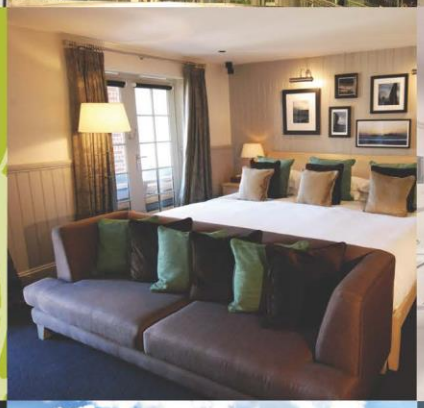
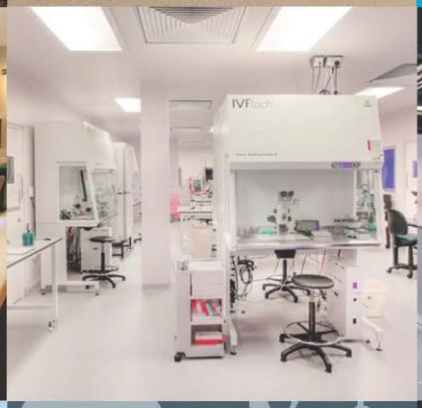
P17-300 ALTON TOWERS RESORT PODS
SUSTAINABILITY REPORT
FEB 2018

elementa
Member of Integral Group






BRUNSWICK




IVF





102
01/04/2009





TABLE OF CONTENTS

DOCUMENT CONTROL

Issue	Description	Date	Prepared By	Signed Off
-	Planning Issue	22/02/18	DG	DG

1 INTRODUCTION

The project consists of the Alton Towers Resort Pods. The pods are situated on the east of the development adjacent to the existing lodges and hotel. The project will deliver Pods as well as some ancillary accommodation, and developing the servicing strategy.

The following document looks to outline the approach that is been taken towards the energy and resources being used within the development and highlight the steps taken to reduce environmental impact.

2 SUSTAINABILITY

2.1 ENERGY EFFICIENCY

The first stage in reducing CO_2 emissions from the development is to reduce the energy required to service the building, through the implementation of passive design and energy efficient measures. This can be achieved in a number ways, such as improving the thermal performance of the building fabric, providing energy efficient plant, providing adequate control of building services systems and lighting systems, and through providing training to building users to enable them to utilise the building efficiently.

Whilst the individual pods fall below the requirements of approved document L2A the project will still look to the document for minimum fabric u values. Heat loss will be minimised using high efficiency insulating materials in walls, floors and roofs and by providing high efficiency double glazing with associated internal blinds.

2.2 VENTILATION

A balance needs to be struck with natural ventilation to avoid condensation and the build-up of air contaminants, this will be addressed by using trickle ventilation. Ventilation is essential but should be balanced against heat loss and air infiltration. For the natural ventilation through the use of trickle ventilators including purge through openable windows to meet summer vent requirements. Good levels of ventilation will be provided in 'trickle' mode via standard 8000mm2 ventilators where required. For the toilet and shower blocks ventilation will be provided through the use of a mechanical extract system. The system will be controlled on occupancy and humidity as a boost in periods of heavy usage.

2.3 WATER RESOURCE MANAGEMENT

Minimising the use of water reduces the need for water extraction and any associate environmental issues that this causes. This will be achieved by utilising the following water saving features throughout the development;

- Dual flush, low volume toilets
- Low flush and/or closing taps
- Aerated Shower Heads

2.4 HEATING & HOT WATER GENERATION

The pods will require minimal heating due to the high levels of insulation and also high occupancy levels. The heating will be provided by direct electric heating, this will be controlled on occupancy such that when the pods are not occupied the heating will be automatically turned off. Within WC areas will be heated through a low temperature hot water system which will be provided through high efficiency gas boilers. The reception would be heated either through a dedicated gas fired boiler or electric heating depending on the occupancy profile and most suitable method when taking into account the standing losses and final design. Through the use of localised heat sources the development enable efficient use of heat without the associated losses of a district heating scheme which due to the low demand would be disproportionate..

2.5 ELECTRICAL EFFICIENCIES

2.5.1 Lighting

All light fittings will contain low energy lamps such as LED or compact fluorescents. The use of such fittings reduces the energy consumption within the pods as the lighting will form one of the main energy uses within the pod.

2.5.2 External Lighting

External lighting will be required to light the walk ways and routes through the site during night time periods. It is therefore proposed that lighting columns and bollards will be installed to give sufficient lighting levels for guests during this period. The lighting will be controlled using both a time clock and also daylight sensing to minimise unnecessary light usage.

2.5.3 Occupancy Switch

On entry to the accommodation the key card will need to be inserted into the switch to allow the lighting and selected small power circuits to be operated. On removing the key card the circuits will be isolated after a 10 second period. This ensures that the lighting and the associated small power circuits are not energised whilst the room is unoccupied ensuring that the energy usage is reduced. This will ensure that all lighting is switched off whilst the rooms are unoccupied.

2.6 MAIN UTILITIES

It is proposed that the pods make use of the utilities that are already present on the site. This will involve alteration and extension works within the existing vicinity of the development.

2.6.1 GAS

The WC blocks will be served from the natural gas main which is currently providing a supply to the first phase of the pods, new gas sub meters will be installed.

2.6.2 Water

The pods will be served from the parks existing water main which will be extended to suit the proposed development.

2.6.3 Electricity

The development will be served through extending the infrastructure from the existing parks supply. Each of the pods will be individually served form the local area private distribution.

3 CONCLUSION

The proposed development of pods, reception, WC and associated support buildings intends to reduce energy consumption through good levels of passive design, electrically efficient lighting and extract ventilation. Whilst the measures outlined will reduce the consumption this is further reduced through the introduction of good levels of control and occupancy detection ensuring that energy is only used when required.

The WC blocks will reduce water consumption by installing water saving sanitary ware, as outlined within this report to maximise the reduction of natural resource for the development.

BUILDING SERVICES & ENVIRONMENTAL

DEEP GREEN

ENGINEERING

Elementa

80 Cheapside
London
EC2V 6EE
T +44(0)203 697 9300

–

Unit 1, Library Avenue
Harwell Oxford
Didcot
Oxfordshire
OX11 0SG

T +44(0)1235 820300

–

Contact

–

David Glossop
david.glossop@elementaconsulting.com

London, UK
Oxford, UK
Oakland, CA
San Jose, CA
Los Angeles, CA
Seattle, WA
Washington, DC
Richmond, VA
Austin, TX
Atlanta, GA
Vancouver, BC
Calgary, AB
Toronto, ON
Victoria, BC