including 12 EV spaces and three disabled spaces) and 34 bicycle parking spaces.

6.2 Site Arrangement

The site masterplan, detailing the site layout, is presented in Figure 6.1. The proposed development would be constructed broadly orientated in the center of the site. The proposed development would be screened by proposed extensive berms, planting, and landscaping to the north and east, to reduce the visual bulk of the data center from New Nangor Road and Falcon Avenue.

The proposed development would be oriented to allow the alignment of the Baldonnel Stream, located within the southern portion of the site, to remain as existing whilst also including measures to enhance the ecological value of the Baldonnel Stream. A box culvert would be installed at the proposed road crossing within the site.

The proposed development would comprise a two-storey data center of 12,893 m² and would include:

- Data storage rooms;
- Associated electrical and mechanical plant rooms;
- Loading bay;
- Maintenance and storage space;
- Office administration areas;
- Plant at roof level;
- Sedum green roofs;
- 13 double stacked standby generators with integral fuel tanks for emergency power to the data halls, admin, and ancillary spaces, and with associated flues, each 22.3 m in height (95.95 m AOD), located to the south of the building;
- A house generator with integral fuel tanks that would provide emergency power to the admin and ancillary spaces; and
- A fuelling area to serve the proposed emergency generators.

New pedestrian and vehicle routes would be provided within the site. The proposed development would include the construction of an internal road network and circulation areas, dedicated pedestrian footpaths, provision of 60 car parking spaces (12 of which would be dedicated to electric vehicle (EV) charging, however all parking spaces would be ducted for future EV charging provision, and three for disabled users) and 34 bicycle parking spaces in double-stacked covered racks.

The two main entrances for the site would be from Falcon Avenue. One access/egress point would be from Falcon Avenue on the eastern border, for staff, pedestrians, and cyclists. Heavy Good Vehicles (HGVs), maintenance vehicles and delivery vehicles would access the site via the roundabout on Falcon Avenue, through the July 2022 DUB-1 permitted development, and cross over the Baldonnel Stream via a road crossing above a culvert. A box culvert would be installed at the proposed road crossing within the site. Entry gates would be separated to provide safe

division from pedestrian, cycle, and car access from large HGVs and construction traffic during the phased development and ongoing maintenance of the data centers.

6.3 Land Use Distribution

The summary area schedule and the built footprint of the proposed development is presented in Table 6-1 and 6-2, respectively.

Table 6-1 Proposed Development Area Schedule	
Use	Gross Floor Area (GFA) m ²
Data Center	5,266
Office Space	603
Circulation	1,314
Loading Dock	221
Other	5,489
Total	12,893



Figure 6-1: Masterplan (Source Burns & McDonnell)

6.4 Built Form, Height, and Massing

The scale and massing of the proposed development seeks to respond to its surrounding context, in particular existing surrounding data centers, agricultural land, the Baldonnell Stream, all whilst maximising the sites potential for data center usage and employment generation.

The topography of the site is relatively flat, with a general shallow fall from north-east to south-west. The topography ranges from approximately 75 m AOD in the north-east to approximately 73 m AOD in the south-west.

The maximum overall height of the proposed development, excluding the flues and plant at roof level is 15.70 m above finished floor level (FFL). Flues which are grouped in stacks of three flues would be 22.3 m in height (95.95 m AOD) from ground level associated with the data center emergency generators.

The proposed development’s building heights are summarised in Table 6-3.

Table 6-3 Maximum Plot Heights		
Proposed Development Component	Height Above Ground Level (m)	Maximum Height (m AOD)
DUB13 Parapet/Stair Tower	14.23/21.55	95.40
Genset Flues	22.30	95.95

6.5 Material Palette and Façade Detailing

For the proposed development, different options have been selected in respect of materiality, architectural style and detailing, to be implemented through design codes.

The proposed development would predominately comprise sandwich panels in white, light grey and dark grey, consistent with the July 2022 DUB-1 permitted development and other surrounding data centers. The approach to materials is to use good quality materials in a restrained way with a limited palette of colours and finishes.

6.6 Public Realm and Open Space

The landscape strategy would integrate the new built development with the existing landscape and create a network of habitats within an ecologically rich landscape. As this site is not accessible to the public, landscaping would focus on creating areas for biodiversity to thrive and would not provide any public realm or open space.

6.7 Landscape and Biodiversity Enhancement

The key considerations of the landscape masterplan are to provide sufficient measures to protect and enhance the existing landscape and stream corridor. 58 trees are to be retained as part of the proposed development which are predominately located around the perimeter of the site. The design has sought to protect existing trees as far as reasonably possible and substantial new planting of berm and woodland would be provided in the landscaping scheme, with 849 new trees proposed to be planted and 4,449 transplanted as saplings.

The landscape masterplan and green infrastructure proposals would provide areas of soft landscaping and enhanced biodiversity through the site. There would be significant habitat creation through the planting of woodland, hedgerows, wildflower meadow and wetland meadows which would support local flora and fauna, increasing local biodiversity, as well as connect to the existing vegetation around the site, enhancing green infrastructure links.

Two attenuation ponds are proposed, one to the west and the other to the south of the data center. The attenuation pond to the west would incorporate a native wetland edge and would be

surrounded by a wetland meadow to provide an ecologically rich and diverse habitat. Green sedum roofs are proposed on the southern section of the data center building, and although not primarily for biodiversity enhancement, are expected to offer some biodiversity value.

6.8 Access Arrangements

The proposed development would be accessed via two entry points on Falcon Avenue. HGVs, maintenance vehicles and delivery vehicles would access the site via the roundabout on Falcon Avenue, south of the proposed development through the July 2022 DUB-1 permitted development. HGV, maintenance vehicles and delivery vehicles would cross over an attenuation pond and stream via a road crossing to access the southern portion of the site.

Cars would access the site via Falcon Avenue from the east, through the main gate. This would keep daily office traffic separate from HGV, maintenance vehicles and delivery vehicles.

Internal roads are proposed to be constructed to provide access, around the development in a clockwise direction, to the data center and to allow vehicles to access the proposed parking to the east of the buildings. These would be designed to accommodate the largest expected vehicle to access the application site.

Pedestrian and cycle access to the site would be via the controlled pedestrian and cyclist entry gate on Falcon Avenue from the east.

The internal roads would provide emergency vehicle access around the proposed development and provide service access to the service areas. Perimeter access roads would be provided around the building for emergency access and to accommodate crane access for the replacement of rooftop plant.

6.9 Car and Cycle Parking

A total of 60 car parking spaces would be provided within the proposed development, which would provide parking for site staff and visitors. Of these, 12 would be electric vehicle charging points, three would be disabled parking provision and two would be delivery vehicle spaces in the loading dock. There would be 34 double-stacked spaces for covered cycle storage.

Car and cycle parking would be provided along the east and north-east corner of the data center. All employee spaces would be provided within a secure car park that would not be accessible to the general public. Visitor spaces would be located within this car park.

6.10 Waste Management

Deliveries of equipment to site may generate limited quantities of rubbish, which for the most part would be packaging material. This rubbish would be managed on site.

The buildings primary waste stream would come from the toilets, which is calculated at 45 permanent staff once operational.

Refer to EIAR Volume 1, Chapter 15: Waste, for further information regarding waste generation volumes.

6.11 Plant and Ventilation

Heating to the office areas would be provided by heat pumps that would recover heat from the data module cooling system. This would allow the heat pump system to operate at higher efficiencies compared to air cooled systems operating at standard ambient conditions.

The data storage modules would be cooled with air handling units. Cooling to the office and ancillary areas would be provided by roof mounted air-cooled free cooling chillers.

The fresh air ventilation system for the office area would be served using energy efficient Heat Recovery Units (HRU) which would recover waste heat from the office spaces and re-use to pre-heat the air with the HRU. This would reduce the overall energy consumption for this system.

6.12 Electricity

The main power supply to the Business Park is from the EirGrid substation and the MFGP. The power requirements for the proposed development would be provided via a connection to a 110 kV EirGrid substation, which is subject to a SID application to ABP (as outlined above). The substation would then provide a 20 kV electrical power distribution at medium voltage throughout the site.

