Development Control
Civic Offices, Leigh Road
Eastleigh SO50 9YN
Tel: 023 8068 8264
www.eastleigh.gov.uk
Office Hours:
Monday to Thursday 8.30am - 5pm
Friday 8.30am - 4.30pm

For office use only

Application Number:

Date Valid:

Officer:

EASTLEIGH BOROUGH COUNCIL

Application for approval of details reserved by condition.
Town and Country Planning Act 1990
Planning (Listed Buildings and Conservation Areas) Act 1990

Publication of applications on planning authority websites.
Please note that the information provided on this application form and in supporting documents may be published on the Authority's website.
If you require any further clarification, please contact the Authority's planning department.

1. Applicant Name, Address and Contact Details

Title: | First name: | Surname:

Company name: British Telecom

Street address: Burlesdon Telephone Exchange
Providence Hill

Town/City: Burlesdon
County:
Country:
Postcode: SO31 8AT

	Country Code	National Number	Extension Number
Telephone number:			
Mobile number:			
Fax number:			

Email address:

Are you an agent acting on behalf of the applicant? (•) Yes ( ) No

2. Agent Name, Address and Contact Details

Title: Mr | First Name: David | Surname: Curtis

Company name: Shephard Curtis Associates

Street address: 170 St Marys Road

Town/City: Tonbridge
County: Kent
Country: United Kingdom
Postcode: TN9 2NN

	Country Code	National Number	Extension Number
Telephone number:		01732 357 550	
Mobile number:		07860 26 88 36	
Fax number:			

Email address: david@orangeimaging.co.uk

3. Site Address Details

Full postal address of the site (including full postcode where available)

House: | Suffix:

House name: TELEPHONE EXCHANGE

Street address: PROVIDENCE HILL

BURSLEDON

Town/City: SOUTHAMPTON

County:

Postcode: SO31 8AU

Description of location or a grid reference
(must be completed if postcode is not known):

Easting: 448387

Northing: 110565

Description:

4. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application? ○ Yes ◉ No

5. Description of Proposal

Please provide a description of the approved development as shown on the decision letter:

Installation of 4No louvres to north west elevation

Application reference number: F/11/68394 Date of decision: 18/02/2011

Please state the condition number(s) to which this application relates:

Condition number(s):

3

Has the development already started? ○ Yes ◉ No

6. Discharge of Condition(s)

Please provide a full description and/or list of the materials/details that are being submitted for approval:

Not applicable

7. Part Discharge of Condition(s)

Are you seeking to discharge only part of a condition? ○ Yes ◉ No

8. Site Visit

Can the site be seen from a public road, public footpath, bridleway or other public land? ◉ Yes ○ No

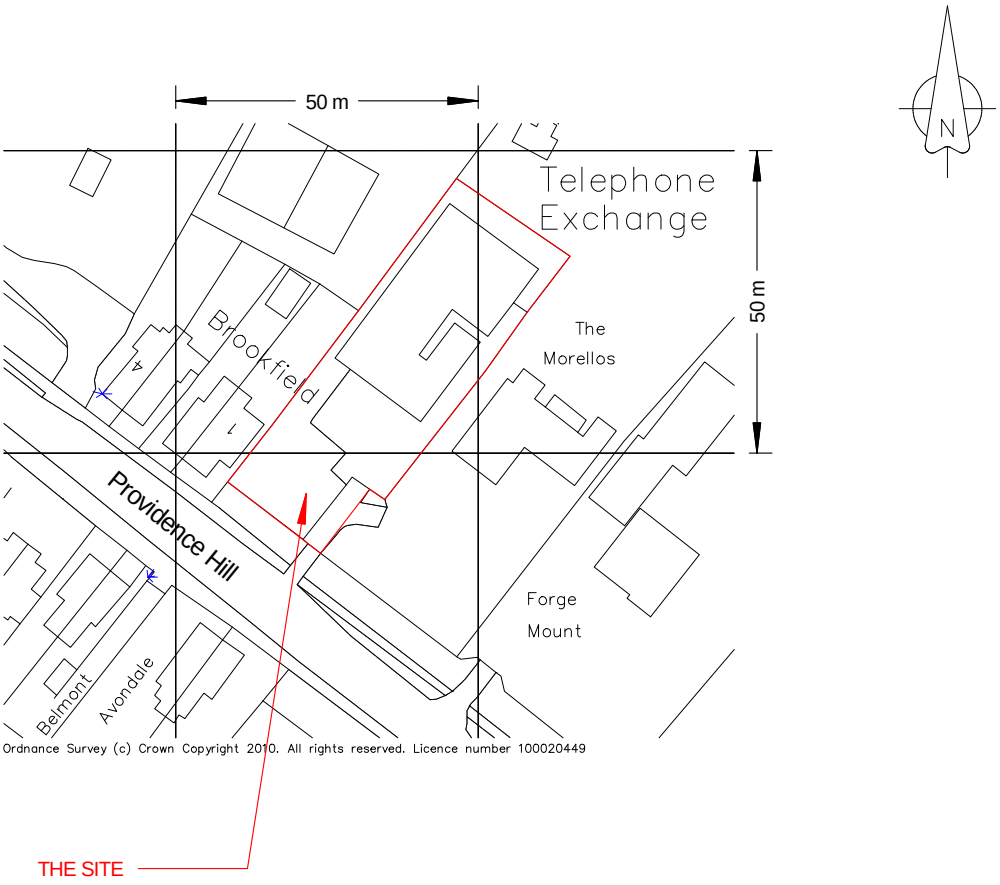
If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? (Please select only one)

