

TOWN AND COUNTRY PLANNING ACT 1990
THE TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (WALES)
ORDER 2012

PERMISSION GRANTED

REFERENCE: P2022/0588
DESCRIPTION: Proposed conversion of existing building from Offices (Class A2) into 7 self-contained residential units comprising: 2 No studio, 3 No 1 bed and 2 No 2 bed, three and single storey rear extension and demolition of existing detached storage to rear and construction of detached two storey building comprising: 2 No 2 bed residential units at the rear of main building together with associated works.
LOCATION: NEATH CARE, 96 GNOLL PARK ROAD, NEATH, SA11 3DD
DECISION DATE: 8th July 2022
CASE OFFICER: M. Rhodri Griffiths – r.griffiths2@npt.gov.uk

Condition 10

Prior to the installation of any sprinkler system requiring an external tank and pump, a scheme shall be submitted to and approved in writing by the Local Planning Authority detailing the siting, design and size of the tank and pump, together with details of any above ground pipework. The approved scheme shall be fully implemented on site prior to the first beneficial occupation of any of the approved residential units and retained as such thereafter.

Reason

In the interest of visual amenity and to ensure compliance with Policy BE1 of the Neath Port Talbot Local Development Plan.

RESPONSE:

1.0 Fire Suppression Systems

This report is in accordance with the Welsh Government document, *Householder Guide to Fire Sprinklers*, the following information shows every reasonable step has been taken to accommodate the appropriate fire suppression/sprinkler system for this proposal.

1.1 Approved Document B, Dwellinghouses: Section 2, B1, Residential automatic fire suppression systems

Regulation 37A and 37B states:

Automatic fire suppression systems installed in dwellinghouses can reduce the risk to life and significantly reduce the degree of damage caused by fire. Protection by automatic fire suppression systems can also sometimes be used as a compensatory feature where the provisions of this Approved Document are varied in some way

Regulation 37A brings in a mandatory requirement for automatic fire suppression systems in all new premises of Purpose Groups 1a, 1b, 1c, 2a and 2b constructed in Wales except for hospitals, hotels, prisons, and a hostel providing temporary accommodation to those who are ordinarily resident elsewhere.

Table D1: Relevant Purpose Group Classifications

Table D1 Classification of Purpose Groups

Title	Group	Purpose for which the building or compartment of a building is intended to be used
Residential (dwellings)	1(a)*	Flat.
	1(b)†	Dwellinghouse which contains a habitable storey with a floor level which is more than 4.5m above ground level.
	1(c)†	Dwellinghouse which does not contain a habitable storey with a floor level which is more than 4.5m above ground level.
Residential (Institutional)	2(a)	Hospital, home, school, or other similar establishment used as living accommodation for, or for the treatment, care or maintenance of persons suffering from disabilities due to illness or old age or other physical or mental incapacity, or under the age of 5 years, or place of lawful detention, where such persons sleep on the premises.
(Other)	2(b)	Hotel, boarding house, residential college, hall of residence, hostel, and any other residential purpose not described above.

1.2 General

Where an automatic fire suppression system is provided, it is normal practice to provide protection throughout the building to cover all areas required by the relevant technical standard.

However, where the automatic fire suppression system is being installed as a compensatory feature to address a specific risk or hazard it may be acceptable to protect only part of a building.

Please note, this system does not require a tank as it is connected to the mains.

2.0 Reason for Sprinkler System

The Welsh Government document, Householder Guide to Fire Sprinklers, states the reason why sprinkler system should be incorporated in new developments, thus:

In October 2013, the National Assembly for Wales passed new Building Regulations that require an automatic fire suppression system (commonly referred to as a fire sprinkler system) to be installed in new and converted homes in Wales.

The fire sprinkler system is designed to save lives and prevent injuries, to householders and fire fighters. Fire sprinklers also prevents extensive damage to one's property in the event of a fire.

Fire sprinklers operate by releasing a spray of water droplets to suppress or extinguish a fire as soon as the heat from the fire heats the air to a certain temperature. This will be within a short time of the fire starting. Fire sprinklers therefore prevent the fire from taking hold and spreading within the room, and spreading to other areas of the home.

Fire sprinklers are a tried and tested technology that have saved countless lives and prevented many injuries in different types of building including houses and flats around the world. Fire sprinklers are an important addition to the fire safety features within the proposal, such as smoke detectors

2.1 Conformity to BS 8458 Sprinkler System

BS 8458 takes the form of a 'Code of Practice'. As per BS-0:2021 9.4.1, it 'contains recommendations and guidance, where the recommendations relevant to a given user have to be met in order to support a claim of compliance.' It is why its clauses carry the term should instead of shall. It also states that 'users may also justify substitution of any of the recommendations in a code of practice with practices of equivalent or better outcome'.

