VDC Campus - Aerial View from north

BURNS McDONNELL

Additional Information Response

DUB11 CAMPUS DEVELOPMENT

Design Statement in support of Planning Application

DUB11-DC-XX-G021-V1-PL-BMD

Revised Feb 28th, 2022

VANTAGE DATA CENTERS

Introduction

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The design has been amended and additional information provided in the Additional Information (AI) Response submitted on 6th January 2022 by Marston Planning Consultancy on instruction from the Applicant Vantage Data Centers DUB11 Ltd.

This Design Statement together with the design drawings prepared by Burns & McDonnell Inc. forms part of the AI Response. It explains the changes made to adapt and improve the design. The full response to the AI Request is given in the Marston Planning Consultancy Planning Statement

This Design Statement should be read as part of the full suite of documents submitted for the AI Response.

Appendix A is an updated Drawing List showing the extent of revisions as part of the Additional Information Response.

Location Plan

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Step 1 – Test consented scheme

Outcome: The standard design superimposed on the consented warehouse scheme yields an 8-hall datacentre.

Fail: Not enough data space to meet business case. Poor site utilisation and density

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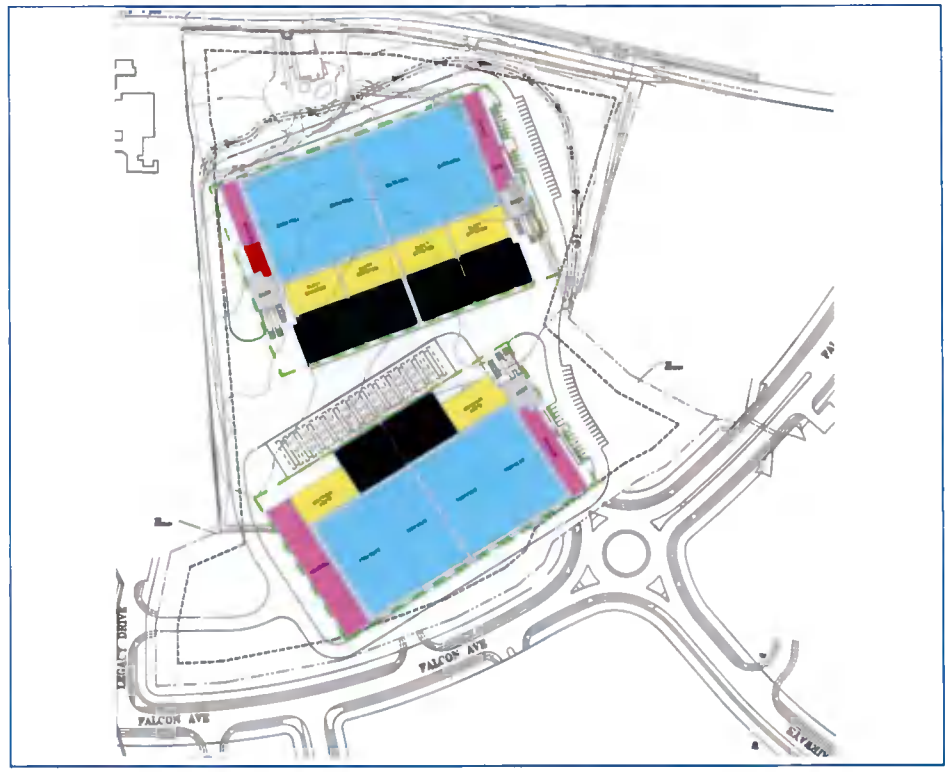

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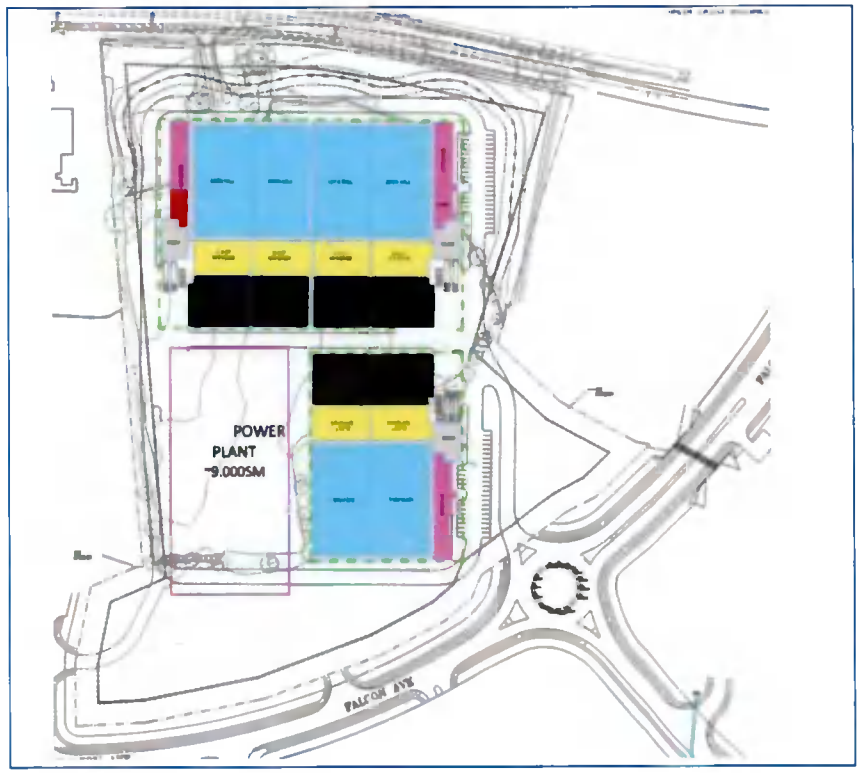

Outcome: Spatial exercise to see how many halls can fit on the site using standard design and with space for a Power Plant

Pass: Achieves 12 modules to meet the business case with space for Power Plant. Creates the challenge of the Baldonnel Stream alignment.

2. Response to AI Request Item 2(A) (i), (ii) – Baldonnel Stream

(A) In light of this, the applicant is requested to reconsider the proposed development on the site, as follows:
(i) constructing all required structures on the site in a more southerly/south-westerly direction, by relying more on the internal road network within Profile Park (Falcon Avenue). The planting scheme and landscaped area proposed at the southern end of the site could be relocated at the northern end alongside the existing stream. The applicant is requested to submit a revised layout plan indicating this.