◉ The agent ○ The applicant ○ Other person

9. Declaration

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information. ☒

Date 23/02/2011



LOCATION PLAN

No dimensions are to be scaled from this drawing

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Client

British Telecom

Project

Removal of glazed panels
Installation of metal louvres at
Burlesdon TE
Providence Hill
Burlesdon, SO31 8AT

Title

Location Plan

Date *Scale*

December 2010 1:1250

Drawing No.

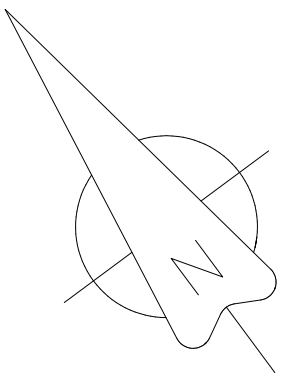
SCA/1022/01

SHEPHARD CURTIS ASSOCIATES
170 ST MARYS Rd
TONBRIDGE
KENT
TN9 2NN
TEL: 01732 357550
FAX: 01732 354382

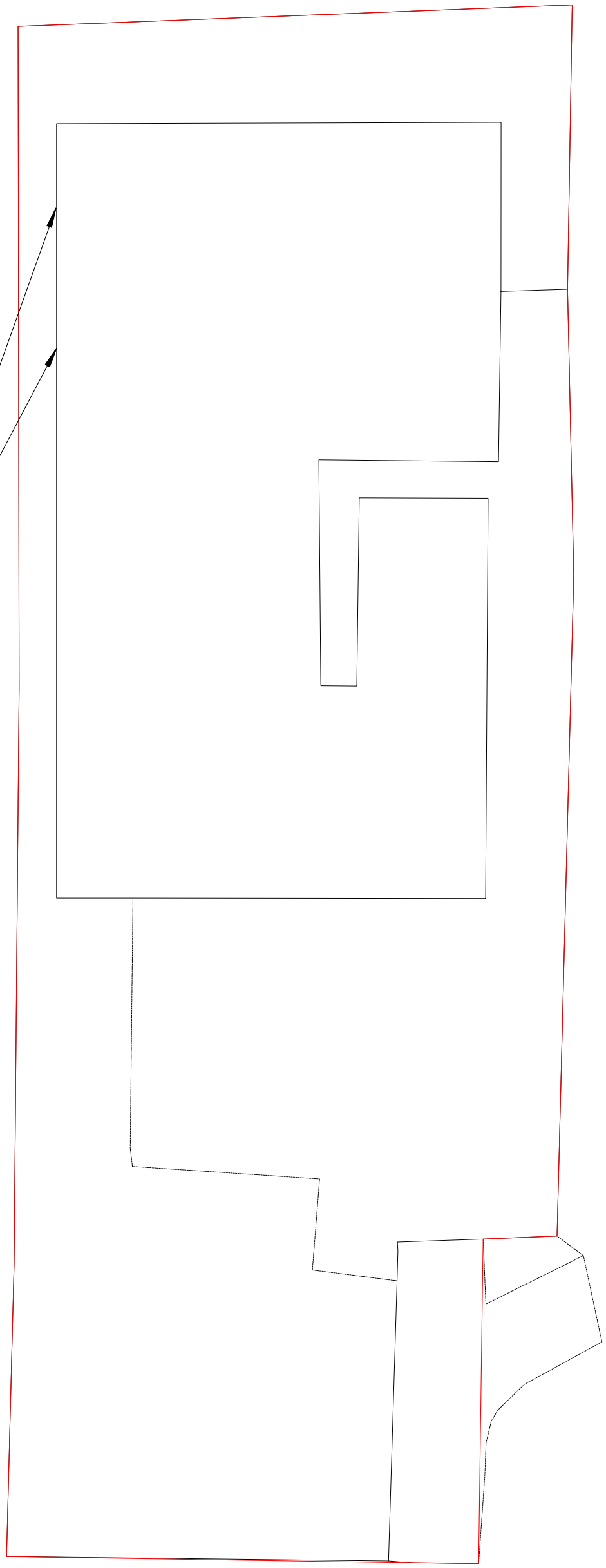
CHARTERED BUILDING SURVEYORS

RICS

Drawn sheet size A4



LOCATION OF PROPSED WORKS



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Client

British Telecom

Project

Removal of glazed panels
Installation of metal louvres at
Burlesdon TE
Providence Hill
Burlesdon, SO31 8AT

Title

Block plan

Date *Scale*

December 2010 1:200

Drawing No.

