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Client: FESP

Project: JOHNSTOWN ESTATE – RESTAURANT EXTENSION

Title: DESCRIPTION OF THE PROPOSED UTILITIES &
ENERGY SUSTAINABILITY REPORT

Date: 25 OCT 2024

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1 EXECUTIVE SUMMARY

This document provides an overview of how the project intends to integrate sustainability as a key strategy into the developments' design. The report focuses on the performance targets required by the Building Regulations Part L – Conservation of Fuel and Energy and what energy measures are needed to ensure compliance.

The following document sets out the energy design approach that requires the design to initially focus on an energy demand reduction. The initial approach in reducing the energy demand significantly aids the project in obtaining the desired energy goals while reducing running costs.

The energy systems design must also focus on specifying energy efficient equipment to ensure the day to day running of the energy systems are optimised to further enhance energy savings and related energy cost. Specifications relating to efficient heating, cooling, lighting and auxiliary equipment are also set out within this document.

2 INTRODUCTION

PMEP Consulting were commissioned by FESP, to assist with the planning submission for the Restaurant extension at the Johnstown Estate, Enfield, Co Meath. See figure 1 below for existing development location.



The project consists of the modifications to the existing floor plan of the tenor suite at ground floor level to provide for a new restaurant; provision of a proposed new single-storey extension of 210m² to the proposed restaurant at ground floor and basement level to the north-west corner of the existing hotel; modifications to internal partition walls to extend the existing kitchen, provide bathrooms and to separate the restaurant from spa and gym; removal of existing external escape staircase from basement and provision of a new entrance and reception area to gym; provision of new replacement external staircase from ground floor to basement and alterations to existing openings and partition walls; provision of storage

room in basement; provision of 4no. accessible parking spaces; provision of 2no. external signs above new restaurant and gym entrances and all associated landscaping and site works necessary to facilitate the development. No works are proposed to the protected structure.

Although limited, the project extension plans to utilise as many sustainable design options as possible and energy efficient systems that are technically, environmentally and economically feasible.

There are several standards and regulations applicable to this project in relation to energy efficiency. These cover energy efficiency, energy performance in buildings and renewable energy technologies.

3 GAS

There is an existing GNI (Gas Network Ireland) connection to the hotel and with no plan to upgrade or apply for a new gas supply.

4 ELECTRICITY

No provision is planned for a new ESB application or upgrade for the Restaurant extension.

5 EIR

No provision is planned for a new EIR application for the Restaurant extension. Existing service provider to be used.

6 VIRGIN MEDIA

No provision is planned for a new Virgin Media application for the Restaurant extension. Existing service provider to be used.

7 SITE LIGHTING

Minimal external lighting will be installed and will form part of the external section only to restaurant. All lighting will be controlled via Photoelectric Control Unit (PECU) and management control for the restaurant area. All luminaires selected will have dimming functionality.

No provision is planned for any other areas pertaining to the external lighting for the Restaurant extension.

8 ENERGY & SUSTAINABILITY

This section outlines the proposed energy efficiency and sustainability objectives under consideration for the proposed residential development.

The options set out are all potentially viable options and it is envisaged that there is sufficient flexibility in the planning assessment to allow for one or more of these options to be implemented.

The sustainable options being investigated assist in achieving reduced overall energy consumption and usage within the new developed restaurant.

The development will also comply with Part L of the Building Regulations.

8.1 Ventilation

The ventilation requirements within the restaurant will be satisfied via an air handling unit. The respective ductwork will penetrate the roof slab and drop to the ceiling void above the restaurant. The ducts will terminate at the cassette units, providing fresh air. The cassette units will then distribute the fresh air into the space below. The air handling unit will also provide extraction from the wet rooms via ceiling mounted grilles/disc valves to remove stale, moist air from the space.

The kitchen area shall be provided with a standalone extract system. This will consist of a local extract fan ducted to external wall and terminated via a louvre. The extraction within the space will be facilitated via ceiling mounted grilles/disc valves to remove stale, moist air from the space.

All mechanical equipment, is planned to be located and positioned in the existing screened-off roof plant area.

8.2 Space Heating & Cooling Services Installation

A Variable Refrigerant Flow (VRF) system will be utilised to satisfy the heating and cooling demand within the space. An external condenser will provide the heating and cooling through refrigerant gas. The 3-pipe setup allows for the benefit of heat recovery along with variable space temperature control depending on occupancy requirements.

The SCOP levels being investigated will be within than those required in Table C1: Reference Values extracted from the current regulatory requirements of the Technical Guidance Documents Part L, titled "Conservation of Fuel and Energy Buildings other than Dwellings". This will be verified with the respective equipment manufacturers prior to procurement.

Heating and cooling shall be provided to the restaurant via cassette AC units. An external condenser shall provide the heating and cooling capabilities through refrigerant gas as above. Each AC unit will also have a condensate drain piping system with is also routed through the false ceiling. Each AC unit shall be surface mounted to underside of ceiling, which shall supply heated/chilled air to the restaurant area, via directly grilles on underside of unit.

8.3 Water Services

The existing mains water supply to the property will be utilised to provide potable water to necessary water points in the proposed restaurant. These services will be metered separately to monitor water consumption.

The cold-water supply for the restaurant area will be taken from the existing cold-water supplies in the area. The services brought to the new restaurant will be metered separately to monitor water consumption.

The domestic hot water requirements for the restaurant will be satisfied by the existing calorifiers present within the property. The consumption of DHW within the restaurant will be metered separately to monitor water consumption.

8.4 Elemental U-Values and Air Infiltration

Lower U-values and improved air tightness will minimise heat losses through the building fabric, reducing energy consumption and thus minimise carbon emissions to the environment. The U-values being evaluated will, at minimum, be in line with those required by the current regulatory requirements of the Technical Guidance Documents Part L, titled *"Conservation of Fuel and Energy Buildings other than Dwellings"*.

Thermal bridging at junctions between construction elements and at other locations will be minimised in accordance with Paragraphs 1.2.4.2 and 1.2.4.3 outlined in the Technical Guidance Documents Part L.

8.5 ECAR Charging Points

Existing ECar chargers stations to be re-used and no provision has been considered for the Restaurant extension.

8.6 Conclusion

Based on the initial review, there is sufficient utility infrastructure in the area for the proposed Restaurant extension.

The potential energy efficient options, detailed above all being evaluated at present. The options listed above will be assessed and confirmed at detail design stage.