

NAPPER

RIBA  Chartered Practice

Design and Access Statement

VM Barnsley T7990

Revision : 1 / 27th June 2017



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1.0 Background Information

UpNorth Group commissioned Napper Architects to submit applications for planning approval for the alteration and / or adaption of a number of Virgin Media 'hubs' nationwide, to provide air handling equipment to serve new VM digital media apparatus.

The Virgin Media premises is accessed from Shawfield Road on the Carlton Industrial Estate;

**Virgin Media – Barnsley T7990
Unit 4, Shawfield Road
Carlton Industrial Estate
Barnsley
Yorkshire
S71 3HS**

2.0 Location, Constraints and Context

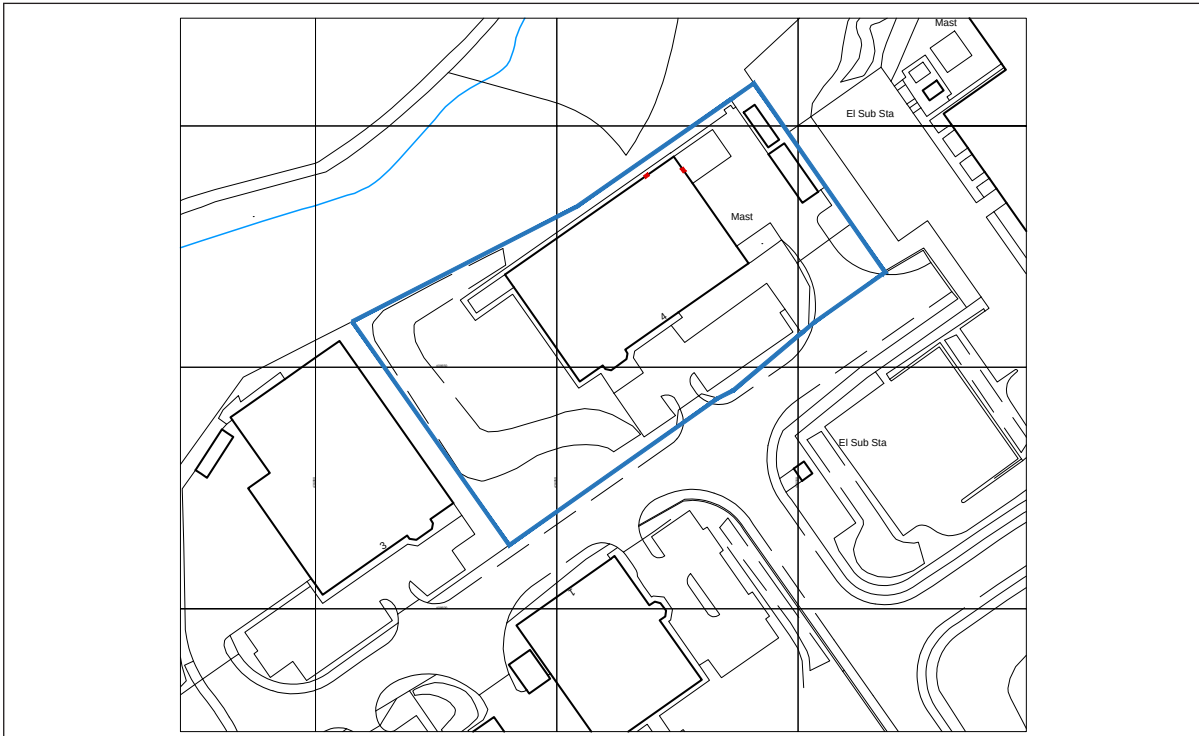


Figure 1.
Site location and application boundary. Not to scale

Virgin Media occupy a 2 storey premises, with a dedicated parking apron to the south east elevation.

It is proposed that 2no louvres to be installed one on the north west and one on the north east elevations. Refer to Appendices 4.5 and 4.6 for exact locations.



Figure 2.
The aerial photograph identifies the Virgin Media site boundary.



Figure 3.
Aerial view of the Virgin Media premises looking from the south.