SCA/1022/02

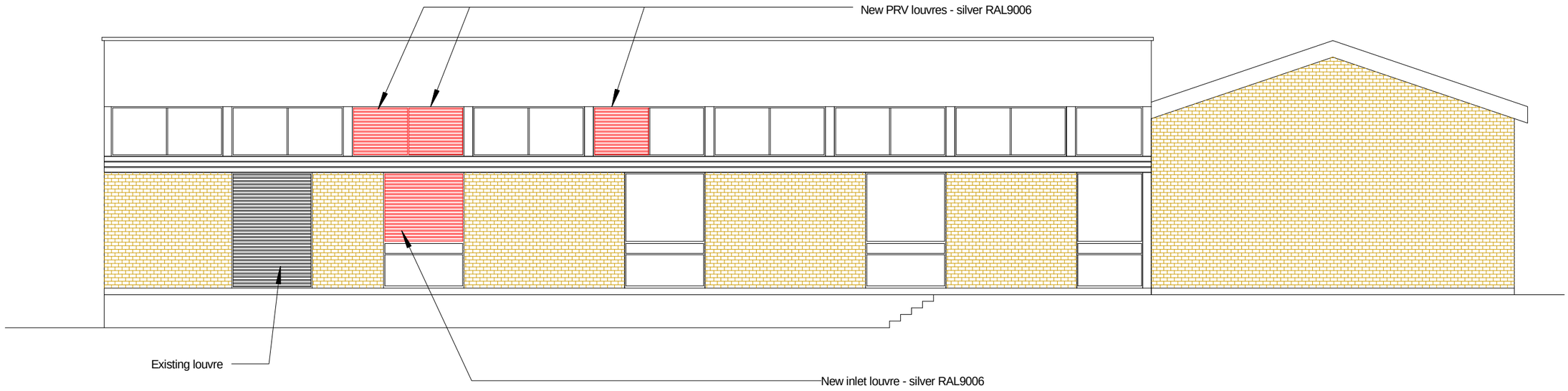
SHEPHARD CURTIS ASSOCIATES
170 ST MARYS Rd
TONBRIDGE
KENT
TN9 2NN
TEL: 01732 357550
FAX: 01732 354382

