

Planning (Fire Safety Strategy) Report

Regarding: **Braemar Avenue Limited**: - 18 Wenlock Road, London, N1 7TA

Application number: - PP-11537585

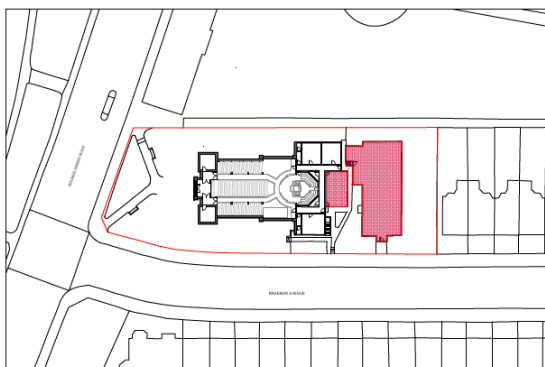
CONTENTS

1.0 PROPOSED DEVELOPMENT – BACKGROUND INFORMATION	1
2.0 FIRE SAFETY DURING CONSTRUCTION - PRODUCTS AND MATERIALS	2
3.0 PASSIVE AND ACTIVE FIRE SAFETY MEASURES.....	2
4.0 FIRE EVACUATION STRATEGY	6
5.0 ACCESS AND FACILITIES FOR THE FIRE AND RESCUE SERVICE	6
6.0 FIRE SAFETY INFORMATION AND MANAGEMENT	7
AUTHOR.....	8

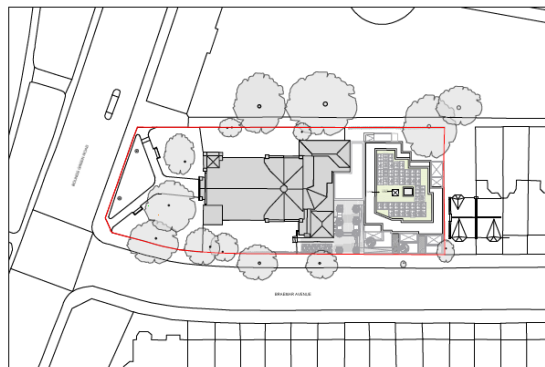
1.0 PROPOSED DEVELOPMENT – BACKGROUND INFORMATION

This report is intended to support the development proposal submission and provides an early insight of the fire safety provisions for the proposed development of an existing site, currently used for religious worship, including the demolition of part of the existing structure and complete rebuild of a new fifteen (15) unit residential block, comprising a range of one (1), two (2) and three (3) bedroomed apartments, one of which (ground floor) will be accessible. Included in the building is the replacement Tabernacle, at Lower Ground Floor level, which shares a Fire Exit route and accordingly, this submission is based on a 'mixed' use building, comprising both residential and public assembly purpose groups.

Existing site plan and demolition area



Proposed site plan



The project falls under the description of 'a major development' (i.e. 10 or more homes) in the National Planning Policy Framework (NPPF) and accordingly, will comply with the requirements of the London Plan Fire Safety Policy D12. Accordingly, it clearly sets out the relevant fire safety design code(s) and standards and how these achieve the highest standards of fire safety, proportionate to the nature and size of the development, as well as Fire and Rescue Service (F&RS) access and firefighting provision. The existing church structure is to be retained, although the prayer room and adjacent tin tabernacle are to be demolished, to make way for the new structure, which will be designed in accordance with the functional requirements of the Building Regulations 2010 and the latest edition (2019, incorporating 2020 and 2022 amendments) of Approved Document Part B: Volume 1 (ADB1), although other guidance documents and design standards (e.g. BS 9991 / 9999) will be referenced, where necessary, as some deviations from code are anticipated, which will need to be discussed and agreed with the Building Control Authority.

However, although the block does 'not' contain any storey over 11m above ground level (highest floors is 8.833m), the client has stated that they will endeavour to comply with the amended 'statutory and code requirements (i.e. provision of sprinklers, a wayfinding system and a premises information box), relating to buildings over that height. Furthermore, this document initiates the 'golden thread' of fire safety information, setting out the 'base' fire safety strategy and any implications of fire on the immediate surroundings. This information will be developed into a 'full' fire safety strategy document, for Building Regulations approval and maintained for future reference and guidance, in order to maintain the effective 'passive, active and managerial' fire safety provisions that are intended to protect life, the environment and property.

The findings expressed in this report are based on the information received from the development team, during the conceptual stage of the project and applicable at the date of issue and subject to Building Control approval, must be incorporated in the building, unless subsequently agreed, otherwise.