The Multi-Fuel Generation Plant (MFGP), permitted under the July 2022 DUB-1 permitted development, would provide some supply to the proposed development until the full electrical load is provided by the grid connection and then would be called upon for use on the local network drops in response to EirGrid Data Centre Connection Offer Process and Policy (DCCOPP) regulations.

6.13 Operational Management Controls

Once fully operational the proposed development would operate 24 hours a day.

When operational approximately 45 full time equivalent staff members would be onsite. Additional to this would be the ad-hoc attendance of maintenance contractors and visitors. It is anticipated that the data center would be in operation on a shift basis with reduced numbers presented during night shifts.

The proposed development would require suitable illumination to ensure a safe environment for site users. Internal lighting with occupancy and daylight controls would be required for office and ancillary areas.

Access points to the site are gated, lit and covered by security cameras. Security staff would be responsible for ensuring that security procedures are implemented on the site and would maintain a record of all visitors to the site. Additionally, a 3 m high security fence would be constructed around the perimeter of the proposed development.

The building would include fire protection, sprinklers, and smoke detection systems to provide early warning of any combustion events. A dedicated fire water ring main would be installed as part of the Proposed Development to provide supply to fire hydrants in the event of the fire.

6.14 Sustainability

The application is accompanied by a standalone Energy Statement and a 'Sustainability Cover Letter' which sets out the strategy for the proposed development in response to current planning requirements and demonstrates that there is a clear commitment to sustainable development principles within the proposed development. The proposed development design comprises several principles of sustainable development, including the following:

- Photovoltaic (PV) panels would be installed on the roof to generate onsite renewable electricity;
- Internal and external lighting would make use of high efficiency, low energy LED luminaires combined with presence / daylight detection controls to reduce operational energy demand;
- Energy efficient cooling, ventilation, and heating systems, as detailed in the sections above and Energy Statement;
- To reduce electrical losses between HV/MV/LV conversions, the applicant would install low loss transformers which comply with the Ecodesign directive 2009/125/EC1 as a minimum;
- Waste heat from the data modules would be used to heat the administration office areas, assisted by heat pump technology. The provisions as set out above could allow the supply of heat energy to a future district heating scheme developed by others, external to the site boundary;

- There would be 12 electric vehicle charging points, and all parking spaces would be ducted for future EV charging provision. There would also be an ample amount of cycle storage provided within the proposed development. This would encourage the use of low carbon transport during the proposed development's operation;
- A variety of Sustainable Drainage Systems (SuDS) are proposed, including the creation of two attenuation ponds which would have the added benefit of biodiversity improvements; and
- Existing landscape and natural habitats will be maintained and enhanced, creating further habitat for local flora and fauna as well as creating ecological networks.

7. DEMOLITION AND CONSTRUCTION WORKS

7.1 Overview

Based on the assumption that planning consent is secured in Quarter 4 (Q4) 2023 / Quarter 1 (Q1) 2024, the demolition and construction works would commence in Quarter 1 in 2024, with indicative completion targeted for Quarter 4 2024 / Quarter 1 2025. Overall, the works are anticipated to be undertaken over an 11-month period.

Following a period of IT fit out and commissioning within three months of construction completion, the indicative start of operation is Quarter 3 2025, with the proposed development becoming fully operational by Q4 2025.

7.2 Construction Environmental Management Plan

The framework presented in EIAR Volume 1 Chapter 5: Demolition and Construction Environmental Management would form the basis for a Construction Environmental Management Plan (CEMP) and has been developed in accordance with standard industry best practice and regulatory requirements. The CEMP would include a Construction Traffic Management Plan (CTMP) and a Site Waste Management Plan (SWMP) and would be submitted for review and approval by SDCC prior to commencement of works on-site. It would include the following:

- A commitment to environmental protection ;
- Documentation of measures to comply with environmental aspects of any planning conditions;
- Detailed control measures and activities to be undertaken to minimise likely environmental impacts, as well as associated roles and responsibilities;
- Target criteria for environmental issues, where practical, such as water and energy consumption;
- Any requirements for monitoring and record keeping;
- A dedicated point of contact during normal working hours and in emergencies with responsibility to deal with environmental issues if they arise; and
- A review and monitoring regime of on-site performance against the CEMP provisions by the project team and regular environmental audits of its implementation.

7.3 Community Liaison

The Applicant would be expected to nominate a manager who would act as the Project Environmental Manager (PEM) (or equivalent), who would be named at all site entrances, with a contact telephone number.

The PEM would have primary responsibility for dealing with SDCC and other stakeholders on environmental matters, and all key stakeholders would be notified whenever a change of responsibility occurs for the PEM role. The PEM would keep neighbours, SDCC and other relevant parties informed of the nature of the on-going works, their duration and programme to establish and maintain good relationships with them.

It is anticipated that regular meetings would take place between the PEM and SDCC to review progress and to agree any necessary actions. The PEM would also deal with enquiries from the general public, including any complaints. Any complaints would be logged and reported to the relevant individual within SDCC (and vice versa) as soon as practicable.

The PEM would coordinate responses to queries and address issues in a timely and satisfactory manner.

7.4 Working Hours

Working hours would be agreed with SDCC, but are expected to be:

- 07:00 to 19:00 hours Monday to Friday;
- 08:00 to 13:00 hours Saturday; and
- No working on Sundays or Bank Holidays.

All work which is intended outside of these hours, excluding emergencies, would be subject to prior agreement, and / or reasonable notice to SDCC and other relevant parties.

7.5 Potential Demolition and Construction Environmental Effects

A review of the potential environmental impacts associated with the demolition and construction works has been undertaken to proactively inform the development proposals and agree appropriate mitigation measures. A summary of the potentially significant environmental impacts that could arise during the demolition and construction stage and mitigation measures integral to the development proposals are provided in Chapter 5: Demolition and Construction Environmental Management.

8. LIKELY SIGNIFICANT ENVIRONMENTAL EFFECTS OF PROPOSED DEVELOPMENT

8.1 Population and Health

At the time of the 2016 Census, the Clondalkin Village SA population was 257. In terms of the population breakdown, Clondalkin Village has a lower-than-average younger population (0-19) and a significantly higher elderly population compared with Clondalkin Village SA and South Dublin County. When assessing population health, Clondalkin Village has a lower % of residents rating their health as good compared with Clondalkin Village ED and South Dublin County. The highest proportion of employment in Clondalkin Village SA is within the agriculture, forestry and fishing sector and the building and construction industry, compared with Clondalkin Village ED and South Dublin County as a whole.

8.1.1 Demolition and Construction Effects

Demolition and construction stage effects for population and human health were considered in terms of employment generation, introduction of resident population, air quality, noise, transport and accessibility and amenity effects.

Overall, it is considered that the demolition of the existing property and construction of the proposed development would result in a mixture of negative (air quality; noise; transport amenity effects and introduction of resident population) and positive (creation of employment) effects on population and human health receptors which **would not be significant** in terms of EIA.

8.1.2 Operation Stage Effects

Operation effects for population and human health were considered in terms of employment generation, air quality, noise, transport and accessibility and amenity effects.

The assessment identified one positive (creation of employment) and negative effects (air quality; noise; transport and amenity effects) in relation to population and human health. Overall, it is considered that the operational development would result in a low, negative effect on population and human health receptors which **would not be significant** in terms of EIA.

8.2 Transport and Accessibility

The pedestrian and cycle environment in the site vicinity is of a high standard, with wide, well-lit lengths of dedicated and segregated off-road cycle and pedestrian routes. This would allow for future employees to walk, cycle or use public transport and complete their journeys by alternatives to the private vehicle.

8.2.1 Demolition and Construction Effects

Demolition and construction traffic for the proposed development of 12,893 m² would be proportional (33%) to the construction traffic used for the site in the approved July 2022 DUB-1 permitted development.