CHARTERED BUILDING SURVEYORS

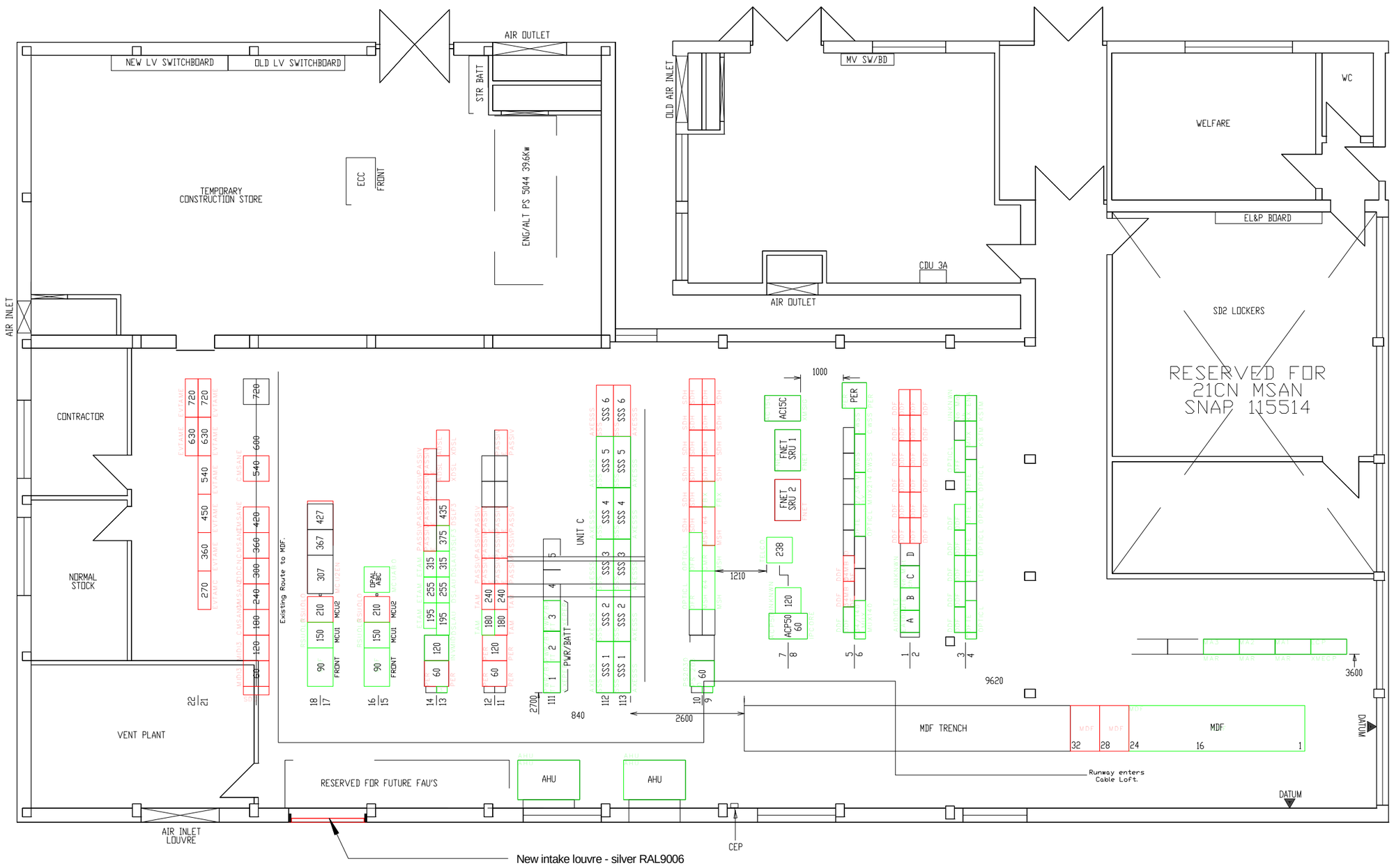
RICS

Ordnance Survey (c) Crown Copyright 2010. All rights reserved. Licence number 100020449

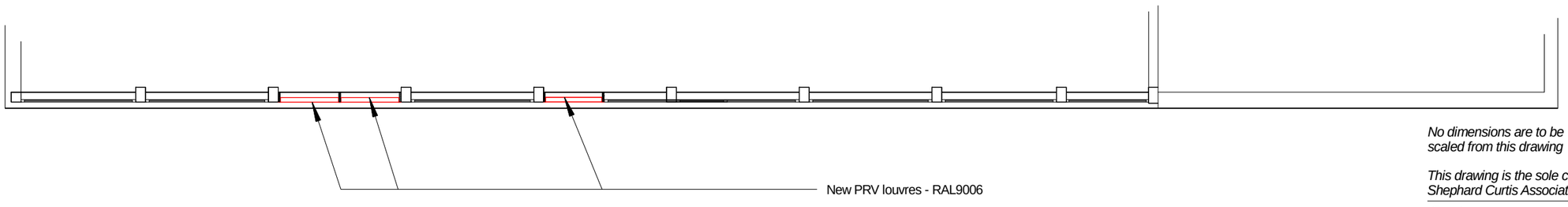
Drawn sheet size - A3



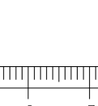
NORTH WEST ELEVATION

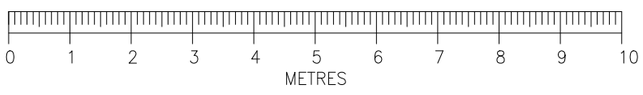


GROUND FLOOR PLAN



GROUND FLOOR PLAN - high level windows





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Client

British Telecom

Project

Removal of glazed panels
Installation of metal louvres at
Burlesdon TE
Providence Hill
Burlesdon, SO31 8AT

Title

Ground floor plan
& North west elevation

Date *Scale*

December 2010 1:100

Drawing No.

SCA/1022/03

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CHARTERED BUILDING SURVEYORS

RICS

WATERLOO ACOUSTICS

Unit 11, D2 Trading Estate, Castle Road, Sittingbourne Kent ME10 3RH
Tel: 01795 423623 Fax: 01795 423514
Email: sales@waterlooacoustics.com

ENVIRONMENTAL NOISE MEASUREMENT REPORT

Site Name:	**Bursledon T.E.**
Report Type:	**Pre-installation**
Site Address:	**British Telecom Bursledon T.E. Providence Hill Bursledon Southampton SO31 8AT**
Date of Measurements:	**21st January 2011**
Client:	**Mr M. Smithers Edenaire Limited Station Road Edenbridge Kent TN8 6EG**
Report Author: Approved for Issue:	**A. Jowitt B.Costello B.E.**
Report No. Report Date:	**1432/01 25th January 2011**

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1 Introduction

1.1 This report was carried out on the instructions of Mr M. Smithers of Edenaire to determine the environmental impact of noise emissions from the proposed installation of a new air handling unit at Bursledon Telephone Exchange comprising:

a) 1 off eBTA400 unit located internally on the ground floor of the exchange building.

1.2 The objectives of the survey are to:

a) Determine any critical locations that may be affected by the noise emissions from the proposed plant equipment.

b) Determine the historical night-time noise level at any critical location in accordance with BS4142: 1997 “Method for rating industrial noise affecting mixed residential and industrial areas”.

c) Suggest acceptable design criteria for noise emissions from the Exchange to minimise the likelihood of complaint when assessed to BS4142 and expected local authority requirements.