Figure 4.
Aerial view of the Virgin Media premises looking from the east.



Figure 5.
Aerial view of the Virgin Media premises looking from the north.



Figure 6.
Aerial view of the Virgin Media premises looking from the west.



Figure 7.
View of the North East elevation, showing the location of the louvres.



Figure 8.
View of the North West elevation, showing the location of the louvres.

3.0 The Proposals

The proposals which form this submission build on the evolving client brief and the technical analysis noted in the sections below.

3.1 Amount

The planning application sees the provision for:-

- 2no. New louvres 1000x1500mm

3.2 Layout

1no. Weatherite VMR45 unit to be installed internally which will be served by 1no. supply Louvre will be installed on the North East elevation and 1no. exhaust louvre to be installed on the North West elevation.

3.3 Scale

These are proprietary units, sized for performance capacity; they are positioned to facilitate and directly cool new digital media apparatus.

- Louvre –1500 mm (h) x 1000 mm (w)

3.4 Appearance

All units and Louvres to have a self-finished powder coating. Louvres to match existing facade.

3.5 Access

The plant installation requires only periodic maintenance, with full access required only during the installation period and for inspection of any damage or major technical faults that occur during operation. Direct access is possible via the service access pathway running round the building perimeter.

3.6 Planning: Guidance Data

Refer also to preceding sections 3.1-3.5

A. Site Analysis - The Virgin Media premises consists of a detached 2 storey brick & cladding premises, with a dedicated parking apron to the South East within a fully enclosed perimeter compound approached via Howden East Road.

B. Context Analysis – The proposal is to provide supplementary air cooling plant to serve digital media equipment. No existing access arrangement for either Virgin Media or their neighbours is compromised.

C. Policy Context

D. Movement - No existing access arrangements are compromised by the proposal.

E. Access - Refer to item 3.5

F. Amount - Refer to item 3.1

G. Layout - Refer to item 3.2

H. Scale - Refer to item 3.3.

I. Appearance - Refer to item 3.4

J. Landscaping – No landscaping is involved in this application.

K. Community Safety - The proposed plant is located within the secure Virgin Media premises and is accessible by only Virgin Media staff and service engineers.

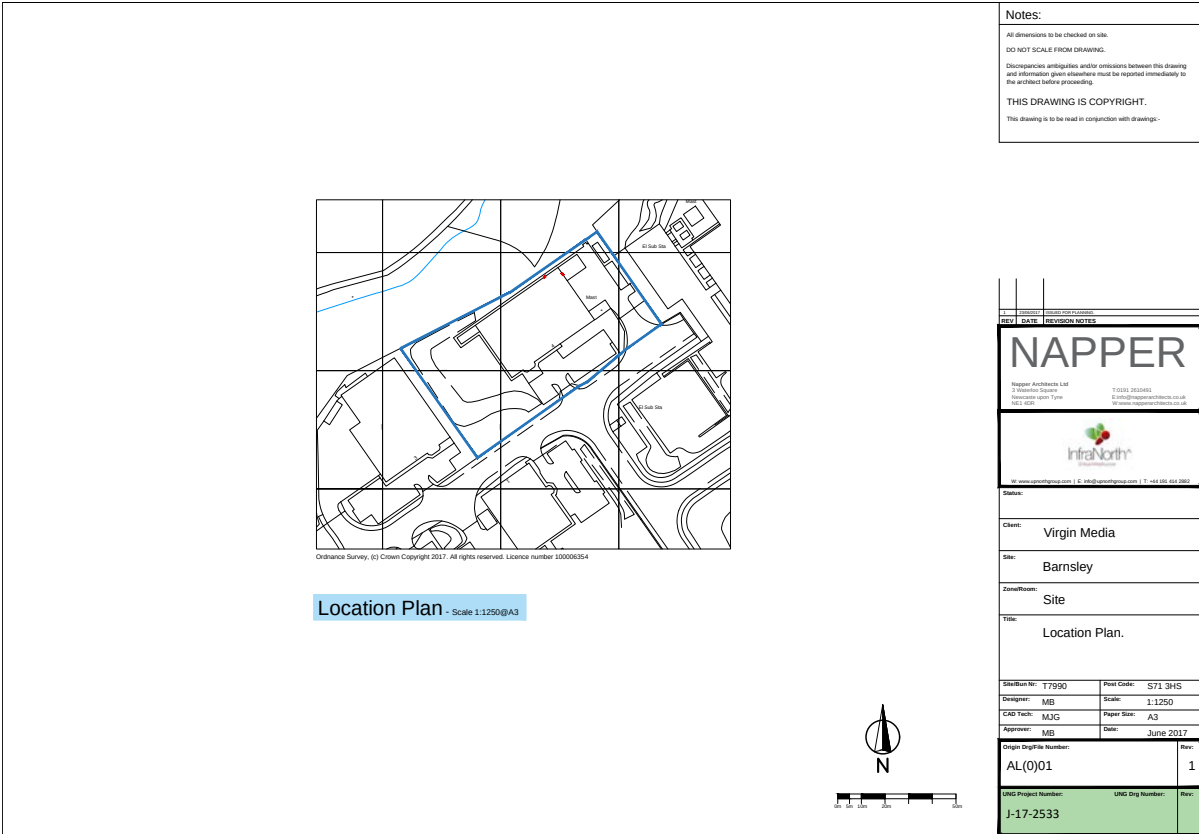
L. Environmental Sustainability - The scheme proposal is to provide an efficient element of plant with capacity to serve new digital media distribution equipment, whilst adhering to current legislation in terms of performance output.