Response
The Design Team have undertaken a thorough review of the site layout to assess if the diversion of the Baldonnel Stream can be avoided. This review has enabled the existing stream alignment to be retained.
The suggestion to "rely more on the internal road network within Profile Park (Falcon Avenue) was considered. Moving the buildings closer to Falcon Avenue makes it feasible to retain the stream. The Applicant prefers to retain an access road inside the site because

- access for cranes is required to install and remove rooftop plant
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(ii) If (i) cannot be achieved, the applicant should consider the omission of one of the datacentre structures.

Response
The careful re-design of the site layout allows the stream to be retained without omitting any of the datacentres.

Frontage to Falcon Avenue


Overlay of original scheme **on new site plan**

3. Scale of Development

3. (a) The proposed size, bulk, scale and mass of the development and the land coverage the buildings are significant and may be deemed to be an overdevelopment of the site. Any development proposed on lands zoned for Enterprise and Employment is required to comply with policies and objectives contained within the current County Development Plan. Chapters 7 and 8 require natural solutions and significant green infrastructure to form planning proposals on EE zoned land. It is apparent that there is a significant level of hardstanding across the site and 'greener' solutions may be more appropriate in some instances. The applicant is requested to reconsider the overall layout.

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The Design Team have re-considered the overall layout of the scheme and arrived at a design which is a significant improvement on the original application in that it overcomes many of the concerns raised in the SDCC Additional Information Request. This has meant introducing changes which are not part of the Applicant's standard design but which enable us to achieve a more compact layout that retains the stream alignment while meeting the space requirements of the design brief.

Natural solutions including soft landscape and a new SuDS drainage design offer the benefits to ecology and the environment that underpin Chapters 7 and 8 of the County Development Plan. These are described in more detail in the Civil & Structural Engineers Report prepared by Pinnacle Ireland and the Landscape Report and drawings prepared by Kevin Fitzpatrick Landscape Architecture.

The area of hardstanding has been reduced 20.4% from 15,079m^2 to 12,010m^2 through the use of more permeable paving and gravel.

Aerial view of the redesigned scheme

This shows the stream retained and the increased landscape along New Nangor Road

(b) The Planning Authority notes from a site inspection that the site is set below the existing internal road network and this change in levels is not apparent in the section that was submitted. It is also noted there will be cut and fill on this site and the applicant has provided a plan indicating how the levels will change across the site. In addition to this information, the planning authority require existing and proposed cross sections. It is apparent that there are retaining structures proposed and details of these should be provided on plans and sections provided.

Response

Cut and fill sections are shown on Drawing DUB11.1-DR-SP-C312-V0-WS4-PIN and the external civil works are shown on Drawing DUB11.1-DR-SP-C130-V0-WS4-PIN. Formation levels are shown on Pinnacle Drawing DUB11.1-DR-SP-C316-V0-WS4-PIN and cut-and-fill across the site are shown on Drawing DUB11.1-DR-SP-C317-V0-WS4-PIN.

3. Scale of Development

ORIGINAL APPLICATION – Aerial View from South (Below)

The original application was a rational and efficient response to the Applicant's modular design philosophy. The response from SDCC Item 3 (b) indicated that the site could be regarded as overdevelopment, especially given the Council's policy to retain watercourses. The rectilinear layout creates the impression of a single large building.

RESPONSE TO FURTHER INFORMATION REQUEST (Below)

Blank facades on the Falcon Avenue frontage are avoided by placing offices and entrance facing South.. By double-stacking and placing the generators at an angle we are able to compress the built footprint within the area bounded by the existing Baldonnel Stream and create a substantial landscaped area to the North of the site. Introducing angles between the buildings breaks up the mass and gives more visual interest. The bulk of the Power Plant is reduced by a split into two buildings separated by the transformer compound. Attenuation ponds, meadows and swales allow surface water to be controlled without any below ground tanks. Permeable surface paving is increased and there is a slight reduction in parking spaces

Exterior Treatment & Streetscape

The approach to the exterior design of the data centre buildings is to use high quality insulated panels for the main façade with a powder-coated finish and with a palette of colours that enlivens the façade in a graduated way. Perforated metal panels are used around the staircases and with stainless steel wire mesh to allow planting to grow up the façade, thus adding texture and visual interest as well as contributing to the bio diverse habitat of the landscaping. Living Green Walls are introduced at Ground level to increase biodiversity and soften the building at street level.

Rooftop plant including chillers and transformers are masked by dark grey mesh panels. The façade around the office entrances are aluminium curtain wall. A sedum "green" roof is introduced over the office and non-critical areas of the datacentres.

A similar palette of cladding is used on the Power Plant and other ancillary buildings.

WHITE METAL PANEL

GREY METAL PANEL

CURTAIN WALL

ACOUSTIC LOUVERS

PERF. PATTERN METAL

3. Scale of Development

ORIGINAL APPLICATION – Elevation to New Nangor Road (Above) Blank frontage enlivened with coloured panels and trim. This softens the bulk of the building but a more substantial change is required to meet the Additional Information Request Point 3 (b)

RESPONSE TO FURTHER INFORMATION REQUEST (Below)

The buildings have been re-organised on site to locate the main entrance of DUB11 facing New Nangor Road. This gives more visual interest and also affords staff and visitors an attractive view over the landscaped stream and berms. In addition, we have introduced living Green Walls in front of the loading bay and the generator compound. The wire trellises around the escape stairs are enlarged to allow climbing plants to flourish. By changing the means of escape from the roof to the staircase midway along the East façade we have reduced the escape stair on the NE corner to serve only the first floor. The overall level of the building is lowered by 250mmm and the plant room on the roof reduced in height. The coloured panels on the façade are graded in colour from dark to light to reduce the visual bulk and a canopy has been added at first floor level to break up the massing from street level.

3. Scale of Development

Response

The effect of all the changes outlined above is to significantly reduce the visual impact of the datacentres, particularly along the New Nangor road frontage. The photomontages on the right show the appearance at 1-year and 5-years of planting.

For comparison the image below shows the original application scheme which was much more visible than the revised version.

New Nangor Road – with young trees

New Nangor Road – original scheme

New Nangor Road – with mature trees

3. Scale of Development

Response

The view into the site from Falcon Avenue. The photomontages below show the original blank facades of the original application scheme on the left and the revised scheme on the right with the office block facing the road.