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2 Site Description

2.1 Bursledon Telephone Exchange is located on north eastern side of the main A27 Providence Hill in Bursledon, Hants. The main access to the exchange is via a driveway to the south west of the exchange in Providence Hill.

2.2 The site of the exchange occupies an area of approximately 22m x 65m. The exchange building itself is a single storey building approximately 19m x 32m and set back approximately 30m from the main road. The car parking area lies to the south west of the exchange building. The exchange is bounded by residential properties to the southwest, south and south east with fields to the northwest, north and north east. (see site plan).

2.3 The predominant background noise was from frequent road traffic on the A27 Providence Hill to the south and the M27 (junction 8) at approximately 400m to the north of the exchange. In addition, plant noise from within the exchange also contributed to the ambient noise levels.

2.4 The proposed Air Handling Plant consists of :

One Edenaire type eBTA400 fresh air handling unit located internally on the ground floor of the exchange building. This is ducted via an inlet air acoustic louvre on the north western facade of the exchange building. The PRV louvres (discharge air) will be located within the same room space adjacent the inlet air louvre. These are also acoustic louvres generally as indicated on site plan. All the louvres overlook the rear garden of the residential property of n° 1 Brookfield, Providence Hill.

2.5 It is understood that the units are fully operational 24hrs per day although actual duties will depend upon the heat load in the exchange and external ambient temperatures.

2.6 The area is predominantly residential.

2.7 The nearest affected noise sensitive location to the exchange and the proposed installation appears to be the residential property of:-

i. N° 1 Brookfield, Providence Hill at approximately 34-38m from the inlet and discharge air acoustic louvres (see site plan).

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3 Instrumentation

3.1 Cirrus Research plc Integrating Sound Level Meter:
Type: GR 821B Serial No: C19350FE
Compliance to IEC 61672-1: 2002 Class 1, IEC 60651: 1979 Type 1, IEC 60804: 2001 Type 1, IEC 61260: 1995 Class 1, IEC 60942:1997, IEC 61252:1993, ANSI S1.4-1983 and ANSI S1.43-1997

3.2 Cirrus Research plc Calibrator:
Type: GR 511E Serial No: 43553

4 Weather Conditions

4.1 Partially cloudy cold night approx 2^0 C with a northerly wind approximately 5mph. Road conditions were dry throughout the survey period.

5 Measurement Procedure

5.1 Measurements were taken at various locations in the vicinity of the exchange building. These readings were taken in order to establish noise levels likely to be experienced at nearest affected residential properties (see attached site plan).

5.2 Measurements were taken in accordance with the guide lines of BS 4142: 1997 “Method for rating industrial noise affecting mixed residential and industrial areas".

5.3 All measurements were taken between 00:00hrs and 00:45hrs on the 21/01/2011.

5.4 The results are utilised to assess the likelihood of complaint based upon the requirements of BS 4142. External L_{Aeq} and L_{A90} measurements were taken over minimum 5 minute measurement intervals.

5.5 The meter was calibrated before and after the survey period and no deviation noted. All measurements are quoted to the nearest whole decibel. The sound level meter used was tripod mounted at a height 1.5 metres a wind shield was used during all measurements.

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6 Results

6.1 The results of the noise measurements when assessed in accordance BS 4142: 1997 "Method for rating industrial noise affecting mixed residential and industrial areas", were as follows:

Background noise levels

Night-Time Noise Levels			
Location	**$L_{Aeq,5mins}$**	**$L_{A90,5mins}$**	**$L_{Amin,5mins}$**
A	46.4	42.1	39.5
A	45.3	42.2	40.6
B	50.1	40.2	37.8
B	49.1	38.3	35.0
Measurements for all sampling periods at each position were found to be consistent.			
The lowest recorded background noise levels for the purpose of these assessments are $L_{A90,\ 5mins}$ of 38dBA.			

Measurement positions below and as noted on site plan:

Location A: To the north of the exchange at the boundary at approximately 2 metres from the northern facade of the exchange (see site plan).

Location B: To the south of the exchange in the car park adjacent the main vehicle access at approximately 20 metres from the south western facade of the exchange (see site plan).