Final Scheme - As application drawings.

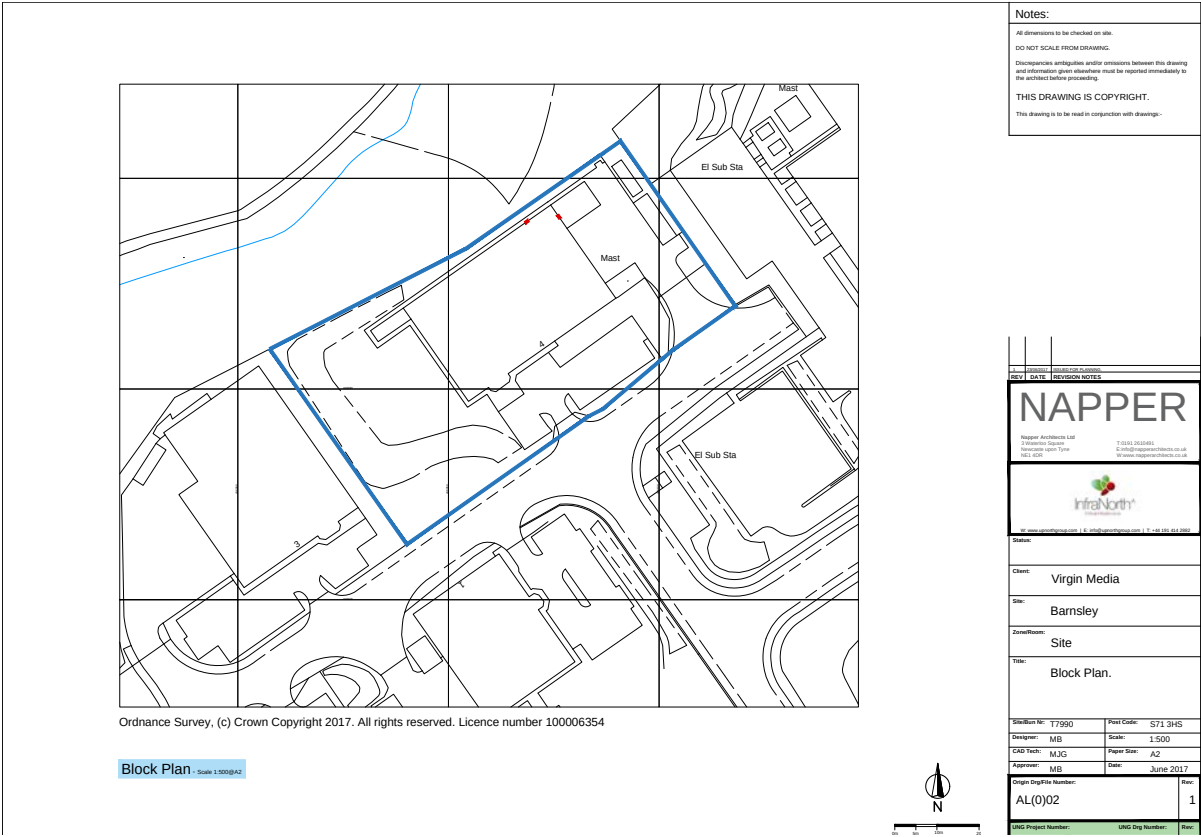
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4.0 Appendices