BS 8458:2015 does include Automist Hydra in its scope which states: 'This British Standard gives recommendations for the design, installation, water supplies, commissioning, maintenance, and testing of watermist systems with automatic nozzles installed in residential and domestic occupancies up to a maximum ceiling height of 5.5 m. It primarily covers water mist systems used for life safety, but might also provide property protection.' The only water mist system excluded by the scope is those for commercial and industrial use. Automist Hydra is an electronically controlled automatic nozzle, part of the broader category of automatic nozzles, as opposed to open nozzles. For example, the latest publication of NFPA 750 water mist systems includes electronically controlled nozzles as an automatic nozzle.

Automist Hydra is also a pre-engineered system, in which a significant number of design criteria which would be left to the installer, are instead pre-engineered by Plumis. This includes hydraulic calculation and the AMAO. The installer will nevertheless have to declare that their installation is compliant to BS 8458 if they have followed the Automist Hydra DIOM and have not deviated from it, without themselves justifying substitutions for equivalent or better outcomes.

The existing framework in the standards therefore allows Plumis to make a valid declaration of product conformity to the standard BS 8458 by justifying substitutions and providing evidence for equivalent or better outcomes, as follows.

2.2 Important Technical Criteria

The following technical information shows important facets that will assist in the sprinkler system selection process:

Meets the highest performance standards

The system would meet the fire performance standards outlined in BS 8458, and holds a BSi Verification Certificate.

Intelligent and Targeted Protection

The sprayheads would incorporate infrared sensors, which scan to identify and locate a fire if triggered. If a growing or dangerous fire has been confirmed they will then target the exact location with a dense fog of watermist to suppress the fire.

Reliable Activation

Automist has a robust double-knock trigger which uses a combination of smoke, heat, and rate of rise, so is not prone to false activations.

Low Water Usage

Using 90% less water than a traditional sprinkler, Automist connects to the normal domestic water supply and therefore no need for a water.

Reduced Water Damage

Using much less water than traditional sprinklers - 6 litres per minute rather than 60 lpm - post-activation water damage and the scale and cost of remedial work are significantly reduced.

3.0 Detail Scheme of Typical Sprinkler System for the Proposal

The Automist Hydra water mist system conforms to the appropriate recommendations given in BS 8458: 2015, *Fixed fire protection systems – Residential and domestic watermist systems – Code of practice for design and installation* when installed in accordance to the Automist Hydra DIOM 3.0.

There are many sprinkler systems available for residential properties. The following sprinkler system plans shows a typical layout highlighting locations of sprinkler heads in relation to the room type.

The accompanying detail scheme for this proposal:

- 01 – Hydra Plan: Flats
- 02 – Hydra Plan: Dwellinghouse

The sprinkler system or others, where similar and/or equivalent that carries-out the function required, is in accordance with the Building Regulations and will be the type of design that would be considered for installation prior to occupation of the properties.