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7 Assessment

7.1 Assessment:

Units: 1 off Edenaire type: eBTA400 unit assuming acoustic louvres fitted
System: Inlet & Discharge Air
Location: Nearest affected residential property;
No 1 Brookfield, Providence Hill

Comments			**BS4142 clause**
Background		38 dBA	*7.3*
INLET AIR			
Single Unit Noise @ 2m (eBTA400 unit)	53 dBA		*Manufacturers' Data*
S.R.I. of Acoustic Louvres	- 10 dBA		
Site correction Factor	+ 3 dBA		
Distance & directivity correction to 38m	- 26 dBA		
Specific Noise @ residents		**20 dBA**	***A***
DISCHARGE AIR			
Internal Noise Level (NR65)	72 dBA		*Assumed BT internal noise level.*
20Log(r) where (r =34m)	- 31 dBA		**** empirical formulae*
S.R.I. of Acoustic Louvres	- 10 dBA		
Site correction factor	+ 3 dBA		
10Log(S) where (S=1.13m x 0.78m) x 3	+ 4 dBA		**** empirical formulae*
Formula factor	- 14 dBA		
Specific Noise @ residents		**24 dBA**	***B***
Combined Specific Noise Level @ residents		**25 dBA**	***A+ B***
Tonal Qualities		+ 5 dBA	*8.2*
Rating Level		**30 dBA**	*3.6*
Excess of Rating over Background		- 8 dBA	*9*
BS 4142 Assessment:	**Complaints Unlikely**		*9*
Subjective Comments:	**Complaints not anticipated**		

We would not anticipate complaints with this installation provided acoustic louvres are fitted. The results of this assessment indicate a combined rating level of 30dBA and a combined specific noise level of 25dBA which is 13dBA below the lowest recorded background noise level.

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7 Assessment - continued

Assessment for the PRV's (discharge air via room space) is based upon an assumed internal noise level of NR65. Internal room noise levels must be considered carefully to ensure that breakout noise via the PRV's does not compromise criteria.

*** Noise to atmosphere has been calculated from the following empirical formulae:-

$$SPL_{ext} = SPL_s - SRI - 20\log(r) + 10\log(S) - 14$$

Where:-

SPL_{ext}	=	*external sound pressure level at distance r from wall/roof*
SPL_s	=	*sound pressure level in source room (dB)*
SRI	=	*sound reduction index of acoustic louvre*
S	=	*area of louvre radiating to outside*

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8 Observations

8.1 In order to assess the acceptability of the proposed installation it is necessary to compare the plant noise level with the background noise at any critical location. Detailed guidance on the assessment procedure is given in BS 4142: 1997.

8.2 BS4142 requires a comparison to be made between the specific noise (i.e. plant noise under consideration) when measured in L_{Aeq} mode and the background noise when measured in the L_{A90} mode. The reference time interval (T) being 1 hour during the day and 5 minutes during the night.

8.3 Should the specific noise contain any distinguishable characteristics, e.g. whine, hiss, clicks, bangs, etc, or be of cyclic nature, 5dB should be added to the specific noise prior to the assessment.

8.4 We would expect that the likelihood of complaint should be minimised provided that the noise emissions from the units at the nearest affected residential property are at least 5 dB below background. Typically, we would expect that the local authority may specify this noise limit at 1 metre from the facade of the nearest affected residential property.

8.5 The inlet/discharge louvres should be correctly sized to ensure that regenerated air noise across the louvre does not compromise the criteria (generally we would expect that the face velocity across the “active section” of each louvre should not exceed 1.5m/s) The building fabric itself should also be considered (i.e. open windows, doors single glazing, pressure relief dampers, etc.) to ensure that the specified criteria is not compromised by breakout noise from within the exchange.

8.6 This report can only deal with the sources under investigation and cannot account for the variable impact from other noise sources within the exchange. We would suggest that an overall strategic approach to the entire noise climate in the vicinity of the exchange be considered and where necessary be co-ordinated with other licensed operators.

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9 Recommendations

9.1 In line with BS4142: 1997 and expected local authority requirements it is recommended that the noise emissions from the proposed plant should not exceed a specific noise level of 33dBA when measured at 1 metre from the facade of the nearest affected residential properties.

9.2 The assessment results predict a Rating level of 30dBA (specific noise level of 25dBA which is 13dBA below the lowest recorded background noise level). This is within the recommended criteria above.

9.3 In order to maintain the criteria in 9.1 above we would recommend that acoustic louvres remain as proposed for the inlet and discharge air

9.4 We are not aware of any specific local authority requirements but all design parameters should be agreed as necessary with the relevant local authority prior to installation.

9.5 Summary of assessment to the nearest affected residential property with acoustic louvres fitted.

Unit	Rating Level	Excess over Background	BS4142 Assessment Result	Assessment after attenuation
Inlet air: 1 off eBTA400 units & 3 off Discharge air: PRV's Affecting the rear of the residential property of No 1 Brookfield, Providence Hill	30dBA	- 8dBA	Complaints Unlikely	Acoustic louvres as proposed (see appendix 1)

Warnings:

Please ensure acceptance criteria are agreed as necessary with the relevant local authority.

"Compliance with a British Standard does not of itself confer immunity from legal obligations"

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Appendix 1 : Proposed Attenuation

Recommended Attenuation for 1 off eBTA400 fresh air handlingunit

Inlet Air:	Acoustic Louvre (size at max 1.5ms^{-1} face velocity on active louvre)
Discharge Air	Acoustic Louvres: (size at max 1.5ms^{-1} face velocity on active louvre)

The attenuation options above are indicative selections for the atmosphere side ducted inlet and discharge air to each unit. These selections are based upon achieving a specific noise level of less than 33dBA i.e. 5dBA below the lowest measured background noise level at 1 metre from the facade of the nearest affected residential properties (see site plan).