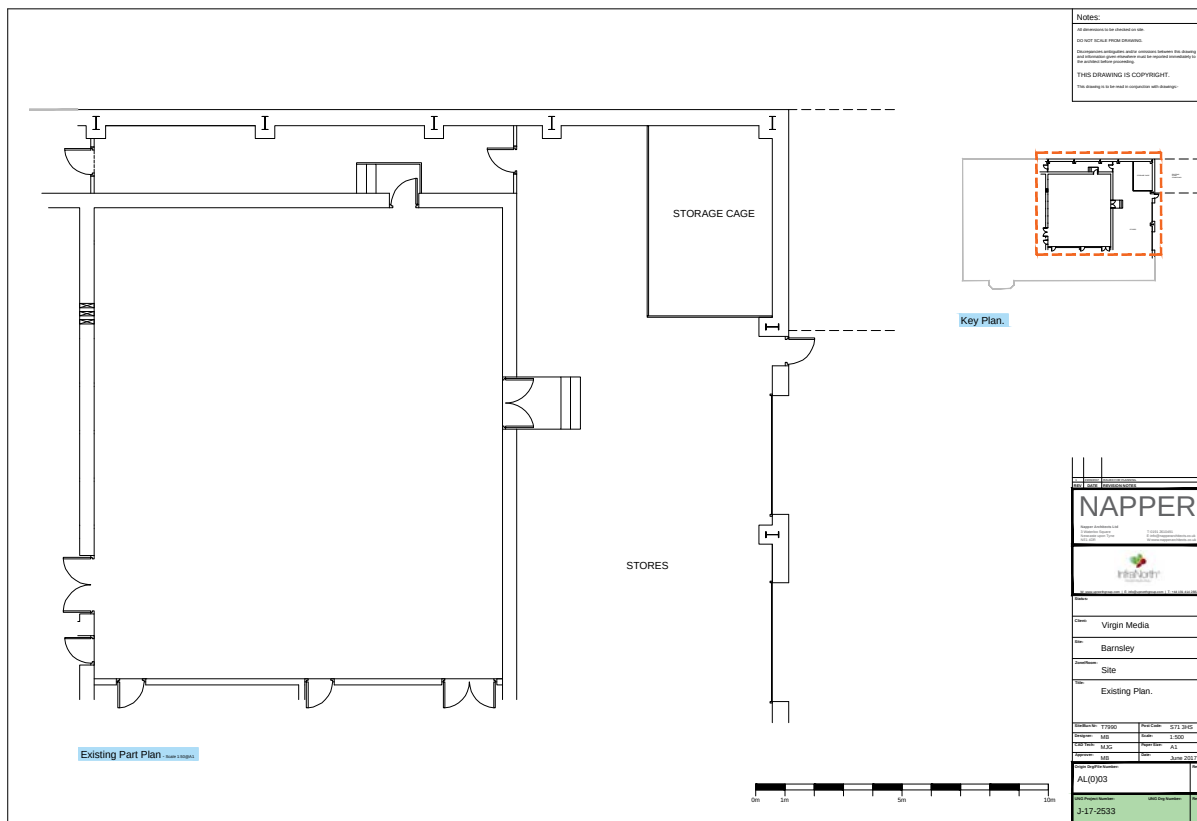
4.1 Napper Architects Drawing: AL(0)01 Location Plan