Hydra Plan - 5459

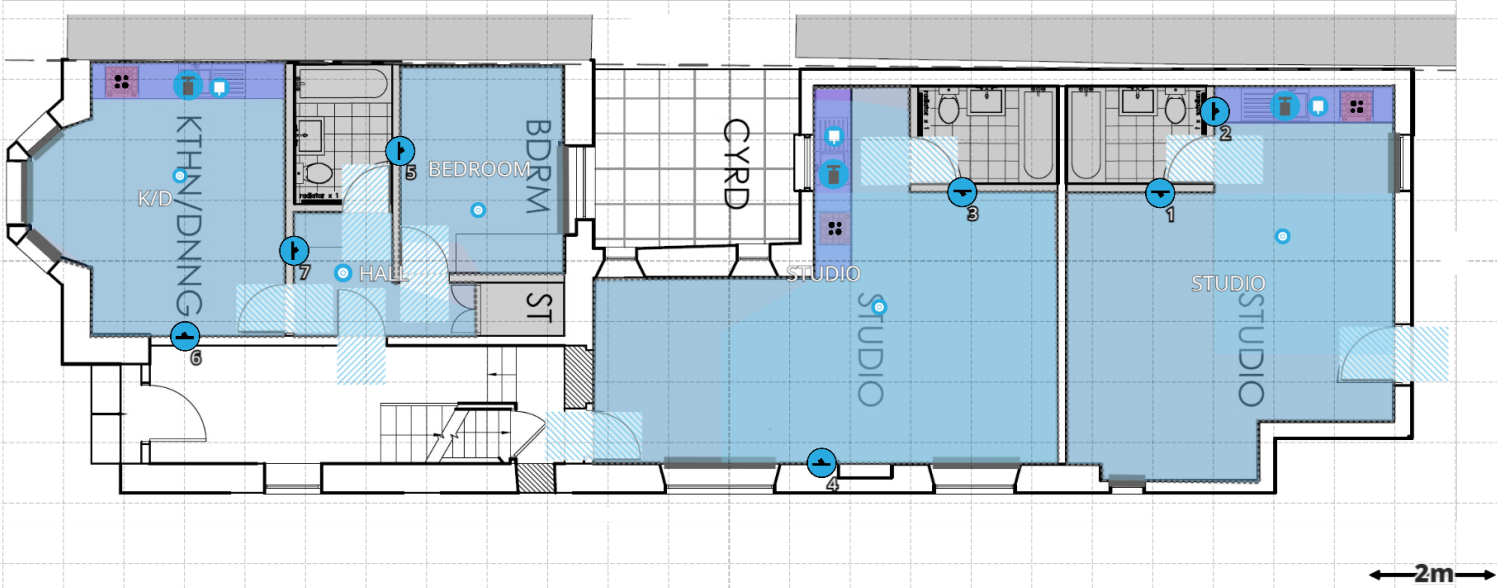
Spray heads must be located a minimum of 1.5m from the cooking hob/oven location.

Spray heads must be located a minimum of 3m from any open fire source including log burners.

Spray heads must be at least 0.5m away from a window to avoid being covered/blocked by curtains/blinds.

Spray heads must not be covered or blocked by any piece of furniture.

Spray heads mounted above the kitchen work surfaces require a minimum of 400mm clearance from the spray head centre and the work top and a minimum of 100mm clearance from the spray head centre and the underside of any wall mounted units.



SYSTEM INVENTORY

- DETECTOR (5)
- PUMP (3)
- SMARTSCAN (7)
- CONTROLLER (3)
- ZONE TO CONSIDER
- PROTECTED AREA
- STERILE AREA
- DOOR
- WINDOW

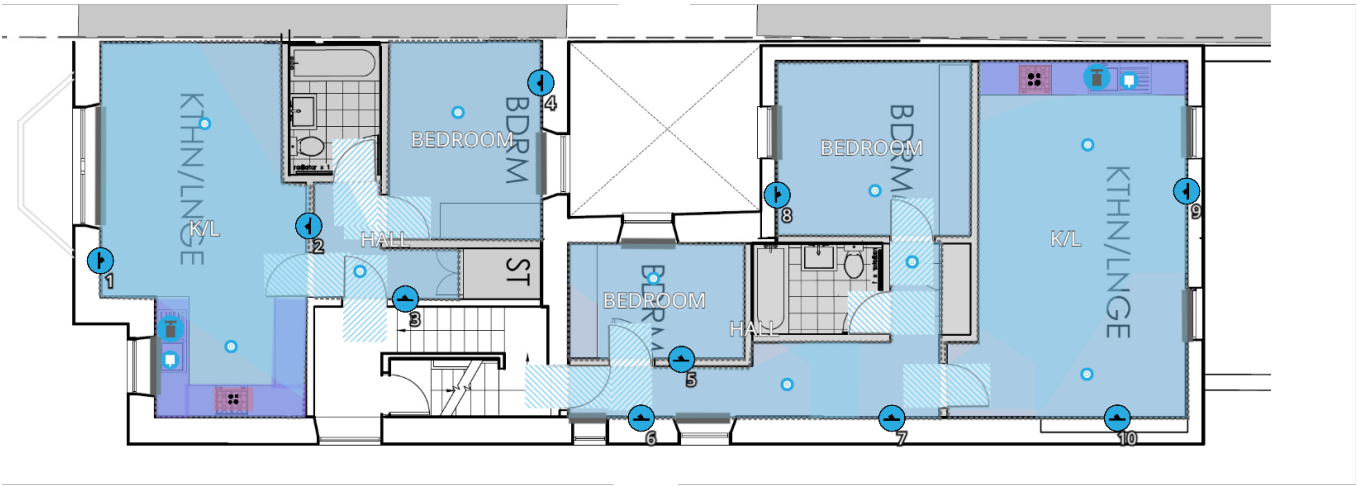
AREA DETAILS
TOTAL: 83.90m²
HIGHEST CEILING HEIGHT: 3.5m