Care should be taken to ensure that the acoustic louvres are sized so as not to exceed 1.5ms^{-1} face velocity on active louvre to reduce the likelihood of regenerated air noise.

Nominal equipment selections are based upon “Waterloo Acoustics Ltd’s” standard product range performance data. The acoustic louvres should provide a minimum 10dB noise reduction.

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Appendix 2 : Definitions

Equivalent Continuous Sound Pressure Level - (L_{Aeq})

The equivalent continuous A-weighted sound pressure level in decibels at the measurement position over a given reference time interval. This is used to provide an equivalent steady state noise level when a fluctuating noise is measured. **L_{Aeq}** is quoted to the nearest whole number of decibels.

Background Sound Pressure Level - (L_{A90})

The A-weighted sound pressure level of the residual noise in decibels exceeded for 90% of a given time interval. **L_{A90}** is quoted to the nearest whole number of decibels.

Specific Noise Level - ($L_{Aeq, Tr}$)

The equivalent continuous A-weighted sound pressure level at the assessment position produced by the specific noise source over a given reference time interval.

Rating Level

The specific noise level plus any adjustment for the character of the noise

Specific Noise Level - $L_{Aeq,Tr}$ **

The equivalent continuous A-weighted sound pressure level in decibels at the measurement position produced by the specific noise source over a given reference time interval. The specific noise level is quoted to the nearest whole number of decibels.

Ambient Noise

Total encompassing sound in a given situation at a given time usually composed of sound from many sources near and far.

Residual Noise

The ambient noise remaining at a given position in a given situation when the specific noise source is suppressed to a degree such that it does not contribute to the ambient noise. Usually expressed as the equivalent continuous A-weighted sound pressure level of the residual noise.

** Definitions as noted in BS4142

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Appendix 3 : Manufacturer's Noise Data

eBTA

Unit Technical Data / InvictaNET Controller

Quick Technical Reference Guide

A summary of the key technical data is given in the table below. For additional or more detailed data please refer to the eBTA Installation and Operating manual.

Quick Reference Guide			200 UF	400 UF	600 UF	400 DF	600 DF
Net Cooling Capacity @ 5°C Δt		kw	10.25	22.20	33.10	22.20	33.10
Airflow		m³/s	2.00	4.00	6.00	4.00	6.00
Dimensions	Width	mm	920	1800	2300	1800	2300
	Height	mm	2650	2650	2750	2500	2600
	Depth	mm	857	857	1057	857	1057
Split Weights including pallet	Module 1 (see pg 3)	kg (pallet kg)	218 (15)	313 (18)	415 (37)	383 (25.5)	608 (37)
	Module 2 (see pg 3)	kg (pallet kg)	163 (15)	300 (18)	373(37)	150 (25.5)	159 (37)
External Pressure		Pa	80	80	80	80	80
Louvre Area Required (Per Unit)	Inlet	m²	0.80	1.60	2.40	1.60	2.40
	PRV	m²	0.80	1.60	2.40	1.60	2.40
No. of Fans			1	2	2	2	2
Filter Type			EU4	EU4	EU4	EU4	EU4
Controller			EW InvictaNET				
Electrical Supply		V / Ph / Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Full Load Current		amps	1.85	3.65	7.10	3.65	7.1
Starting Current		amps	4.00	7.60	10.40	7.60	10.40
Recommended Fuse Rating (HRC)		amps	10	10	16	10	16
External Noise With Standard Louvre		dB(A) @ 2 m	49.5	52.5	*57.5**	52.5	*57.5**
External Noise With Acoustic Louvre		dB(A) @ 2 m	39.5	42.5	*47.5**	42.5	*47.5**
Unit Colour		BS4800 - GREY	00A05	00A05	00A05	00A05	00A05