Falcon Avenue – Original Application

Falcon Avenue – Revised Scheme with offices facing the road frontage

3. Scale of Development

(ii) The permanent power plant would be over 118m long and would have a significant presence on the western boundary of the site. It is noted that the western elevation is blank and monotonous, with flues. Whilst significantly shorter than the west elevation, the south elevation also appears blank. The Planning Authority request that the applicant consider adding detail to these elevations, to reduce the monolithic appearance.

Response

The multifuel Power Plant is now split into two buildings separated by the Step-up Transformer compound. The North building is 63m long and the South building is 46 m long, with a separation of 40 metres. Whereas on the original scheme the Substation faced onto Falcon Avenue, it is now almost hidden between the two Power buildings.

The contrast between the two designs are shown on the next page.

(iii) There are concerns regarding the design of the temporary power plant. It is noted that the proposal would be temporary, however, there are still concerns regarding the presence of significant blank facades. The floorplans provided indicate a single access gate to the north and south and it is noted that these details are not reflected on the elevations. The Planning Authority request that the applicant consider adding detail to these elevations, to reduce the monolithic appearance.

Response

The evolution of the Energy Strategy described in the Planning Consultant's Report means that the temporary power plant is no longer required and is omitted from this Additional Information package.

Falcon Avenue Frontage with mature trees.

The South Power Plant is on the left and the DUB12 Datacentre is on the right in the image above.

3. Scale of Development

(c) The applicant is requested to provide:
(i) further details on the southern elevation of building 11. Details of temporary and final elevations should be provided, as it is proposed to construct this building under a number of phases.
(ii) further details on the northern elevation for the permanent power plant. Details of temporary and final elevations should be provided, as it is proposed to construct this building under a number of phases.

Response

The Applicant has revised its phasing strategy such that there will be no temporary elevations on the DUB11 building. As both parts will now be built as a single phase, there are no temporary elevations. All permanent elevations are shown on Drawing DUB11-DR-00-A200-V0-PL-BMD.

The Power Plant will be built in phases as separate buildings with no temporary facades. The permanent elevations of the North Power Plant are shown on Drawings DUB1-DR-ZZ-A017-V0-PL-BMD and the South Power Plant on DUB1-DR-ZZ-A019-V0-PL-BMD.

(d) The applicant is requested to provide full details of all flues, in terms of location, scale and proposed materials. Details should be clearly set out in plans and elevations. Any temporary flues and the timeframe for removal should also be highlighted. It is noted that no roof plan has been provided for the temporary power plant.

Response 3(d)

The flues for the standby generators are on the west side of the datacentres – 22 in total on DUB11 and 14 in total on DUB12. The flues are grouped in five stacks of 4 flues and two stacks of 3 flues, all 22.3 metres in height. The finish is stainless steel. The flues are shown on the building elevations and roof plans.

Response 3(d) cont.

The temporary Power Plant and flues are omitted from this application.

The six flues for the North Power Plant and the five flues for South Power Plants are shown on the elevation drawings and the plans. They are 30 metres tall and finished in light grey cladding. There is a larger casing to the flues up to 20 metres high to conceal the silencers.

(e) It is noted that there are a number of inconsistencies between the description of development and the submitted plans and elevations:
(i) The permanent power plant, according to submitted plans provides the following:
Height – Ridge 11.55m and eaves 9.5m, chiller deck at 12.5m. It is noted that the description of development sets out that this building is 13m high.
(ii) The temporary power plant, according to the submitted plans, provides the following: Flue height 14.4m. It is noted that the description of development sets out that the flue are 25m high.

Response

The design team have explored ways to reduce the height of the Power Plant building. In parallel the Engineering team have worked with the key engine supplier to refine the engineering design to achieve best in class performance in terms of emissions, noise and sustainability. The outcome for the building envelope is an increase in height of the radiator screen from 14.5 to 18metres, the building parapet from 12.5 to 13.90 and the chiller deck from 12.50 to 15.40 metres. The roof design is changed to a flat slab in place of the pitched roof on the original application. This allows the building to house the scrubbers, silencers and attenuators required to achieve the required environmental performance. To meet the emissions monitoring standard, the flue height is increased to 30 metres.