SYSTEM DETAILS
PUMP COVERAGE: 82.98m²
UNPROTECTED AREA: 0.92m²

NOTES:
Objective: Code compliance. Meeting building regulations

Hydra Plan - 5459

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SYSTEM INVENTORY

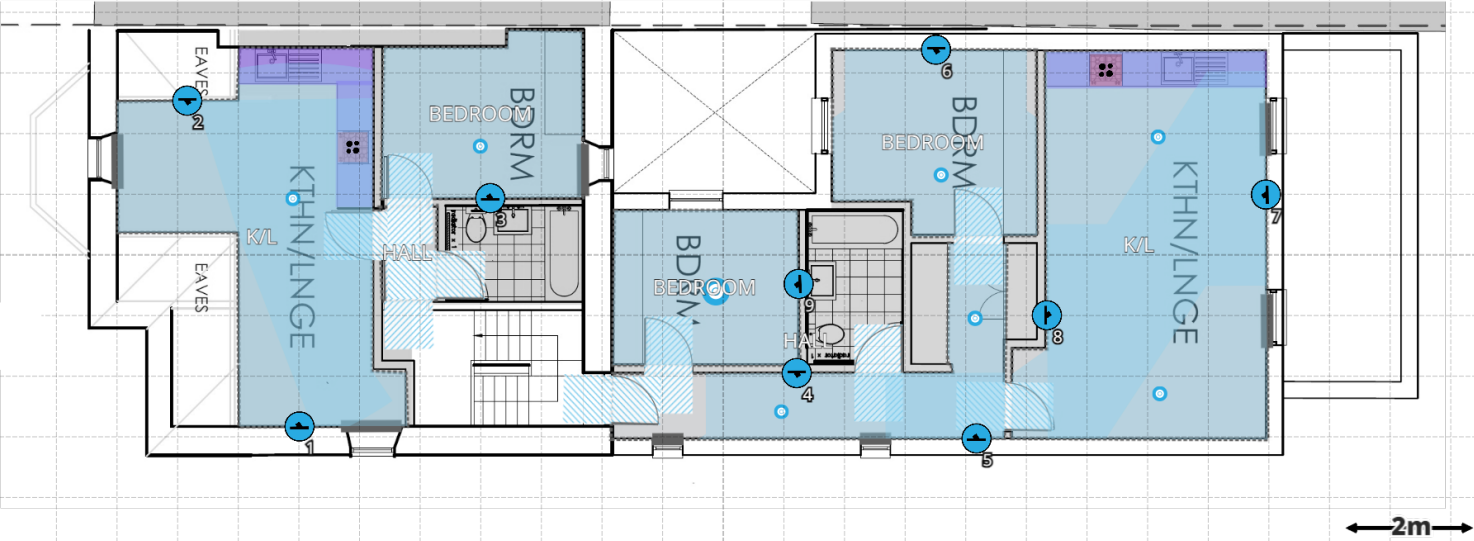
- DETECTOR (10)
- PUMP (2)
- SMARTSCAN (10)
- CONTROLLER (2)
- ZONE TO CONSIDER
- PROTECTED AREA
- STERILE AREA
- DOOR
- WINDOW