The peak demolition and construction period would be in 2024 with a maximum of 156 demolition and construction vehicle movements per day. Whilst there would be some increase in demolition and construction traffic, the effects of the demolition and construction traffic on the sensitive receptors would be temporary, medium, negative and **not significant** in terms of EIA for Pedestrian Severance, Delay, Amenity, Fear and Intimidation, Driver Delay and Accidents and Safety.

An outline CEMP has been prepared and includes both construction plant and material deliveries to be programmed to avoid peak traffic periods on the surrounding local and strategic road network

and minimise any effect on the local highway network and road, pedestrian and cycle users. No additional mitigation would be required for the demolition and construction stage.

Therefore, it is considered that the demolition and construction stage effects on Transport and identified receptors **would not be significant** in terms of EIA.

8.2.2 Operation Stage Effects

The proposed development would be fully operational in 2025 and is anticipated to generate a maximum of 59 vehicle trips per day.

There would be a small increase in traffic at Falcon Avenue resulting from the operation of the proposed development. The effects of the operation stage would be long-term to permanent during the operation of the proposed development, however, should the site cease operation the effect would be reversible. Effects are considered likely, medium and negative and **not significant** in terms of EIA for Pedestrian Severance, Delay, Amenity, Fear and Intimidation, Driver Delay and Accidents and Safety.

Overall, it is considered that the operational proposed development effect on Transport and identified receptors **would not be significant** in terms of EIA.

No additional mitigation would be required for the operation stage.

8.3 Air Quality

The main air pollutants of concern are dust and particulate matter typically generated during demolition and construction activities and nitrogen dioxide (NO₂), typically generated by road traffic and combustion engines.

Air quality monitoring data was obtained from the Environment Protection Agency (EPA) monitoring stations to establish the status of existing air quality. The data was used as the basis for air quality modelling and predictions.

8.3.1 Demolition and Construction Effects

During the demolition and construction works, there is the potential for vehicle emissions and dust emissions to arise at existing off-site human health receptors, as well as a loss of amenity at nearby existing residential and commercial properties.

The predicted annual average demolition and construction traffic flows are not expected to exceed the Institute of Air Quality Management (IAQM) guidance threshold such as to require formal assessment. In addition, traffic flows would be controlled through the implementation of the Construction Environmental Management Plan (CEMP). The effects of demolition and construction related traffic emissions would be low and **not significant** in terms of EIA.

Based on criteria set out in the IAQM guidance, the construction works would present a medium risk from dust impacts in the absence of appropriate mitigation. With the implementation of suitable mitigation measures, already incorporated within the proposed development's CEMP, it is anticipated that dust effects could be mitigated to at worst result in low effects at existing off-site receptors, which **would not be significant** in terms of EIA.

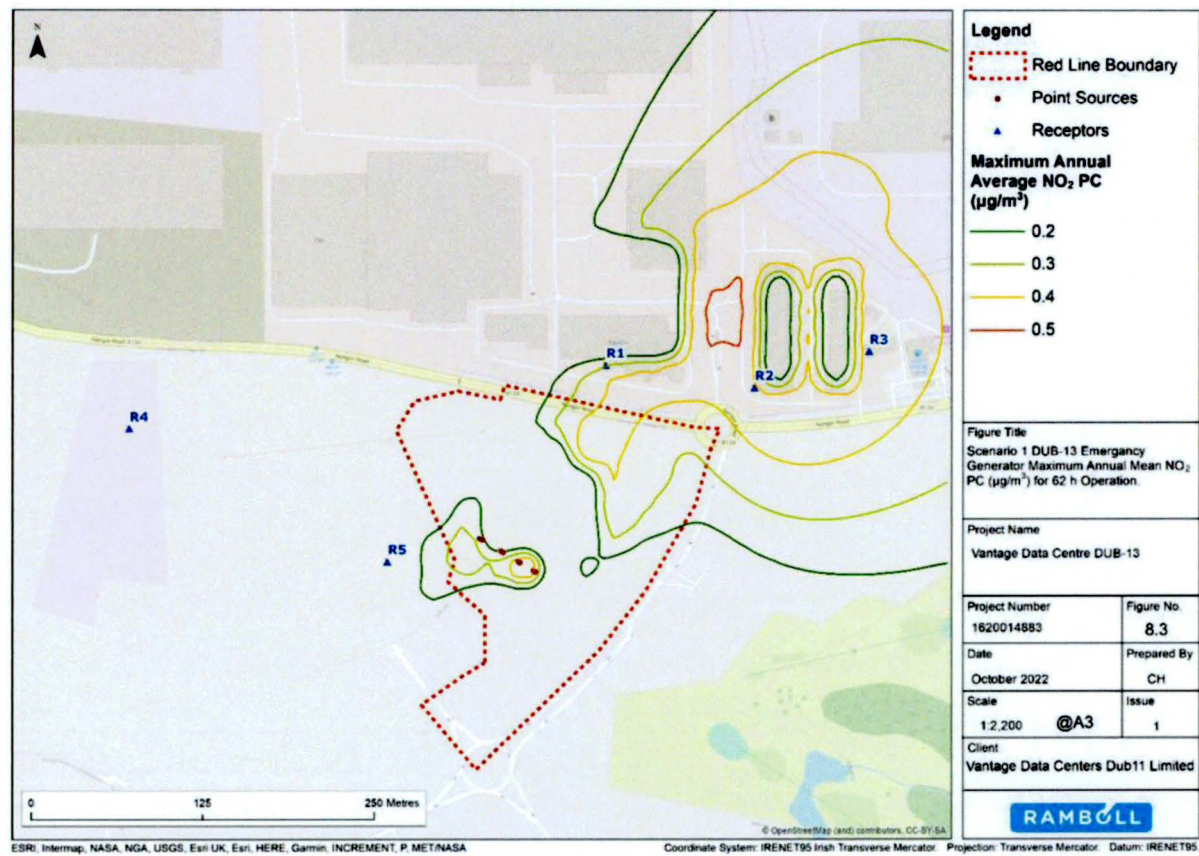
Overall, the demolition of existing buildings on the site and construction of the proposed development would result in a low effect on air quality and identified receptors, and as such **would not be significant** in terms of EIA.

8.3.2 Operation Stage Effects

The predicted annual average completed development traffic flows are not expected to exceed the Institute of Air Quality Management (IAQM) guidance threshold such as to require formal assessment. The effects of operation stage related traffic emissions would be long-term and **not significant** in terms of EIA.

The potential impact to air quality during the operation stage of the proposed development is a breach of the ambient air quality standards because of air emissions from the proposed development emergency engines. The modelled predicted concentrations are below the relevant standards at all the existing receptor locations for the operation stages.

It is considered that the operation of the proposed development emergency generators would result in a low effect on air quality and identified receptors that is **not significant** in terms of EIA.