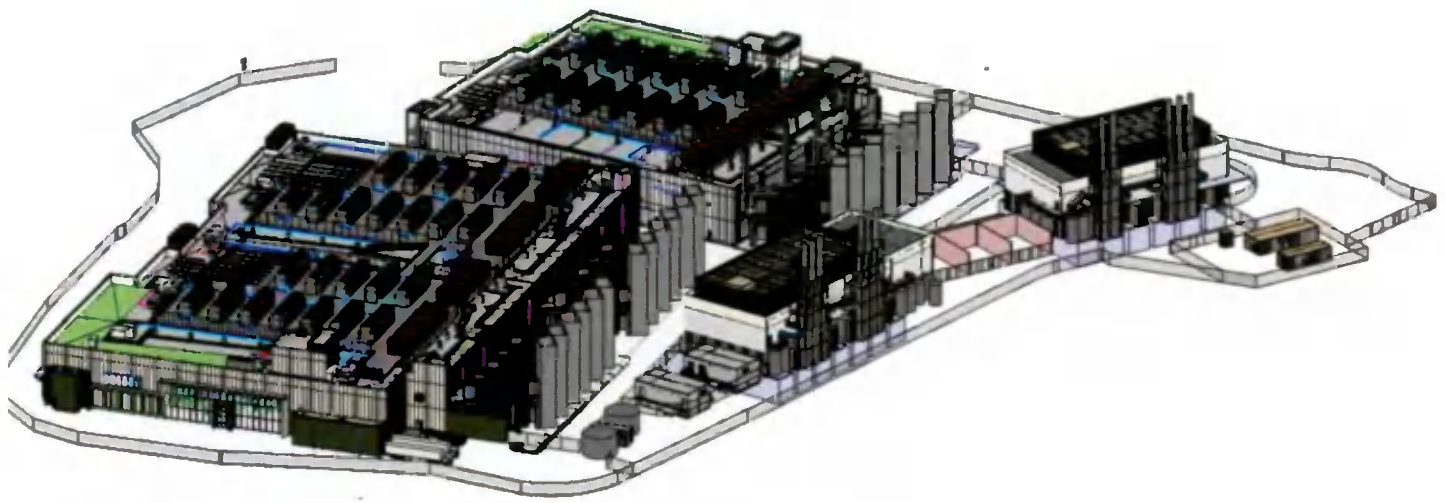
3. Scale of Development

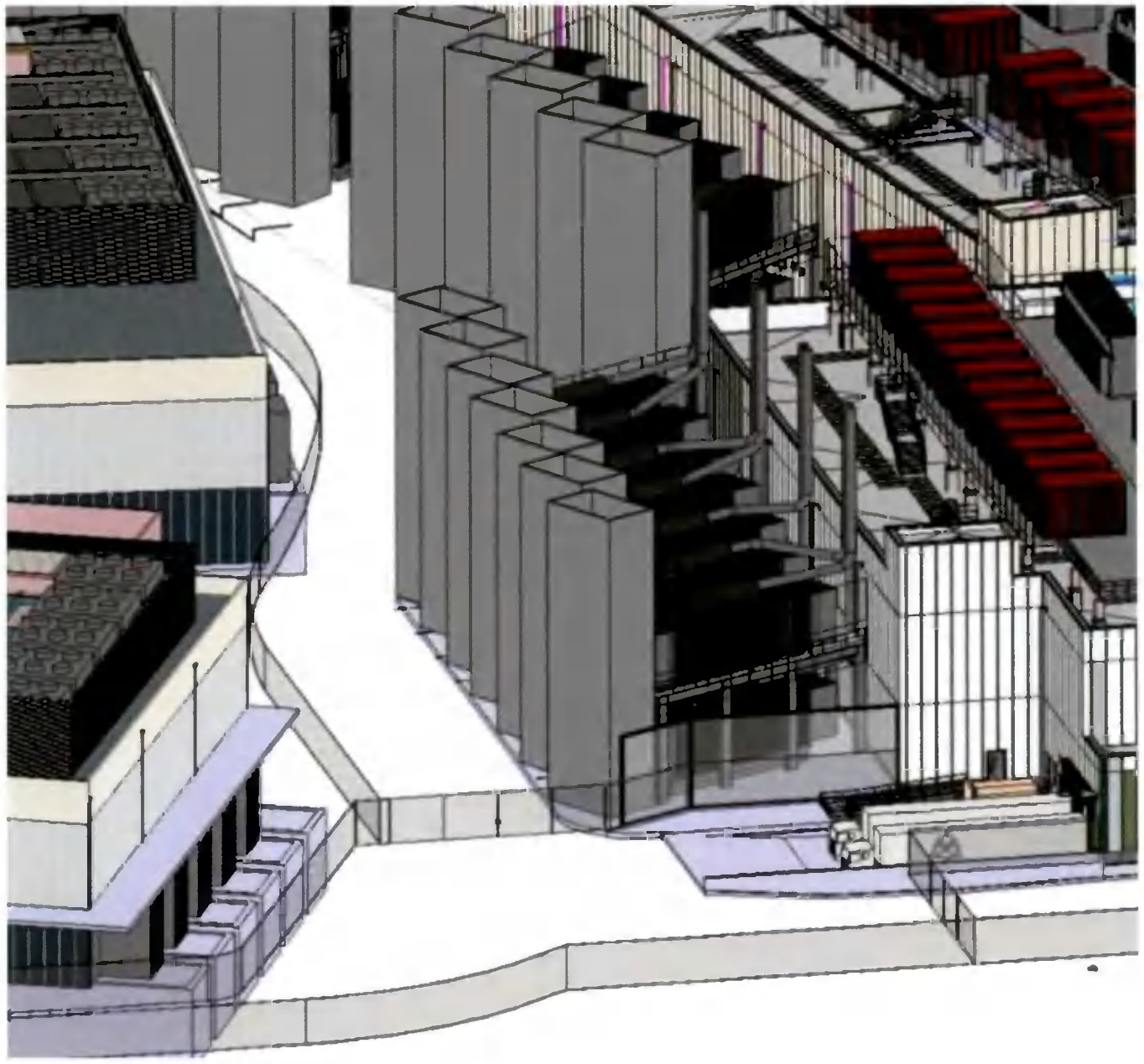
(f) The diesel-powered electrical generators located to the immediate west are housed on site in a screened equipment yard located adjacent to the building and separated by an internal road. The applicant states the usage is only to supply power in the event of a utility outage. The Planning Authority would request further details and cross-sectional views on the stated 'buried fuel tanks shall only be used where sub-base tanks are prohibited.

Response

The original design included an electrical yard to the west of the datacentres housing containerised generators each with integral "belly tanks". As part of the exercise to make the campus more compact this compound has been re-designed to reduce the footprint of the yard by double-stacking the generator sets. In addition, the generators are placed at an angle to the building and the flues moved up against the west façade. There is an air exhaust at the west end of each generator to eject heat from the engines. These flues are clad in powder-coated metal in alternating light and mid-grey colours to add some visual interest to this side of the buildings and obviate a flat wall of exhausts. The chimney height is 20 metres. Refer to Drawing DUB1-DR-00-A116-V0-PL-BMD

Fuel is stored in above-ground tanks in the base of the genset containers.





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4. Phasing of the Campus – Phase 1

4. (1) It is apparent that there are a number of phases to the development. The Planning Authority request that a single phasing plan is provided, indicating all buildings and that these buildings are clearly labelled. A corresponding schedule should be provided stating which plans should be referred to for each building. A schedule providing details of ancillary uses in each of the data centres should also be provided, setting out the total sq.m for each ancillary use.

Response

The Applicant has decided to build out the campus in two phases.

Phase 1 is shown on Drawing DUB1-DR-SP-A005-V1-PL-BMD and on the aerial views on this page.

The scope of the Phase 1 work comprises

- Earthworks and drainage
- Baldonnel Stream improvements and landscaping
- DUB11 Building
- North Multifuel Power Plant
- Switch substation
- Step-up Transformer
- Gas Regulator compound
- Roads and Parking
- Power and fibre infrastructure,
- Boundary fencing and security installations

An area schedule is included in Appendix A

DUB1 Campus – Phase 1

4. Phasing of the Campus Phase 1&2

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Response

The Applicant has decided to build out the campus in two phases.

Phase 1&2 is shown on Drawing DUB1-DR-SP-A004-V1-PL-BMD and on the aerial views on this page.

The scope of the Phase 2 work comprises

- DUB11 Building
- South Multifuel Power Plant
- Remaining Earthworks and drainage
- Remaining Landscaping

The Drawing List for each phase and the schedule of ancillary uses is shown on the table on the next page.