AREA DETAILS
TOTAL: 82.62m²
HIGHEST CEILING HEIGHT: 3.5m
SYSTEM DETAILS
PUMP COVERAGE: 81.34m²
UNPROTECTED AREA: 1.28m²

NOTES:
Objective: Code compliance. Meeting building regulations

Hydra Plan - 5459

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SYSTEM INVENTORY

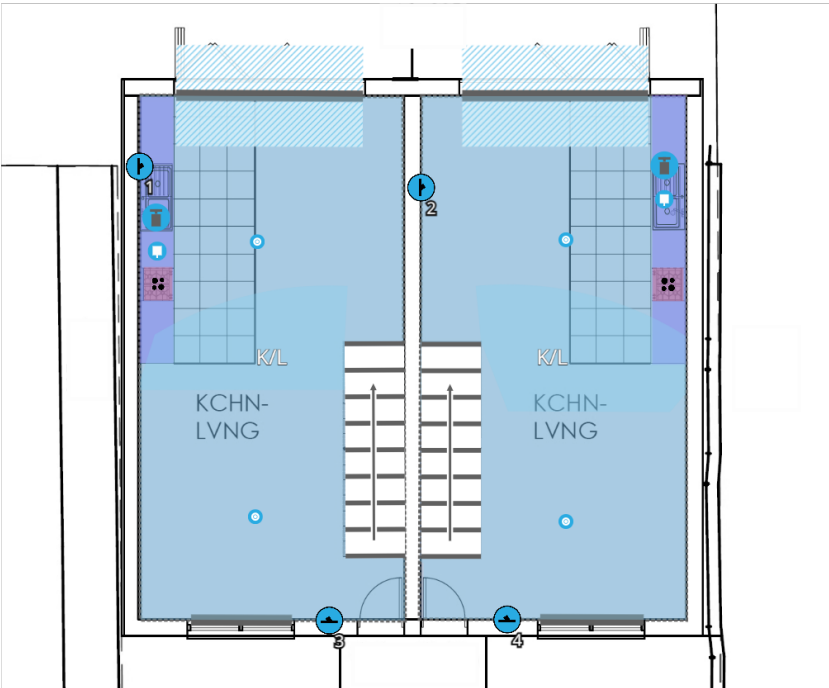
- DETECTOR (8)
- PUMP (0)
- SMARTSCAN (9)
- CONTROLLER (0)
- ZONE TO CONSIDER
- PROTECTED AREA
- STERILE AREA
- DOOR
- WINDOW

AREA DETAILS
TOTAL: 71.69m²
HIGHEST CEILING HEIGHT: 3.5m
SYSTEM DETAILS
PUMP COVERAGE: 69.87m²
UNPROTECTED AREA: 1.82m²

NOTES:
Objective: Code compliance. Meeting building regulations

Hydra Plan - 5459

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SYSTEM INVENTORY

- DETECTOR (4)
- PUMP (2)
- SMARTSCAN (4)
- CONTROLLER (2)
- ZONE TO CONSIDER
- PROTECTED AREA
- STERILE AREA
- DOOR
- WINDOW

AREA DETAILS
TOTAL: 74.35m²
HIGHEST CEILING HEIGHT: 3.5m
SYSTEM DETAILS
PUMP COVERAGE: 74.25m²
UNPROTECTED AREA: 0.10m²

NOTES:
Objective: Code compliance. Meeting building regulations

Hydra Plan - 5459

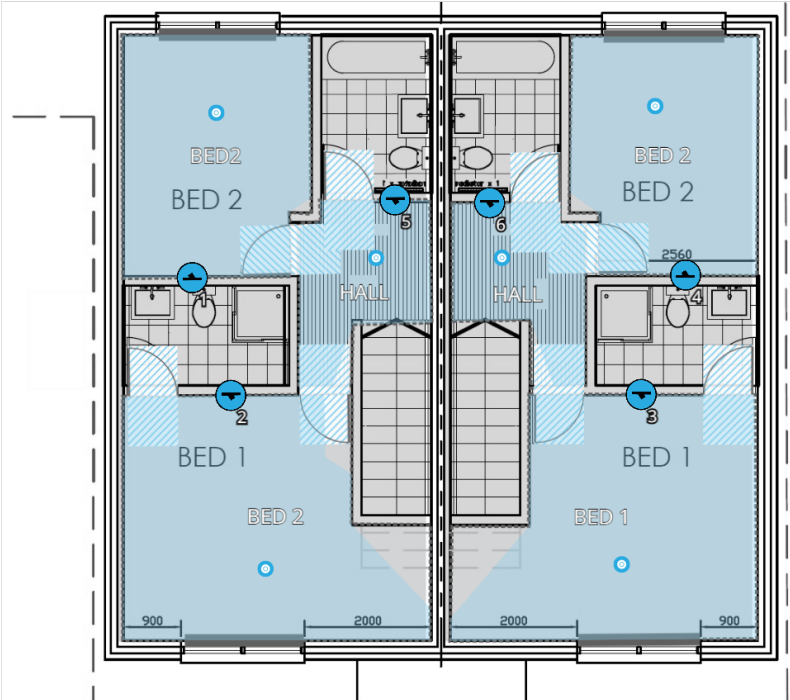
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SYSTEM INVENTORY

- DETECTOR (6)
- PUMP (0)
- SMARTSCAN (6)
- CONTROLLER (0)
- ZONE TO CONSIDER
- PROTECTED AREA
- STERILE AREA
- DOOR
- WINDOW

AREA DETAILS
TOTAL: 58.04m²
HIGHEST CEILING HEIGHT: 3.5m
SYSTEM DETAILS
PUMP COVERAGE: 55.99m²
UNPROTECTED AREA: 2.04m²

NOTES:
Objective: Code compliance. Meeting building regulations