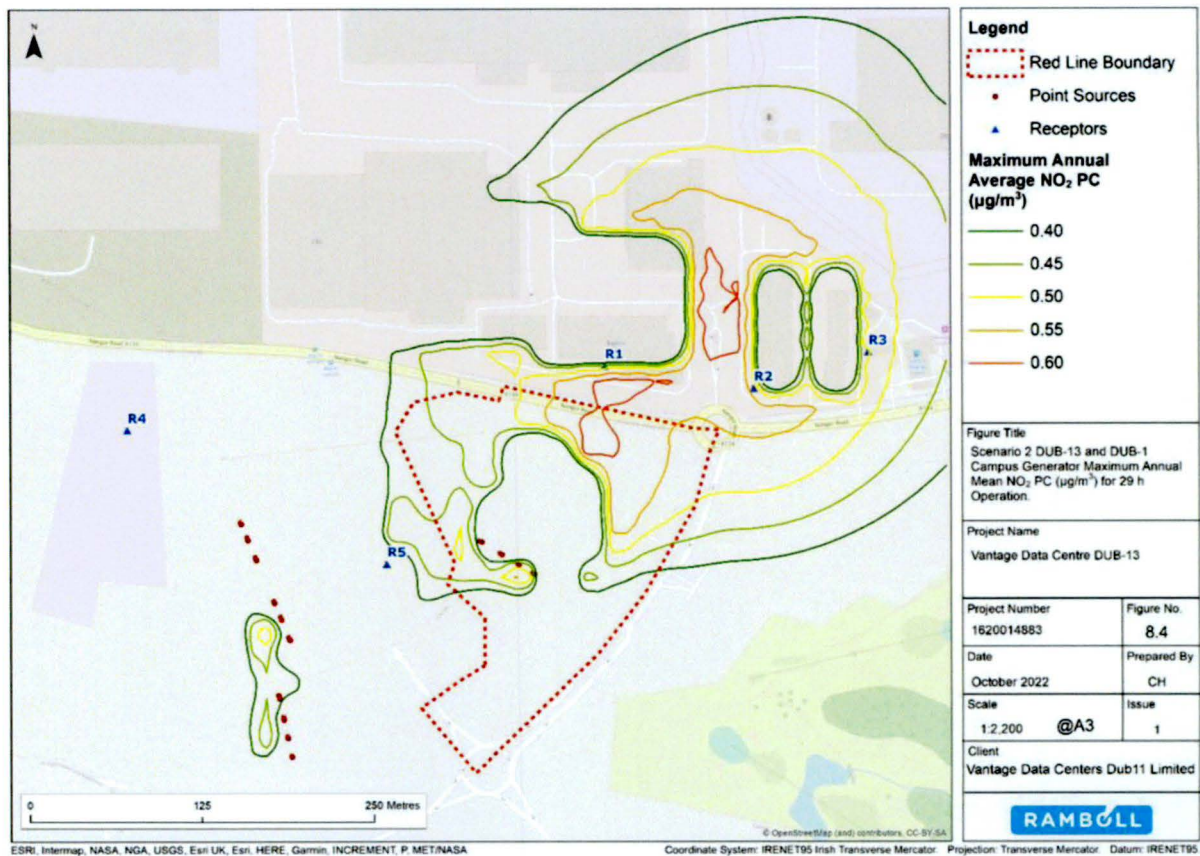


Figure 8.1: Scenario 1 and Scenario 2 Maximum Annual Average NO² PC (µg/m³)

8.4 Noise and Vibration

Attended and unattended noise monitoring surveys were undertaken to establish the existing noise climate across the site. The existing baseline noise climate is generally dominated by road traffic noise and noise from fixed plant installations associated with other industrial activity in the nearby vicinity. The results of the noise surveys have been used to assess construction, and operation effects attributable to the site.

8.4.1 Demolition and Construction Effects

The assessment has considered demolition, enabling works, substructure, superstructure, internal fit-out and external works phases.

An assessment of demolition and construction traffic noise has also been undertaken to calculate the number of HGV movements permissible per hour, along with consideration of the distance at which perceptible levels of vibration may occur from construction activities.

With the adoption of a CEMP and Best Available Techniques (BAT) implemented as part of the demolition and construction stage embedded mitigation, it is considered that the noise and vibration impacts can be controlled sufficiently to achieve acceptable levels at the surrounding sensitive receptors.

Overall, it is considered that the demolition of the existing residential building and construction of the proposed development would result in a low to medium negative effect for the identified receptors, which **would not be significant** in terms of EIA.

8.4.2 Operation Stage Effects

The effects of noise emissions from proposed fixed items of plant have been considered for worst-case and best-case scenarios, along with consideration of emergency conditions in the event of the

proposed development losing grid power. On the basis of the proposed design, noise emissions are predicted to meet the prescribed limits at the nearest noise sensitive receptors.

Overall, it is considered that the operation stage would result in a medium negative effect, which **would not be significant** in terms of EIA. During emergency conditions, there would be a medium negative effect which **would not be significant** in terms of EIA.

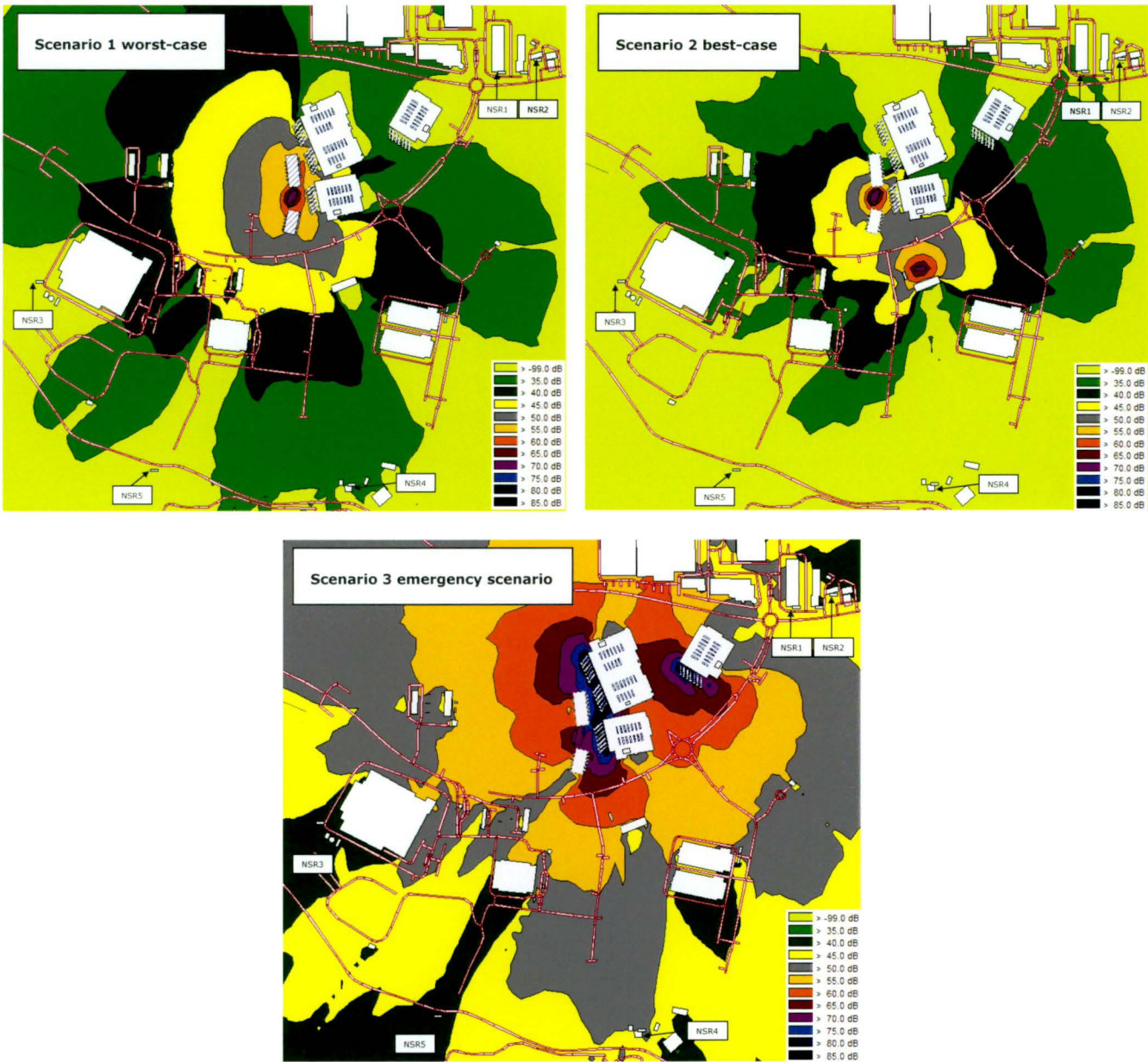


Figure 8.2: Overview of modelled noise emission during operation (normal operation and emergency scenario)

8.5 Water Resources and Flood Risk

The site consists of undeveloped greenfield, understood to have historically been agricultural in use, and one isolated residential property. There is no evidence of standing groundwater. The Baldonnell Stream flows through the south of the site, entering in the south east and flowing west. It flows under Falcon Avenue through a twin-pipe culvert upstream of the site and eventually enters a twin-pipe culvert further downstream beyond the site.