DUB1 Campus – Phase 1 & 2

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Drawing List - Architectural

BUILDINGS	ARCHITECTURAL	DOCUMENT TITLE	REVISION		KEY CHANGES
Site	DUB1-DR-SP-G050-V1-PL-BMD	LOCATION PLAN	V1		No change
Site	DUB11-DR-SP-A001-V1-PL-BMD	SITE PLAN AS EXISTING	V1		Note added to show existing culvert
Site - Demolition of exisitng structures	DUB11-DR-SP-A002-V1-PL-BMD	SITE PLAN AS EXISTING - DEMOLITION OF EXISTING STRUCTURES	V1		No change
Site	DUB11-DR-SP-A003-V1-PL-BMD	AMENDMENTS TO EXISTING SITE PLAN	V1		Existing stream retained, culvert removed
Site - Phase 1 & 2	DUB11-DR-SP-A004-V1-PL-BMD	ARCHITECTURAL PROPOSED SITE PLAN	V1		New Site layout
Site - Phase 1	DUB11-DR-SP-A005-V1-PL-BMD	ARCHITECTURAL PROPOSED SITE PLAN Phase 1	V1		Amended to show two phases
Site & Buildings Phase 1	DUB11-DR-SP-A006-V1-PL-BMD	SITE CONTEXT ELEVATIONS - PHASE 1	V1		New drawings to show phase 1
Site	DUB11-DR-SP-A007-V1-PL-BMD	ARCHITECTURAL FENCING PLAN	V1		Amended to reflect new site layout
Site	DUB11-DR-SP-A008-V1-PL-BMD	ARCHITECTURAL EQUIPMENT YARD FENCE	V1		Minor changes
	DUB11-DR-SP-A009-V0-PL-BMD	Withdrawn	V1		
	DUB11-DR-SP-A010-V0-PL-BMD	Withdrawn	V1		
	DUB11-DR-SP-A011-V0-PL-BMD	Withdrawn	V1		
Switch Substation	DUB11-DR-SP-A012-V1-PL-BMD	SWITCHROOM SUBSTATION Plans and elevations	V1		Updated to match switchgear design
AGI Gas Regulator Compound	DUB11-DR-SP-A013-V1-PL-BMD	ARCHITECTURAL AGI GAS REGULATOR Plans and Elevations	V1		No change
	DUB11-DR-SP-A014-V0-PL-BMD	Withdrawn	V1		
Step-up Transformer & substation	DUB1-DR-ZZ-A015-V1-PL-BMD	TRANSFORMER COMPOUND & SWITCH BUILDING	V1		Updated transformers and switch building
North Power Plant Building	DUB1-DR-ZZ-A016-V1-PL-BMD	MULTIFUEL POWER PLANT BUILDING - NORTH Plans and Sections	V1		NEW drawing Plans and sections
North Power Plant Building	DUB1-DR-ZZ-A017-V1-PL-BMD	MULTIFUEL POWER PLANT BUILDING - NORTH Elevations	V1		NEW drawing Elevations
South Power Plant Building	DUB1-DR-ZZ-A018-V1-PL-BMD	MULTIFUEL POWER PLANT BUILDING - SOUTH Plans and Sections	V1		NEW drawing Plans and sections
South Power Plant Building	DUB1-DR-ZZ-A019-V1-PL-BMD	MULTIFUEL POWER PLANT BUILDING - SOUTH Elevations	V1		NEW drawing Elevations
North Power Plant Building	DUB1-DR-ZZ-A020-V1-PL-BMD	FUEL CONTAINMENT VAULT - Environmental Compliance	V1		NEW drawing Elevations
DUB 11 datacentre	DUB11-DR-00-A100-V1-PL-BMD	ARCHITECTURAL LAYOUT GROUND FLOOR DUB11	V1		Double-stack gensets, single phase build
DUB 11 datacentre	DUB11-DR-01-A101-V1-PL-BMD	ARCHITECTURAL LAYOUT FIRST FLOOR DUB11	V1		Double-stack gensets, single phase build
DUB 11 datacentre	DUB11-DR-02-A102-V1-PL-BMD	DUB11 ROOF PLAN	V1		Grass roof added, minor amends
DUB 11 datacentre	DUB11-DR-00-A200-V1-PL-BMD	DUB11 ELEVATIONS	V1		Amended facade & escape stairs,
DUB 11 datacentre	DUB11-DR-00-A300-V1-PL-BMD	DUB11 SECTIONS AA,BB,CC	V1		Minor Amends to match facade, gensets
DUB 11 datacentre	DUB11-DR-SP-A900-V1-PL-BMD	DUB11 MAIN ENTRANCE SITE PLAN	V1		Amended to match new site layout.
DUB 11 datacentre	DUB11-DR-00-A904-V1-PL-BMD	DUB1 - SITE CONTEXT ELEVATIONS	V1		Revised to match new site plan
Site - Lighting	DUB11-DR-SP-E120-V1-PL-BMD	LIGHTING PLAN TERRAIN	V1		Amended to match new site layout.
DUB 12 datacentre	DUB12-DR-00-A110-V1-PL-BMD	ARCHITECTURAL LAYOUT GROUND FLOOR DUB12	V1		Double-stack gensets, minor amends
DUB 12 datacentre	DUB12-DR-01-A111-V1-PL-BMD	ARCHITECTURAL LAYOUT FIRST FLOOR DUB12	V1		Amended to match new site layout.
DUB 12 datacentre	DUB12- DR-03-A112-V1-PL-BMD	ARCHITECTURAL LAYOUT ROOF PLAN DUB12	V1		Grass roof added, minor amends
DUB 11 & DUB12 - standby generators	DUB1-DR-ZZ-A116-V1-PL-BMD	STACKED GENERATORS	V1		NEW drawing Plans and sections
DUB 12 datacentre	DUB12-DR-00-A201-V1-PL-BMD	ARCHITECTURAL ELEVATIONS DUB12	V1		Revisions to facades
DUB 12 datacentre	DUB12-DR-00-A301-V1-PL-BMD	ARCHITECTURAL SECTIONS DUB12	V1		Minor Amends to match facade, gensets
DUB 12 datacentre	DUB12-DR-SP-A901-V0-PL-BMD	DUB12 MAIN ENTRANCE SITE PLAN	V1		Amended to match new site layout