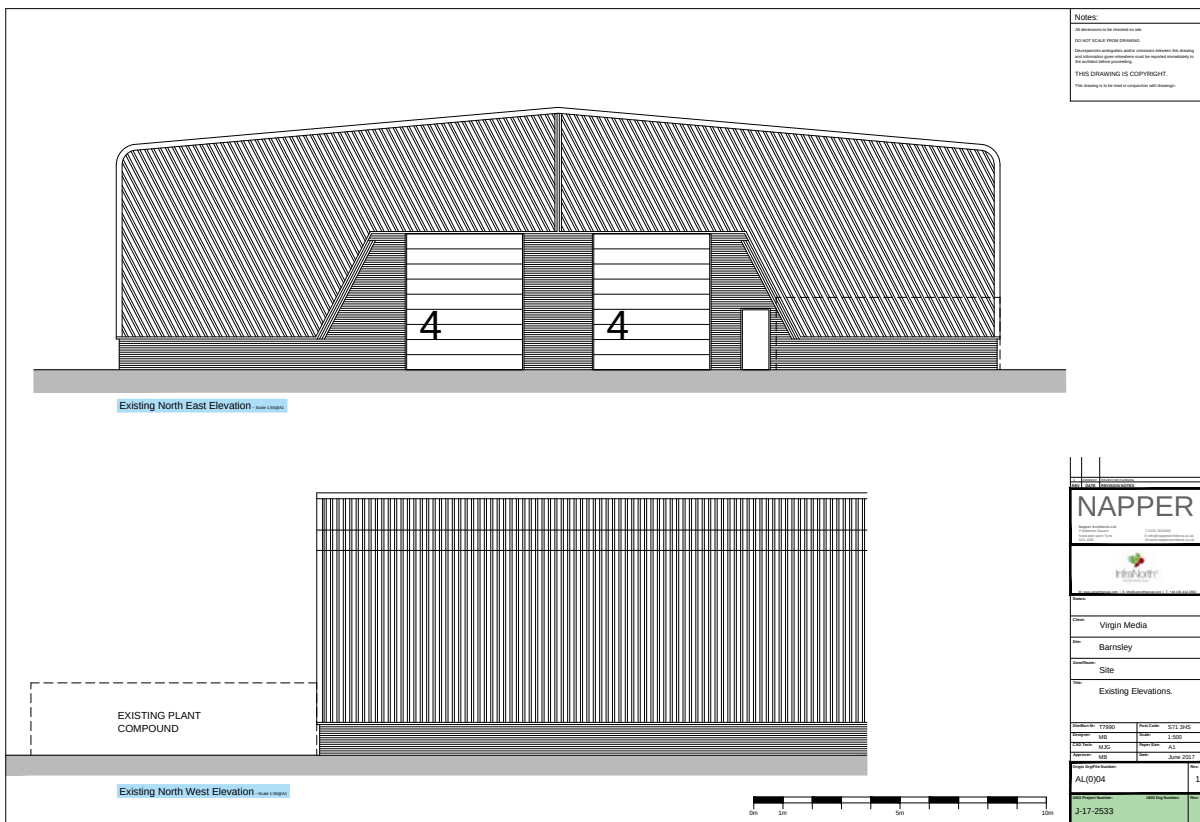
4.2 Napper Architects Drawing: AL(0)02 Block Plan