The areas of the site which are in very close proximity to Baldonnell Stream are shown to have a 'Low' fluvial flooding probability, but this is not applicable to most of the site.

The bedrock aquifer underlying the site (Dinantian Limestones) is classified as 'Locally Important'; i.e. an aquifer which is moderately productive only in local zones. The site is not situated in a Groundwater Drinking Water Protection Area or Groundwater Source Protection Area. There are no wells or springs within 1 km of the site and the closest is approximately 3 km southeast and east of the site.

8.5.1 Demolition and Construction Effects

During demolition and construction, there is the potential for the following impacts on water resources and flood risk:

- Disruption or contamination of groundwater during construction excavations;
- Contamination of surface water as a result of silt-laden runoff across the demolition and construction site and from stockpiles, polluting substances (e.g. fuels and chemicals), accidental spillages and other wastes during general demolition and construction activity; and
- Changes to surface water quality and hydrodynamic status as a result of the proposed works in the Baldonnel Stream floodplain.

Overall, when considering the embedded mitigation through the CEMP and the design of the proposed road crossing and culvert, it is considered that the demolition and construction effects of the proposed development **would not be significant in terms of EIA**.

8.5.2 Operation Stage Effects

During operation, there is the potential for the following impacts on water resources and flood risk:

- Residual flood risk from the Baldonnel Stream due to culvert blockage;
- Increased surface water runoff volumes leading to increased surface water flood risks on-site and off-site;
- Some disruption to groundwater from small alterations to local groundwater flow paths and levels;
- Increase in water demand from the site to supply the new occupants of the proposed development; and
- Increase in discharge volumes of foul water effluent to foul sewer.

The proposed development includes a drainage strategy designed to mitigate any increase in surface water discharge and limit it to greenfield rates through attenuation methods including a new pond with a native wetland margin. This would result in no increase in pluvial flood risk. A Site-Specific Flood Risk Mitigation Plan would be prepared to set out measures required to maintain proposed surface water drainage and flood risk mitigation measures, and to indicate proposed response to flood incidents.. This management of residual flood risk considered in the operation stage of development would result in a medium to high positive effect on flood risk at the site and for downstream receptors. This would give rise to **significant positive effects** in terms of EIA.

Improved landscaping and habitat setting of the Baldonnel Stream floodplain would also be expected to result in long-term medium positive changes in terms of surface water quality and hydrodynamic status which would be **not significant** in EIA terms. Additionally, any long-term changes to groundwater flow paths, as well as to water supply and foul water assets, are expected to be **not significant** in terms of EIA.

8.6 Ecology

The desk-based assessment identified six Special Areas of Conservation (SACs) and three Special Protection Areas (SPA) within 15 km of the site boundary. Within 5 km of the site boundary there are two proposed Natural Heritage Areas (pNHAs). The site has a hydrological connection with

South Dublin Bay SAC, the North Dublin Bay SAC, the South Dublin Bay and River Tolka Estuary SPA and the North Bull Island SPA via the Baldonnell stream and the River Liffey.

Seven habitat types were identified within the site during a Fossitt habitat survey undertaken in July 2022. The main habitat types recorded within the site is Amenity Grassland. The lands directly under and adjacent to the proposed development are considered to be of low ecological value.

Bat surveys did not reveal any bats emerging from or entering the house or shed. Low levels of commuting/foraging bat use of the site by three common Irish species were recorded overall.

8.6.1 Demolition and Construction Effects

During demolition and construction works, there may be disturbance of protected species or breeding birds, loss of habitats, habitat damage through air- or water-borne pollutants, accidental trapping of mammals in excavations, and habitat fragmentation, loss of commuting routes for wild mammals and construction of the proposed culvert beneath the internal road which crosses the Baldonnell Stream. These have the potential to lead to effects on protected species populations and one internationally designated site, Dublin Bay. However, considering the importance and sensitivity of these designated sites, habitats and species, and embedded mitigation measures designed into the proposed development, these effects are considered to be temporary, low and **not significant** in terms of EIA.

Overall, it is considered that demolition and construction of the proposed development would result in a negative but low effect on ecology and identified receptors. As such, it **would not be significant** in terms of EIA.

8.6.2 Operation Stage Effects

During the operation stage, pollution to aquatic habitats and disturbance of bats through lighting are expected. However, the residual effects would be expected to be below for the local bat population, and low and neutral for badgers and for the designated sites of the Dublin Bay.

The proposed landscape masterplan includes a range of landscape enhancements including those to the Baldonnell Stream, the planting of a wetland wildflower mix, wildflower meadow mix, berms, green walls, and woodland on site. Substantial enhancements are proposed for the wildlife and the stream, leading to positive effects for habitat interest and for species groups including birds and those associated with the stream.

Overall, it is considered that the operation stage would result in a permanent medium, positive effect on ecology and identified receptors. This **would not be significant** in terms of EIA.

8.7 Ground Conditions

The site has been predominantly greenfield and agricultural use historically. There is no evidence of any historical waste disposal or source of contamination within the site itself.

The site is underlain by the Lucan formation comprising dark grey to black limestone and shale from the Carboniferous Age. The site is underlain by a locally important aquifer with the Baldonnell Stream running through the southern area of the site.

Very low levels of soil contamination were recorded typical of a greenfield site at concentrations that do not present a significant risk to potential receptors.

Overall, the results of the baseline assessment identified no significant sources of ground contamination in soils.

8.7.1 Demolition and Construction Effects

The proposed development would involve groundworks, which would have an interaction with the on-site soils and water environment.

The activities that could affect the ground, are:

- Formation of landscape bunds, SUDs / attenuation ponds and improvements to the Baldonnell Stream;
- Re-use of excavated material within construction works where possible in order to minimise off-site material movements, including excavated soils, roads and demolition materials;
- Excavations for foundations, drainage works or services (standard open trenching techniques would be used for excavations) and any dewatering of excavations (if required);
- Movement of plant and machinery within the proposed development and to/from the compound;
- Wheel washing facilities would be provided during the demolition and construction stage for plant and vehicles; and
- Vehicles moving across soils within the site.

With consideration of the embedded mitigation measures outlined above, predicted impacts on human health and the geological and hydrogeological environment would be unlikely to occur during the demolition and construction stage. Effects would be temporary, low and are **not significant** in terms of EIA.

Also, during the construction, there is a risk of accidental pollution incidences from the following sources:

- Spillage or leakage of temporary oils and fuels stored on-site;
- Spillage or leakage of oils and fuels from construction machinery or site vehicles;
- Spillage of oil or fuel from refuelling machinery on site; and
- Run-off from concrete and cement during pad foundation construction.

With consideration of the embedded mitigation measures outlined, predicted impacts on the hydrogeological environment from accidental spills and leaks would be unlikely to occur during the demolition and construction stage. Effects would be low, Negative and **not significant** in terms of EIA. Overall, it is considered that the demolition of the existing site and construction of the proposed development would result in a temporary and low effect on the ground conditions and identified receptors, and **would not be significant** in terms of EIA.

8.7.2 Operation Stage Effects

During the operational stage there is a potential for leaks and spillages from the fuel storage (local storage at the back-up generators) to occur on-site. In addition, there is a potential for leaks and spillages from vehicles along access roads, loading bays and in parking areas. Any accidental spillages and leaks of oil, petrol or diesel could cause soil/groundwater contamination if the spillages and leaks are unmitigated.

With consideration of the embedded mitigation measures, predicted impacts on the hydrogeological environment would be unlikely to occur during the operation stage. Effects would be permanent, low and **not significant** in terms of EIA.

Reasonably foreseeable activities or factors during the operational stage which could affect or be affected by the ground are as follows:

- Periodic maintenance which could involve small scale excavations;
- Areas of soft landscaping and planting; and
- Drainage and storm water attenuation.

With consideration of the embedded mitigation measures predicted impacts on human health and the geological and hydrogeological environment would be unlikely to occur during the operation stage. Effects would be permanent but **not significant** in terms of EIA.

Overall, it is considered that the operation of the proposed development would result in a low effect on the ground conditions and identified receptors, and **would not be significant** in terms of EIA.