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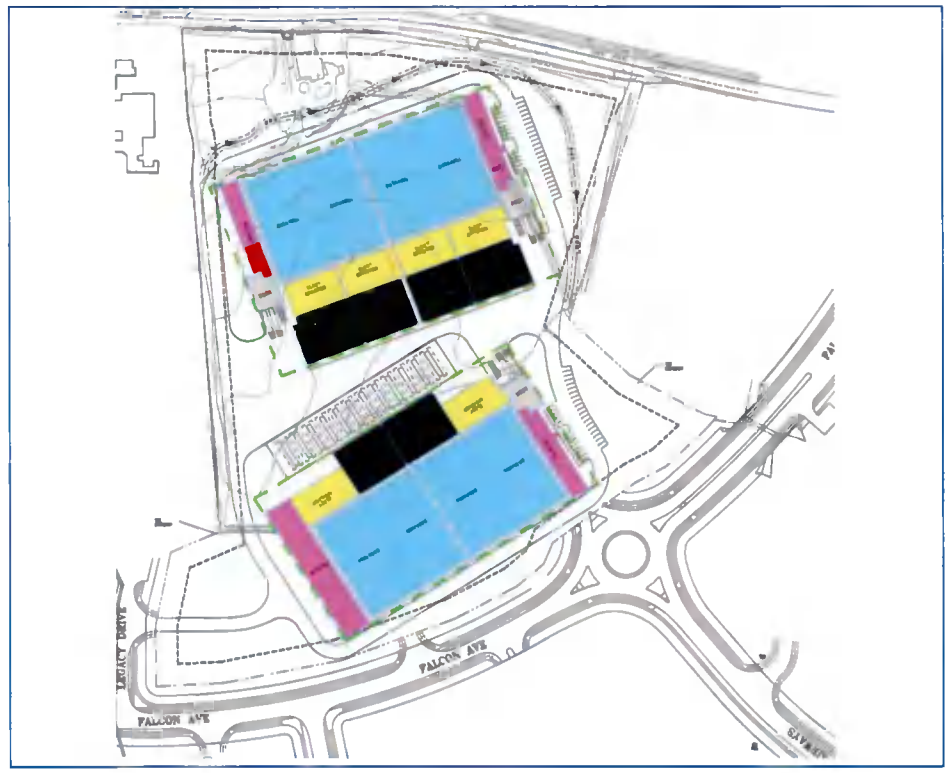

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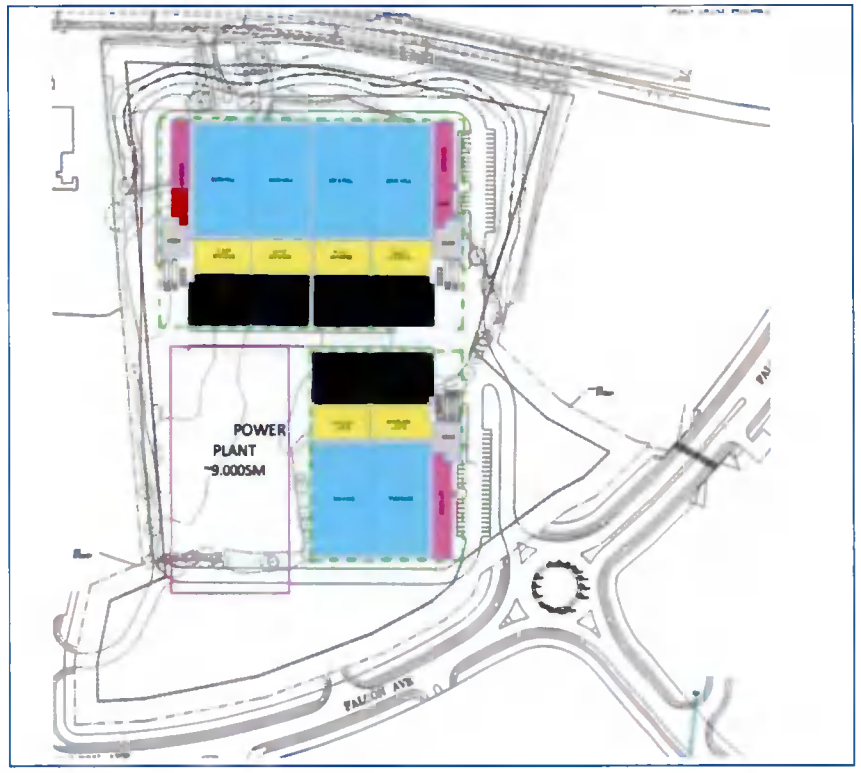

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Aerial view of the redesigned scheme

This shows the stream retained and the increased landscape along New Nangor Road

(b) The Planning Authority notes from a site inspection that the site is set below the existing internal road network and this change in levels is not apparent in the section that was submitted. It is also noted there will be cut and fill on this site and the applicant has provided a plan indicating how the levels will change across the site. In addition to this information, the planning authority require existing and proposed cross sections. It is apparent that there are retaining structures proposed and details of these should be provided on plans and sections provided.

Response

Cut and fill sections are shown on Drawing DUB11.1-DR-SP-C312-V0-WS4-PIN and the external civil works are shown on Drawing DUB11.1-DR-SP-C130-V0-WS4-PIN. Formation levels are shown on Pinnacle Drawing DUB11.1-DR-SP-C316-V0-WS4-PIN and cut-and-fill across the site are shown on Drawing DUB11.1-DR-SP-C317-V0-WS4-PIN.

3. Scale of Development

ORIGINAL APPLICATION – Aerial View from South (Below)

The original application was a rational and efficient response to the Applicant's modular design philosophy. The response from SDCC Item 3 (b) indicated that the site could be regarded as overdevelopment, especially given the Council's policy to retain watercourses. The rectilinear layout creates the impression of a single large building.

RESPONSE TO FURTHER INFORMATION REQUEST (Below)

Blank facades on the Falcon Avenue frontage are avoided by placing offices and entrance facing South.. By double-stacking and placing the generators at an angle we are able to compress the built footprint within the area bounded by the existing Baldonnel Stream and create a substantial landscaped area to the North of the site. Introducing angles between the buildings breaks up the mass and gives more visual interest. The bulk of the Power Plant is reduced by a split into two buildings separated by the transformer compound. Attenuation ponds, meadows and swales allow surface water to be controlled without any below ground tanks. Permeable surface paving is increased and there is a slight reduction in parking spaces

Exterior Treatment & Streetscape

The approach to the exterior design of the data centre buildings is to use high quality insulated panels for the main façade with a powder-coated finish and with a palette of colours that enlivens the façade in a graduated way. Perforated metal panels are used around the staircases and with stainless steel wire mesh to allow planting to grow up the façade, thus adding texture and visual interest as well as contributing to the bio diverse habitat of the landscaping. Living Green Walls are introduced at Ground level to increase biodiversity and soften the building at street level.