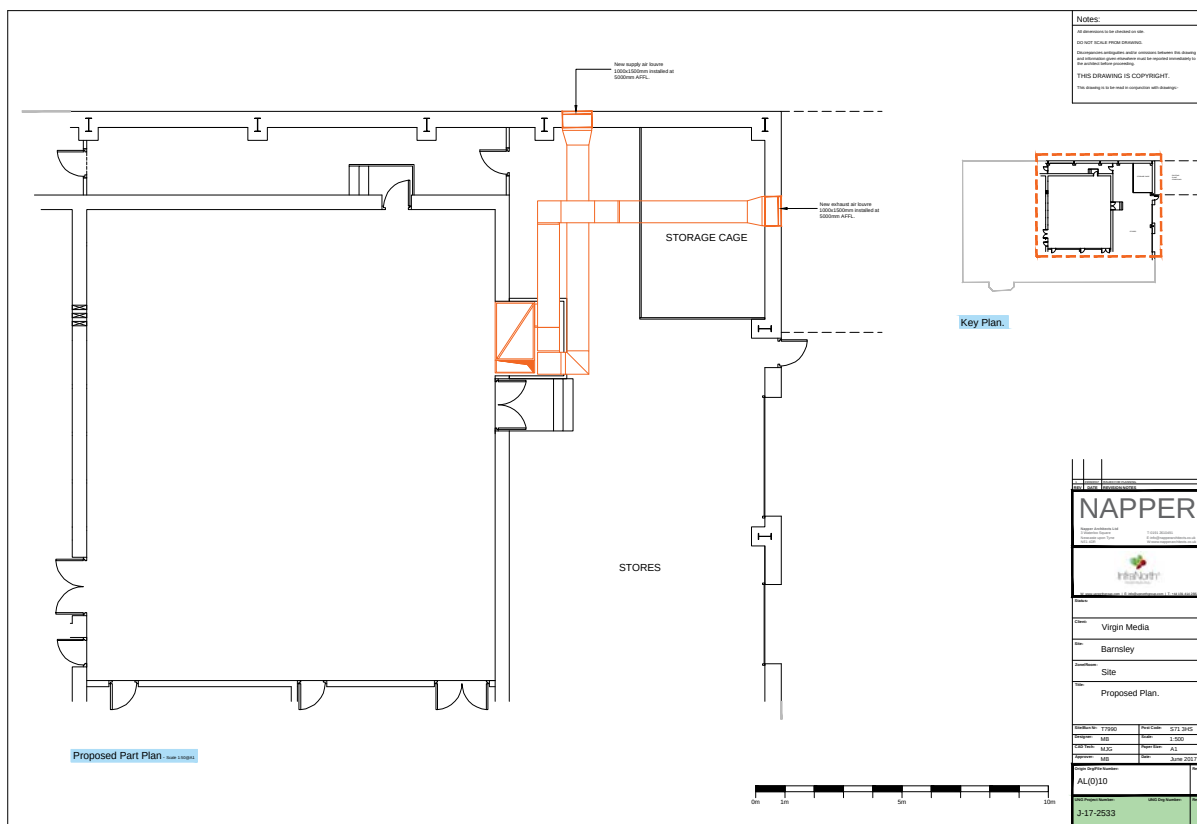
4.3 Napper Architects Drawing: AL(0)03 Existing Plan