8.8 Climate Change

It is expected that general climate trends for Ireland, including extreme weather events (e.g., increased wind speeds, drought, intensity of precipitation events) will continue to occur irrespective of whether the development is built or not.

8.8.1 Demolition and Construction Effects

The Climate Change Resilience (CCR) assessment has reviewed the potential vulnerability of the proposed development to extreme weather and projected climate change. Considering embedded mitigation measures, all effects are considered low, and therefore **not significant** in terms of EIA.

Professional judgement has been used to assess whether projected climate change could increase the magnitude of the effects as identified by the disciplines, change the sensitivity of the receptors, or reduce the effectiveness of embedded mitigation measures. Overall, the effects are considered to be low and **not significant** in terms of EIA.

The high-level greenhouse gas (GHG) emissions assessment has estimated the demolition and construction of the proposed development would result in approximately 15,828 tonnes (t) of CO₂ equivalent (e) over the course of the demolition and construction stage.. The demolition and construction of the proposed development is expected to contribute 0.00565% of Ireland's proposed 295 megatons (Mt) of CO₂e carbon budget for 2021-2025. Considering embedded mitigation measures, the effect of GHG emissions are considered to be low and **not significant** in comparison with Ireland's carbon budgets.

8.8.2 Operation Stage Effects

The CCR assessment has reviewed the potential vulnerability of the proposed development to extreme weather and projected climate change. Considering embedded mitigation measures, all other effects are low and **not significant** in terms of EIA.

Professional judgement has been used to assess whether projected climate change could increase the magnitude of the effects as identified by the disciplines, change the sensitivity of the receptors, or reduce the effectiveness of embedded mitigation measures. Overall, the effects are considered to be low and **not significant** in terms of EIA.

The GHG assessment has estimated that the operational proposed development would result in approximately 90,319 t of CO₂e over the course of its operational life. The operation of the proposed development is expected to contribute to 0.00392% of the 250 MtCO₂e 2026-2030 carbon budget, and 0.00502 % of the 151 Mt 2031-2035 carbon budget. Considering embedded mitigation measures, the effect of GHG emissions are considered to be low and **not significant** in comparison with Ireland's carbon budgets.

8.9 Waste

The local authority responsible for setting and administrating waste management activities in the site area is SDCC.

Facilities within the Eastern Midlands Region include authorised soil and stone acceptance facilities, licensed Soil Recovery Facilities (SRF), inert landfill facilities, non-hazardous municipal landfill sites, and a number of materials recover facilities and waste transfer stations.

Waste licence facilities in the EMR are of the scale required by the current markets. There is no dedicated 'hazardous waste to energy' or landfill treatment capacity in Ireland.

There are numerous waste management infrastructure facilities and landfill sites within the Eastern Midlands Region (EMR). Many of the facilities/sites were indicated to have sufficient capacity to support future influxes of construction and demolition, and operational waste.

8.9.1 Demolition and Construction Effects

During the demolition and construction stage, waste would be produced from the demolition of the single storey dwelling on-site, and the construction of the data centers and accommodating facilities.

Networks of waste collection, treatment, recovery, and disposal infrastructure are in place in the region to manage waste efficiently from this type of development. Waste which is not suitable for recycling is typically sent for energy recovery. There are also facilities in the region for segregation of municipal recyclables which is typically exported for conversion into recycled products (e.g., paper mills and glass recycling).

It is anticipated that the proposed development would generate approximately 15,000 tonnes of construction and demolition waste, in addition to operational waste. However, mitigation measures such as segregating of waste, using appropriate storage, and implementing a SWMP (and CEMP) would reduce likely negative impacts and maximise the reuse and recycling and/or recovery of waste. Therefore, the reduction in landfill capacity would be < 0.05 %. In addition, it is expected that 99.5 % of the construction and demolition waste would be diverted from landfill.

Overall, it is considered, with embedded mitigation in place, that the demolition and construction stage activities would result in a negative, low effect which is **not significant** in terms of EIA on waste and identified receptors.

8.9.2 Operation Stage Effects

During the operation stage, waste would be managed in accordance with relevant national and regional legislation such as the Waste Framework Directive. Waste collection vehicles would service the development regularly to ensure the resources are dedicated to ensuring efficient waste management practices.

Additionally, hazardous waste may be generated from batteries, contaminated chemical drums and other packaging. If the packaging contains residues of or if it is contaminated by dangerous substances, it may be classified as a hazardous waste (depending on the volume and concentration of contaminants).

Networks of waste collection, treatment, recovery, and disposal infrastructure are in place in the region to manage waste efficiently from this type of development. Waste which is not suitable for recycling is typically sent for energy recovery. There are also facilities in the region for segregation of municipal recyclables which is typically exported for conversion into recycled products (e.g., paper mills and glass recycling). It is expected that 90% of operational waste would be diverted from landfill.

Overall, the effect on landfill sites is likely to be Negative, low and **not significant** in terms of EIA.

8.10 Material Assets

The site lies in the north of the Profile Park and the study area is considered to comprise the surrounding utility network with Profile Park and the wider area.

The main power supply to the Business Park is from the ESB EirGrid. This power network is known to be constrained in terms of providing electrical grid power to the area. The power requirements

for the proposed development will be provided via a connection to a 110 kV EirGrid substation that will be constructed, subject to grant permission from ABP (as outlined above).

The MFGP permitted under the July 2022 DUB-1 permitted development would provide power supply to the proposed development until the full electrical load is provided by the grid connection and then would be called upon for use on the local network drops in response to EirGrid DCCOPP regulations.

. Surface water from the proposed development has been designed in accordance with the Greater Dublin Strategic Drainage Strategy. The site is currently greenfield and the proposed surface water measures incorporate SuDs and are aimed at improving the general surface water management of the site and by restricting the ultimate discharge to the existing surface water sewers and to the Baldonnel Stream.

Foul water would be discharged via gravity sewer into the existing connection Falcon Avenue.

Water supply would be from a network connection located in Falcon Avenue. It is understood that there is suitable capacity in the network to supply to proposed development.

A telecommunications network would be installed at the site which would serve all of the data centers and would be connected to the regional network by the statutory network operator. It is understood that there is suitable capacity in the network to supply to proposed development.

8.10.1 Demolition and Construction Effects

During the demolition and construction stage demand on the networks outlined above would be predominantly for minor temporary connections for welfare facilities and plant and or would be provided by mobile connections.

The permanent connections to the wider network in Profile Park would be undertaken in consultation with statutory undertakers to ensure there is no impact on the network when connections are made.

Overall, effects during the demolition and construction are considered to be low and **not significant** in terms of EIA.

8.10.2 Operation Stage Effects

With consideration of the July 2022 DUB-1 permitted development the assessment identified that there is adequate power and electrical provision for the proposed development. The assessment identified that there are adequate facilities in regard to foul water, water supply and telecommunications supplies for the operation stage of the proposed development.

Effects on power and electrical supply during operation and are considered to be low and **not significant** in terms of EIA.

No effects are predicted in regard to gas supply.

Surface water from the proposed development has been designed in accordance with the Greater Dublin Strategic Drainage Strategy. The network incorporates pollution presentation measures.

Effects on surface and foul water infrastructure, water supply and telecommunications during operation are considered to be low and **not significant** in terms of EIA.

8.11 Landscape and Visual

The site is located within an area allocated for strategic employment development by the Regional and Local Authority within a data center park on the urban fringe of Dublin. The site is located within the Newcastle Lowlands Landscape Character (LCA) area. The area has undergone transitional change from agriculture to industrial and commercial land use.

Landscape receptors considered in the assessment included the site, the Newcastle Lowlands LCA, The Grand Canal, 27 National Inventory of Architectural Heritage (NIAH) Listed Buildings, the Baldonnell Stream, and road corridors. Due to the range of surrounding land uses, the study area contains four main types of visual receptors (residential, recreational, employment and travel).