Rooftop plant including chillers and transformers are masked by dark grey mesh panels. The façade around the office entrances are aluminium curtain wall. A sedum "green" roof is introduced over the office and non-critical areas of the datacentres.

A similar palette of cladding is used on the Power Plant and other ancillary buildings.

WHITE METAL PANEL

GREY METAL PANEL

CURTAIN WALL

ACOUSTIC LOUVERS

PERF PATTERN METAL

3. Scale of Development

ORIGINAL APPLICATION – Elevation to New Nangor Road (Above) Blank frontage enlivened with coloured panels and trim. This softens the bulk of the building but a more substantial change is required to meet the Additional Information Request Point 3 (b)

RESPONSE TO FURTHER INFORMATION REQUEST (Below)

The buildings have been re-organised on site to locate the main entrance of DUB11 facing New Nangor Road. This gives more visual interest and also affords staff and visitors an attractive view over the landscaped stream and berms. In addition, we have introduced living Green Walls in front of the loading bay and the generator compound. The wire trellises around the escape stairs are enlarged to allow climbing plants to flourish. By changing the means of escape from the roof to the staircase midway along the East façade we have reduced the escape stair on the NE corner to serve only the first floor. The overall level of the building is lowered by 250mmm and the plant room on the roof reduced inheight. The coloured panels on the façade are graded in colour from dark to light to reduce the visual bulk and a canopy has been added at first floor level to break up the massing from street level.

3. Scale of Development

Response

The effect of all the changes outlined above is to significantly reduce the visual impact of the datacentres, particularly along the New Nangor road frontage. The photomontages on the right show the appearance at 1-year and 5-years of planting.

For comparison the image below shows the original application scheme which was much more visible than the revised version.

New Nangor Road – with young trees

New Nangor Road – original scheme

New Nangor Road – with mature trees

3. Scale of Development

Response

The view into the site from Falcon Avenue. The photomontages below show the original blank facades of the original application scheme on the left and the revised scheme on the right with the office block facing the road.

Falcon Avenue – Original Application

Falcon Avenue – Revised Scheme with offices facing the road frontage

3. Scale of Development

(ii) The permanent power plant would be over 118m long and would have a significant presence on the western boundary of the site. It is noted that the western elevation is blank and monotonous, with flues. Whilst significantly shorter than the west elevation, the south elevation also appears blank. The Planning Authority request that the applicant consider adding detail to these elevations, to reduce the monolithic appearance.

Response

The multifuel Power Plant is now split into two buildings separated by the Step-up Transformer compound. The North building is 63m long and the South building is 46 m long, with a separation of 40 metres. Whereas on the original scheme the Substation faced onto Falcon Avenue, it is now almost hidden between the two Power buildings.

The contrast between the two designs are shown on the next page.

(iii) There are concerns regarding the design of the temporary power plant. It is noted that the proposal would be temporary, however, there are still concerns regarding the presence of significant blank facades. The floorplans provided indicate a single access gate to the north and south and it is noted that these details are not reflected on the elevations. The Planning Authority request that the applicant consider adding detail to these elevations, to reduce the monolithic appearance.

Response

The evolution of the Energy Strategy described in the Planning Consultant's Report means that the temporary power plant is no longer required and is omitted from this Additional Information package.

Falcon Avenue Frontage with mature trees.

The South Power Plant is on the left and the DUB12 Datacentre is on the right in the image above.

Appendix A: Schedule of Areas

Additional Information Response Item 4 (1)

SCHEDULE OF AREAS

Function		PHASE 1 DUB 11	PHASE 2 DUB 12
		m^2	m^2
Data Modules		10,051	5,016
Plant Rooms		7,612	3,845
Offices		1,234	50
Storage		1,331	741
Support Space		226	236
Circulation		2,861	1,245
Total	GIA	23,315	11,133
Walls, columns etc.		1,352	1,782
Total datacentres	**GEA**	**24,667**	**12,915**
Multifuel Power Plant		1784	1258
AGI Plant		95	
Switch Station		252	
Step-up Substation		134	
TOTAL AREA	**GEA**	**26,932**	**14,173**

Development Summary

The key elements of the development are shown in the table below. This is updated to reflect the design changes since the original application.

The key changes from the original application are:

1. The area of the Multifuel Power Plant has increased in area because of the division into two buildings and design development of the electrical infrastructure has led to an increase in floor area of the substations.
2. The number of parking spaces has reduced from 144 to 137 to allow the campus to fit within the area south of the Baldonnel Stream
3. Fuel Storage for the Multifuel Power Plant to provide 72 hours reserve - an EirGrid requirement, is provided in below-ground bunded tanks,
4. The height of the flues to the Power Plant buildings is increased to 30 metres to meet EN 15259 sampling requirements.

The other key elements remain as the original application.

Item	DUB11	DUB12	Total DUB1
Development Site area			87,053 m^2
Building area - Data Centres	24,667 m^2	12,915 m^2	37,582 m^2
Multifuel Generation Plant, substations, AGI Plant	(1,784+252+134+95) = 2,265m^2	1,258m^2	3,523 m^2
Building height to roof	14.5m/18.5m	14.5m/18.5m	14.5m/18.5m
Roof top equipment & platform height above roof	6m	6m	6m
Building Occupants	45-90 persons	45 persons	135 persons
campus parking spaces	100	37	137
Delivery vehicle spaces	2	2	4
Cycle Spaces	44	22	66
Structure	Steel frame and concrete slabs.		
External wall	Insulated metal cladding on metal framing		
Elevators	3	2	5
Fire Suppression	Sprinkler	Sprinkler	Sprinkler
Emergency generators	22	14	35
Fuel Storage – Standby Generators	22 x 18,000 liters above ground	14 x 18,000 liters above ground	648,000 liters total
Fuel Storage – (HVO) Multifuel Generation Plant	14 x 80,000 liters below ground	12 x 80,000 liters below ground	2,080,000 liters total
Air-cooled chillers	24	14	38
Total Building electrical load	48MW	29MW	77MW
Projected annual water demand to EN 806.2 (2005)	2,043,808 litres (11.1) 539,606 litres (11.2)	2,043,808 litres	4,627,222 litres
Projected peak flow rate	2.82 litres/sec	Peak flow rate from fixture demand to BS 6700(2006)	
Sprinkler Tanks (NFPA-01 type II construction) most stringent requirements.	2 x 455 m^3	2 x 455 m^3	1,820 m^3