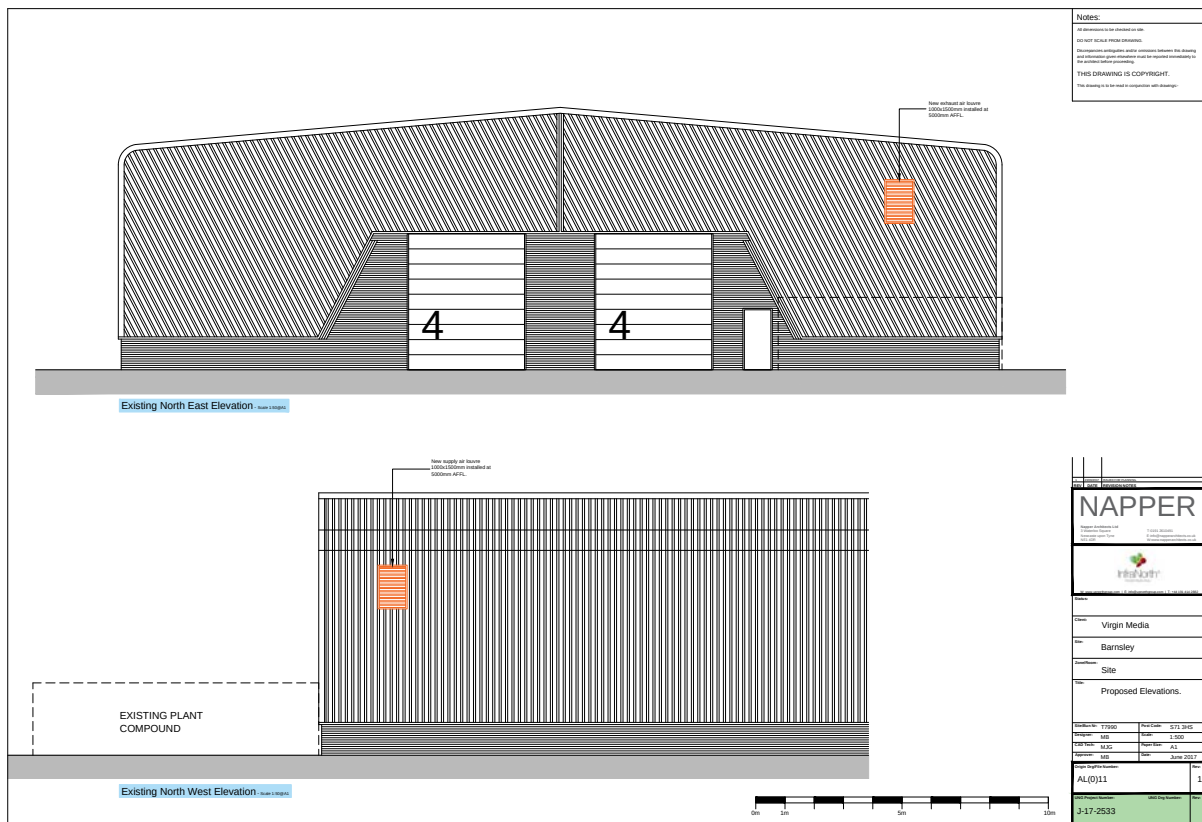
4.4 Napper Architects Drawing: AL(0)04 Existing Elevations



4.5 Napper Architects Drawing: AL(0)10 Proposed Plan



4.6 Napper Architects Drawing: AL(0)11 Proposed Elevations



4.7 Technical Specification: PLANT EQUIPMENT DATA SHEETS

VMR 45 EC TECHNICAL DATA

Mechanical:

Supply AirFlow:	3.10 m ³ /s
No. of Supply Fans:	One
Condenser/Exhaust AirFlow:	3.20 m ³ /s / 2.20 m ³ /s
No. of Condenser Fans:	One
No. of Compressors:	Two (Independent)
No. and size of Filters	Four 495 x 625 x 50 nom. th.
Refrigerant Charge (R407C)	6.8kg per circuit (2)
Refrigerant Ozone Depletion Potential (ODP)*	0
Refrigerant Global Warming Potential (GWP)*	1520

*Source: International Institute of Refrigeration, www.iifir.org

Dimensions

Unit Width:	2,000mm
Unit Depth:	1,350mm
Unit Height:	3,000mm
Unit Weight:	1,200 kg

Electrical:

Wiring Arrangement	Voltage	Frequency	Current	Fuse
Common Supply	400	50 Hz	47.6A running 52.3max	60A

Fan Sound Power Spectra Hz:	125	250	500	1K	2K	4K	8K
EC Supply Fan (125Pa Ext.) dB:	90	82	76	75	73	70	63
EC Condenser Fan (125Pa Ext.) dB:	90	82	76	75	73	70	63

Unit Noise Levels:

Estimated

Internal Noise At 2m (Free Cooling Mode):	NR56
Internal Noise At 2m (Full Chilling Mode):	NR56

NB. Internal noise levels estimated with typical ductwork arrangements and an external resistance on the supply fan of 125 Pa.
External noise levels should be calculated using the above fan data. Noise levels can be reduced depending on the design of air intake and exhaust connections e.g. using acoustically lined square bends.

Cooling Performance:

Net sensible cooling at the following conditions:	
Net Sensible Cooling:	46.5 kW
Return Air Temperature:	24°C
Fresh Air Temperature:	35°C
Supply Air External Resistance:	125 Pa