8.11.1 Demolition and Construction Effects

The site's topography, land use and vegetation would change dramatically during demolition and construction with soil and vegetation being stripped and established mature trees being removed. The magnitude of impact is to be expected when changing use from agricultural and with the scale of development proposed. The demolition and construction stage of the proposed development would have a medium negative effect on the site that is **not significant** in terms of EIA.

The impact to the broader character of the Newcastle Lowland LCA would be a low magnitude of impact as the demolition and construction would occur within a small area of the LCA that has experienced similar activities and scales of construction activity. The Grand Canal and NIAH buildings are judged to experience a no change/negligible magnitude of impact due to their distance from the development and the ongoing similar activity.

It is likely that the construction would be congruous with the July 2022 DUB-1 permitted development construction, occurring in close proximity. Therefore, it is not anticipated to increase the magnitude of visual impact due to the close proximity and embedded mitigation. It is anticipated that the continuation of construction activity within close proximity would result in a negligible/no change impact across viewpoints (VP) and receptors resulting in low negative impact that is **not significant** in terms of EIA.

8.11.1 Operation Stage Effects

The landscape strategy would include trees that would provide a range of trees profiles, including retained vegetation. At Year 5 of operation, as the site's new landscape features mature and establish, the increased habitat diversity, planting mix, berms and pond is expected to lead to a benefit in terms of the fabric of the site. The proposed enhancements, including new riverine planting and features including a wetland meadow and pond, are likely to have a medium positive impact on the Baldonnell Stream, that is **significant** in terms of EIA.

The broader Newcastle Lowlands LCA is expected to experience a negative impact from the proposed development although contained within an area of land given over to commercial uses. It is anticipated that the boundary treatments proposed would soften the impact of the development and that over time, as vegetation matures and the surrounding area fulfils its development potential, the impact would reduce and would be **not significant** in terms of EIA.

A combination of photography and visualisations from a range of locations and contexts, alongside desk-top analysis and professional judgement has enabled a comprehensive understanding of how the proposed development would affect the landscape character and impact on local views. To assess the impact and effect of the proposed development, photography has been provided for 11 viewpoints at locations surrounding the site as agreed with SDCC. During Year 5 of operation:

- Nine viewpoint locations (VP: 01; 02; 03; 05; 06; 08; 09; 10) would experience a no change magnitude of impact with a low negative effect.
- One viewpoint (VP04) would experience a low magnitude of impact with a low to medium negative effect.
- One viewpoint (VP07) would experience a moderate magnitude of impact with a low to medium negative effect.

A location plan of these views is shown in Figure 8.1 with photomontages of these shown in Figure 8.2 to 8.14.

It is therefore considered that the visual effects of the proposed development are **not significant** in terms of EIA.

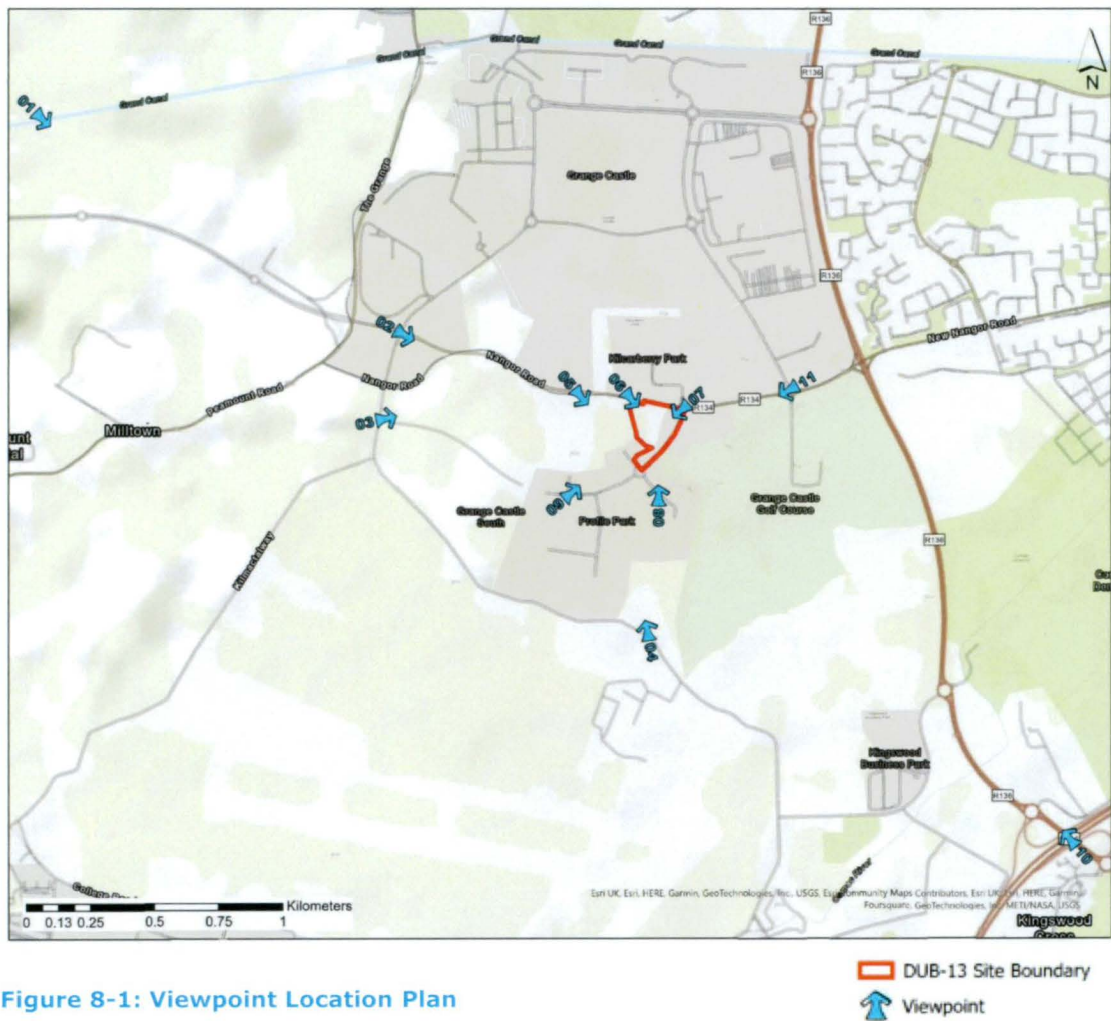


Figure 8-1: Viewpoint Location Plan



Figure 8-2: Operation Stage Day 1: Viewpoint 1 - The Grand Canal looking south east.



Figure 8-3: Operation Stage Day 1: Viewpoint 2 - New Nangor Road at the roundabout junction with Baldonnel Road looking south east.



Figure 8-4: Operation Stage Day 1: Viewpoint 3 – Baldonnell Road at junction with Falcon Avenue looking east.



Figure 8-5: Operation Stage Day 1: Viewpoint 4 – Layby on Baldonnell Road near the entrance to Casement Aerodrome looking north.



Figure 8-6: Operation Stage Day 1: Viewpoint 5 – R134 New Nangor Road at Bolands Car Centre looking south east.



Figure 8-7: Operation Stage Day 1: Viewpoint 6 – R134 New Nangor Road at the north west corner of the site looking south east.



Figure 8-8: Operation Stage Year 5: Viewpoint 6 – R134 New Nangor Road at the north west corner of the site looking south east.



Figure 8-9: Operation Stage Day 1: Viewpoint 7 – R134 New Nangor Road at the entrance to Profile Park looking south west.



Figure 8-10: Operation Stage Year 5: Viewpoint 7 - R134 New Nangor Road at the entrance to Profile Park looking south west.



Figure 8-11: Operation Stage Day 1: Viewpoint 8 - Profile Park Access Road looking north.



Figure 8-12: Operation Stage Day 1: Viewpoint 9 - Falcon Avenue looking north east.



Figure 8-13: Viewpoint 10 (proposed development is not visible) - N7 and R136 Junction north west.



Figure 8-14: Operation Stage Day 1: Viewpoint 11 - R134 at entrance to Grange Castle Golf Course looking south west.