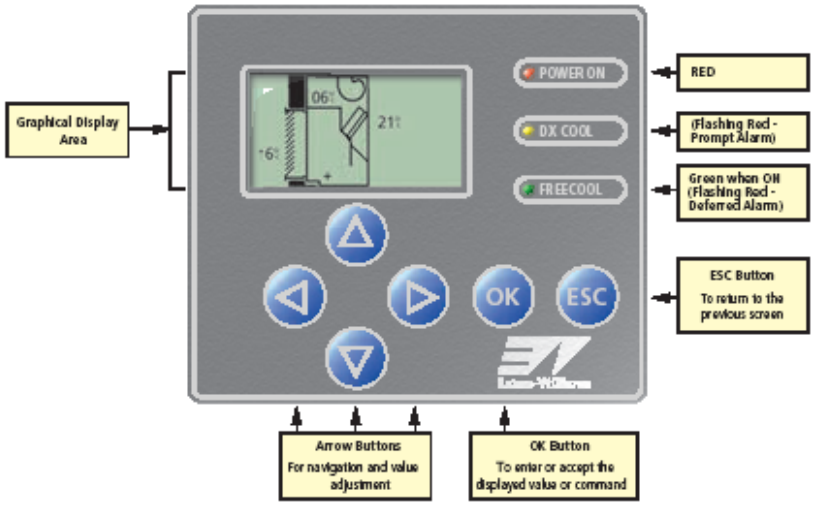
** to be confirmed*

InvictaNET Controller

Graphical Display and Keypad

The E-W Microprocessor Controller provides full control and monitoring facilities. Local monitoring and adjustment facilities are provided via a graphical display screen as detailed below

Graphical Display and Keypad



WATERLOO ACOUSTICS
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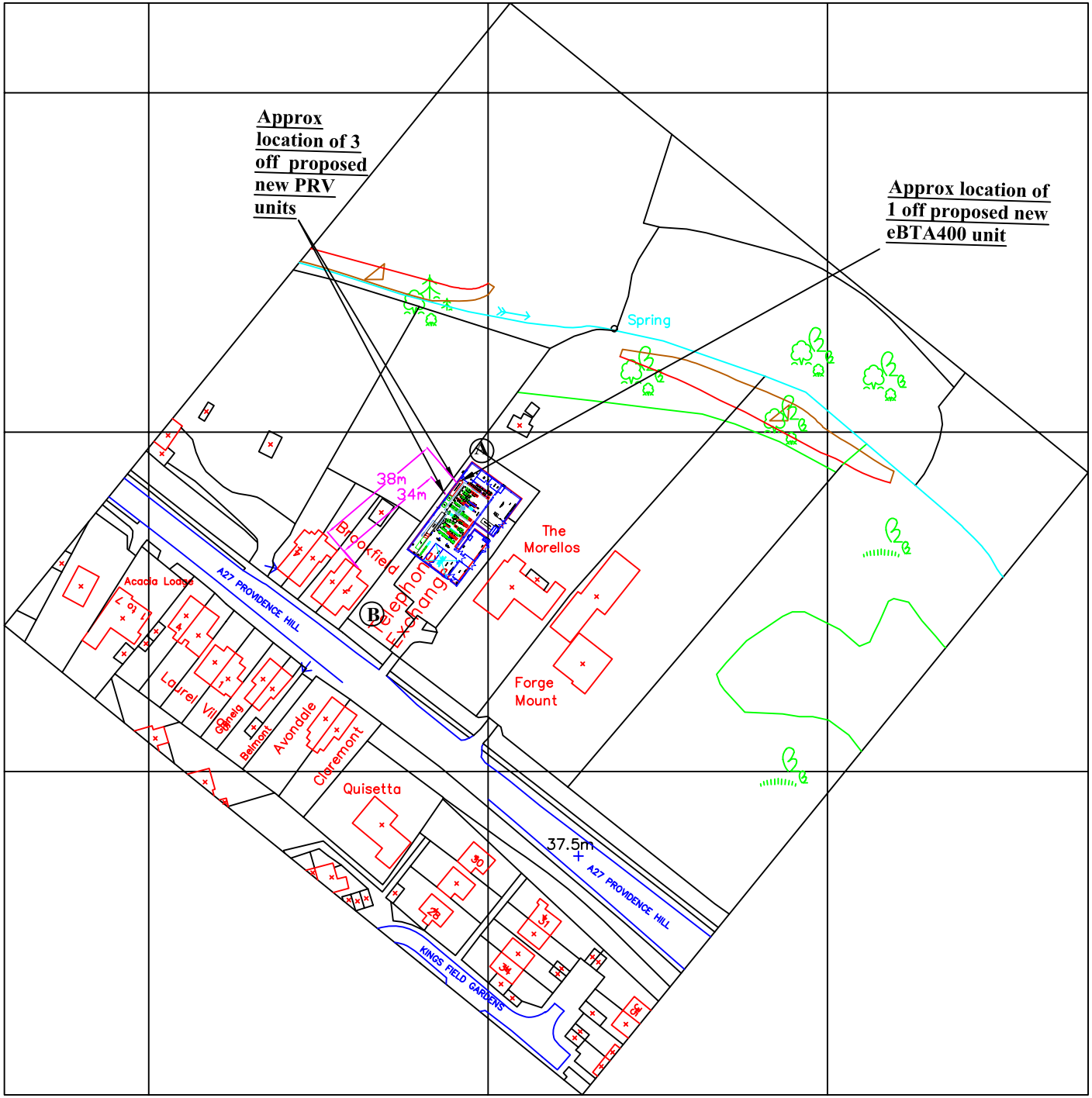
Fax: 01795 423514

Appendix 4 : Site Plan



BT Bursledon Telephone Exchange
Measuring points A & B