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DESCRIPTION OF MECHANICAL AND ELECTRICAL ENGINEERING SERVICES INSTALLATIONS

for the

PROPOSED DEVELOPMENT
SEA GARDENS
PHASE 1
BLOCK A

at

SEA GARDENS
BRAY
COUNTY WICKLOW

for

SHANKILL PROPERTY INVESTMENTS LIMITED

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1.0 INTRODUCTION

This mechanical and electrical services design brief was compiled by METEC Consulting Engineers in May 2025 on behalf of our client Shankill Property Investments Limited, as part of the Planning Submission for the proposed Block A development located at Sea Gardens, Bray, Co. Wicklow.

The proposed development will consist of the provision of 159 no. residential units over/around a shared 2-level podium comprising of: 9 no. 4-bedroom, 3 and 4-storey terraced townhouses with associated private terraces; and 150 no. apartments in 2 no. blocks ranging in height from 6 to 10-storeys (Block A1) and 7 to 11-storeys (Block A2) and consisting of a total of 48 no. 1-bedroom units, 58 no. 2-bedroom units, 44 no. 3-bedroom units, all with private balconies or terraces. The blocks will also include communal lounge areas; a communal gym in Block A1; refuse storage areas; and associated plant. The shared 2-level podium will include car, motorcycle and bicycle parking, with additional car parking provided within the curtilage of 5 no. of the proposed townhouses. The proposed development will also include: public open space including play areas; communal open space within the central podium courtyard; pedestrian / cycle linkages with adjoining existing and permitted developments; associated connections to the surrounding road network; all associated landscaping and public lighting; an ESB substation; drainage arrangements; utility connections; and all site development works.
A detailed development description is set out in the Planning Report prepared by RPS and enclosed as part of the LRD application package.

The buildings and associated Mechanical and Electrical Engineering Services systems shall be energy efficient, flexible in use, meet the stated requirements and expectations of our client.

The design of the mechanical and electrical engineering services shall be sustainable and incorporate energy saving measures to minimise the cost of energy consumption of heating, cooling and electricity.

2.0 MECHANICAL AND ELECTRICAL SERVICES DESCRIPTION

This report provides an overview of the mechanical and electrical services incorporated into the Block A development, with a strong focus on sustainability, energy efficiency, and long-term environmental responsibility.

The development will feature a centralised heating system powered by Air Source Heat Pumps (ASHPs), providing low-emission heating and hot water generation while being adaptable to future energy grid improvements. In addition to the centralised heating system, individual Heat Interface Units (HIUs) will be implemented throughout the apartments.

Residential Units Block A:

- Centralised cold water storage tank and pumps will deliver water to each apartment.
- Centralised sprinkler storage tank and pipework network will deliver sprinkler in event of emergency to each apartment.
- Centralised heating and hot water powered by Air Source Heat Pumps (ASHPs) for low-emission heating and future grid adaptability.
- Residential units equipped with Heat Interface Units (HIUs) for efficient distribution of LPHW or DHW.
- Individual ESB metering to each residential unit.
- Fire Detection to L1 (LD1) Level Throughout in accordance with IS 3218, Sounder/strobes in each Bedroom and all landlord Areas, Break Glass Units etc. System category to be confirmed on Fire Cert.
- Access Control/intercom System to each residential unit.
- Fibre tube installation to each residential unit.

Landlord Areas:

- VRF heat pumps used for air conditioning in the Amenity space where deemed necessary
- Individual Heat Recovery Units or small Air Handling Units for ventilation, with extract fans as needed.
- Cold water supplied by central cold water storage tank i.e to washdown areas in plant and bike stores
- Apartment corridors heated by electric radiators.
- Individual ESB metering to each Landlord & residential unit.
- Life Safety Generator to be provided where Sprinkler, Fire fighter lifts or underground Carpark forced ventilation is required.
- Shell & Core fitout of all Amenity spaces.

- Fire Detection to L1 (LD1) Level Throughout in accordance with IS 3218, Sounder/strobes in each Bedroom and all landlord Areas, Break Glass Units etc. System category to be confirmed on Fire Cert.
- Emergency Lighting and Running Man Signage Throughout in accordance with IS 3217.
- CCTV & Security Services, Access Control/intercom System to each residential unit.
- Passenger Lifts as required. Fire fighter lifts required where car travels more than 18m.
- Fibre network infrastructure to be provide.
- Fibre tube installation to each Amenity space.

Fire Safety:

- Fire extinguishers and fire blankets installed as required.
- Sprinkler tanks, pumps, and pipework provided where necessary.
- Smoke extract fans installed in car parks to manage high CO2 emissions, where deemed necessary. Natural ventilation will be provided at a minimum to meet compliance.
- Backup generator installed to provide power to any life safety equipment

Renewable Energy:

- Hot Water Heat Pumps will play a key role in contributing to the renewable energy strategy by efficiently providing DHW and LPHW.
- VRF AC units will also contribute to the renewable energy strategy by using energy-efficient heat recovery systems.
- Dual-flush toilets, shower aeration devices, and a rainwater harvesting system to reduce water consumption.
- Photovoltaic (PV) panels installed to meet the renewable energy requirements per Building Regulations (TGD Part L 2022).

By integrating these energy-efficient systems and environmentally conscious design choices, the development is set to be both sustainable and future-ready, contributing positively to the environment while meeting the demands of modern living.