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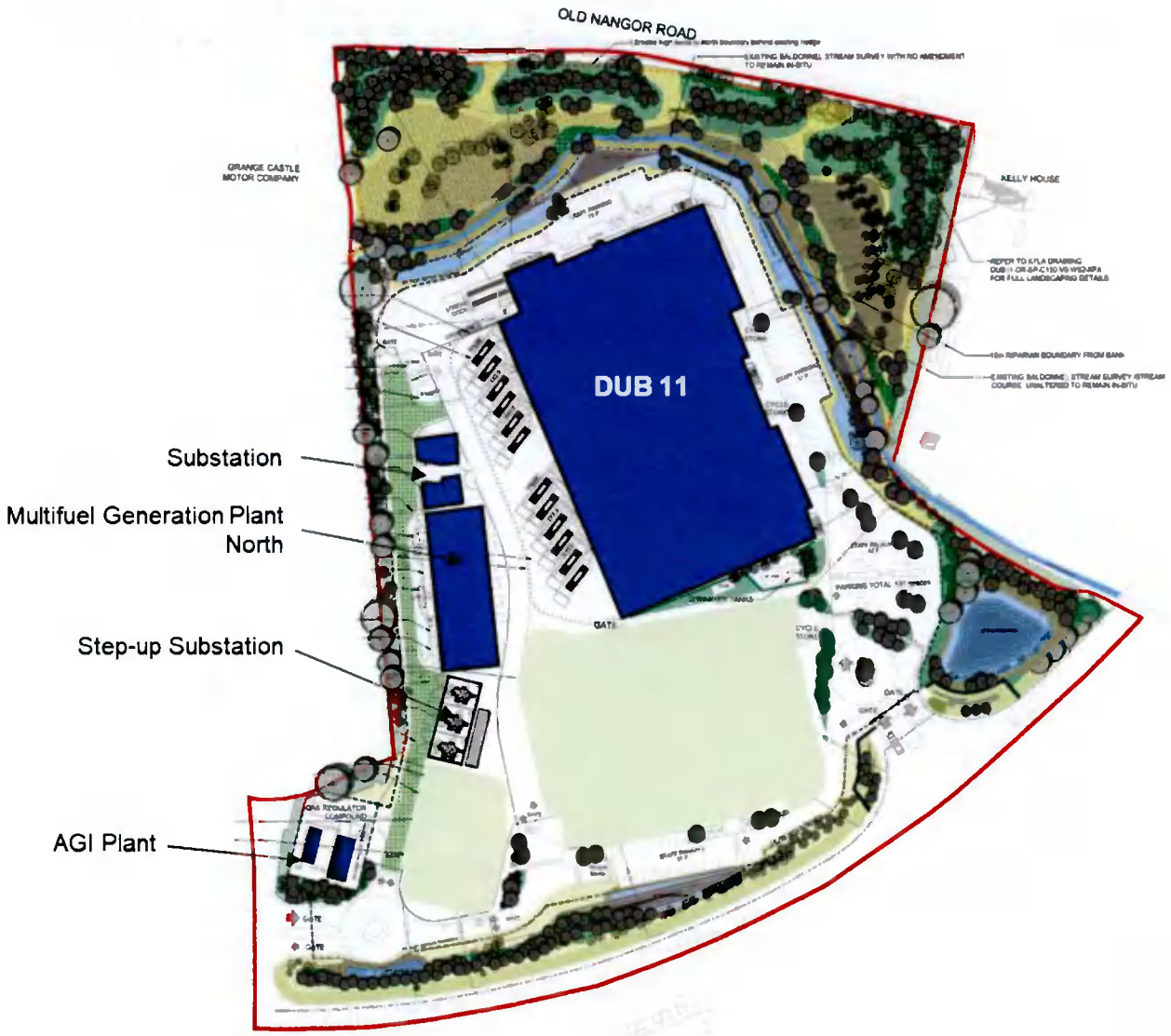
4. Phasing of the Campus

The campus will be built out in two phases. The sequence will start with the site infrastructure, the North Multifuel Generation Plant and the associated landscape works to give as much time as possible for the new alignment to mature. DUB11 will be the first datacentre. There will be a phased interior fitout of the Data Modules to match customer demand.



Phase 1

Phase 2 sees construction of the DUB12 Datacentre, the South Multifuel Generation Plant and any remaining siteworks.

New

Existing

Phase 2

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3. Scale of Development

(g) there are a number of inconsistencies within the photomontages. The applicant is requested to provide the following:
- Location of view 1
- Proposed views for view 4 and 8
- Details of locations for 7a and 7b
It is noted that the proposed development would take place in a number of phases. The applicant is requested to provide photomontages which reflect the different phases. These should include an interim landscaping. It is noted that earlier phases may be in place for a number of years prior to the construction of later phases. All boundary treatment and landscaping should be included in the photomontages.

Response

All of the photomontages submitted with the original application have been updated to reflect the revised site layout and building façade treatments as well as the new landscaping layout. Views are included in the EIAR Volume 2 Technical Appendices prepared by Ramboll Engineers.

There are views from all the viewpoints agreed previously with young trees and mature trees for both Phase 1 and Phase 1+2. Please refer to this Appendix for a full explanation and location map.

The Design Statement includes photomontages of the new scheme compared with the original scheme to demonstrate the effort to reduce the visual impact of the design.

Original Scheme looking northeast from Falcon Avenue

Revised Scheme looking northeast from Falcon Avenue

3. Scale of Development

Response

Power Plant – Further Information

The design of the Power Plant buildings has evolved since the original planning application. The building volume is increased to take account of the silencers and emissions reduction measures required to meet environmental standards. In addition, on-site fuel storage is part of the EirGrid agreement. Drawing DUB1-DR-ZZ-A020-V0-PL-BMD illustrates the developed design of the Power Plant buildings .