8.12 Cultural Heritage

A total of 24 monuments and sites are identified within the 1 km study area, presented in Figure 8.15 below. None of the listed sites fall within the site boundary and there are no recorded archaeological sites or finds within the site boundary.

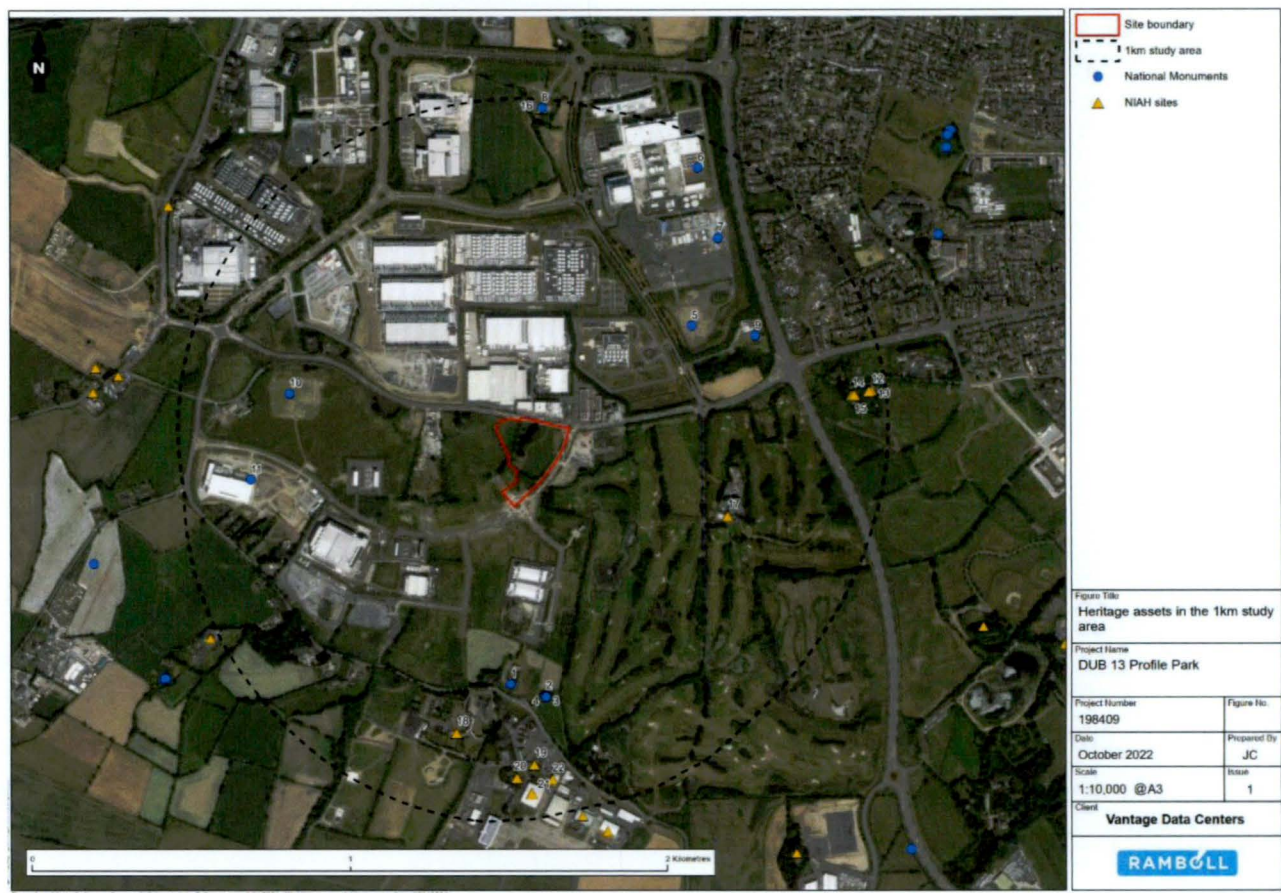


Figure 8-15: Location of Heritage Assets within the 1 km radius study area

There are two concentric enclosure sites of probable early medieval origin, recorded as cropmark features on aerial photographs to the west of the site. There are no recorded archaeological sites listed on the Sites and Monuments Record (SMR) or Register of Monuments and Places (RMP) anywhere within the site boundary.

The built heritage in the study area includes the site of the medieval church at Kilbride (TOR2-4) which preserves the ruins of the medieval church, the related ecclesiastical enclosure, and a range of other features. At the north edge of the study area is the tower house at Grange Castle (TOR8 & 16), which was first built in around 1580, and was converted into a house in the mid-18th century. At the southern edge of the study area, the group of older buildings at Casement Aerodrome includes several examples of the early hangars constructed when the base was established in 1917 and a range of additional buildings through the 1930s to 1946.

8.12.1 Demolition and Construction Effects

The proposed development would involve groundworks, which could have an impact on the identified below ground archaeological remains because of the possible damage. There would be no direct construction effects on any archaeological sites recorded within the SMR or RMP for the site.

The demolition and construction stage would result in a high magnitude of impact to assets of low sensitivity, which would be a negative effect of medium significance. This effect can be fully mitigated through a programme of archaeological monitoring and excavation, which, due to the

knowledge gained as a result of the mitigation works, would result in a low beneficial effect and **would not be significant** in terms of EIA.

No change is predicted to built heritage during the demolition and construction stage, which would be a temporary, low and neutral effect which **would not be significant** in terms of EIA.

Overall, it is considered that the demolition of the existing site and construction of the proposed development would result in a neutral effect on cultural heritage and identified receptors, which **would not be significant** in terms of EIA.

8.12.2 Operation Stage Effects

No change is predicted on the currently meagre archaeological resource during the operation stage. This would be a permanent, low and neutral effect, which **would not be significant** in terms of EIA.

A low negative effect is predicted to Kilbride Church and related features (TOR2-4). This would be permanent and irreversible and **would not be significant** in terms of EIA. Low and neutral effects are predicted on all other built heritage assets during the operation stage.

Overall, it is considered that the operation stage of development would result in neutral effects on cultural heritage and identified receptors, and as such **would not be significant** in terms of EIA.

9. CUMULATIVE EFFECTS

9.1 Intra-Project Cumulative Effects

Intra-project cumulative effects from the proposed development itself on surrounding sensitive receptors and on-site receptors during the demolition and construction works and also once the proposed development is operational, were considered.

No effect interactions are likely to arise during the demolition and construction period, or during the operation of the proposed development and therefore no significant effects in terms of EIA are predicted.

9.2 Inter-Project Cumulative Effects

Inter-project cumulative effects generated from the proposed development together with other planned or likely foreseeable developments were considered.

Consistent with the effects of the proposed development, the cumulative schemes identified are associated with the transitional change in the area from agriculture to industrial and commercial land use through development of ICT facilities and data centers.

There are potential cumulative effects on population and human health, traffic and transport, air quality and noise during the demolition and construction stage of the proposed development. However, significant cumulative effects are unlikely as each scheme is anticipated to employ similar environmental management plans and best practice measures such that the individual demolition and construction stage effects are not considered to be significant.

No significant long term cumulative effects are anticipated as a result of the operation of the proposed development.

In summary, no significant negative inter-project cumulative effects have been identified during the demolition and construction and operation stages of the proposed development for the environmental topics assessed.

10. SUMMARY

The proposed development has evolved through a detailed understanding of the site, its emerging surrounding context, the aspirations of local and regional policy, and consultation with SDCC.

The proposed development would deliver a high-quality data center scheme maximising the productive use of the site and delivering landscape and biodiversity improvements to further establish Profile Park and the surrounding area as a data center hub, thereby enhancing the national data storage capacity and infrastructure.

During demolition and construction no significant negative or positive environmental effects have been identified for the proposed development.

The following significant positive environmental effect has been identified during the operation stage:

- Enhancement of the landscape of the Baldonnell Stream with new riverine planting and features including a wetland meadow and pond.

No other significant environmental effects (either positive or negative) have been identified.

Identified additional mitigation measures would be secured by means of appropriately worded planning conditions.