2.0 FIRE SAFETY DURING CONSTRUCTION - PRODUCTS AND MATERIALS

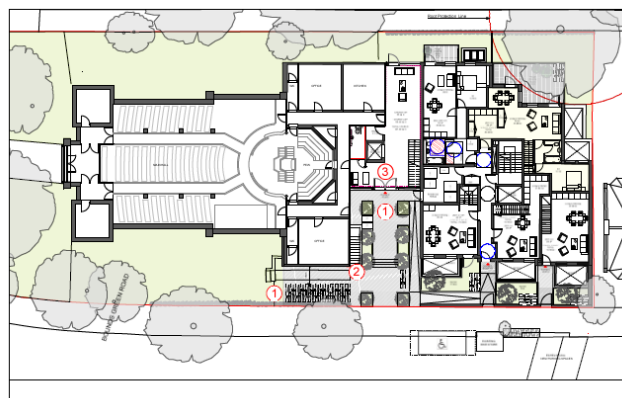
During both the pre-construction and construction phases of the project, the site will be controlled in accordance with the requirements of the Construction (Design and Management) Regulations (CDM) 2015, supported by the standards recommended in the Health and Safety Executive (HSE) guidance document HSG168: Fire Safety in Construction (3rd edition: 2022) and the Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation (10th edition: August 2022).

All products and materials intended for use during construction and / or forming an element of the as-built structure, will be specified by the architect, in liaison with both the Principal Designer (PD) and Principal Contractor (PC) and recorded in a 'materials information register', to assist in maintaining the 'golden thread' of building safety information. Furthermore, all such products and materials will be of the required test standard to comply with the Building Regulations 2010 and installed by 'competent' persons, in accordance with the manufacturer's recommendations and with the appropriate level of skill and workmanship. On-site storage will be kept to a minimum, commensurate with safe working practices (HSG168 and the Joint Code), with strict access control and overnight security.

The Regulatory Reform (Fire Safety) Order (FSO) 2005 (as amended) is the relevant fire safety legislation, in this instance and accordingly, a 'suitable and sufficient' fire risk assessment (FRA) will be required, during the construction phase, which addresses the 'significant' fire risks arising from the construction activity and its 'significant findings' implemented. In addition, the fire risk to the site, its occupants and neighbouring buildings will be controlled by designing them out, in the first instance, offsite construction, where possible and a high standard of onsite safe working practices, including a construction phase FRA and Fire Safety Management Plan (FSP), incorporated into the Construction Phase Plan (CPP).

3.0 PASSIVE AND ACTIVE FIRE SAFETY MEASURES

Notwithstanding that the North elevation abuts the existing structure, being a place of assembly and will consist of materials with a fire performance of Class B-s3, d2(2) or better and the South elevation of the building is within 1m of the site boundary, the client has stated that non-combustible materials will be used in the construction of all external walls. Furthermore, the east and west elevations of the building, being Nightingale Gardens and Braemar Avenue, respectively, are more than 1,000mm from a relevant boundary, in any event and accordingly, this provision and that of the flat roof construction that will achieve the minimum AA, AB or AC rating, will exceed the minimum requirements of the Building Regulations.



In addition, the area of windows and doors in the façades of the apartments does not appear to have any issues with external fire spread, particularly as the building will be provided with a suitable sprinkler system, although this will be checked, as the project progresses, to ensure that any amendments do not increase the likelihood of external fire spread. The automatic sprinkler will be provided for the residential parts only and designed, installed and commissioned in accordance with BS 9251: 2014, as a category 2 system.

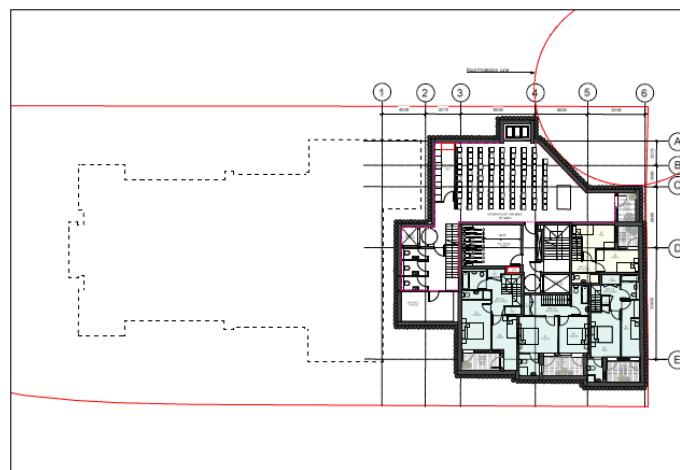
The elements of structure will achieve the required levels of 60 minutes fire resistance for load bearing capacity and integrity. The internal dividing walls will be faced with coated gypsum plaster board providing fire resistance and compartmentation. This will also provide a surface spread of flame classification of C-s3, d2 or better. Cavity barriers and fire stopping will be provided and certificated, where large cavities exist and where compartmentation and / or fire-resisting walls are penetrated by services, respectively, although this will also be checked, as the project progresses. Except for doors enclosing areas of special fire risk, such as plant and refuse rooms etc., which will be FD60 certificated door sets, all other fire stop doors will be FD30 and any doors on escape routes, including apartment entrance doors, will also be provided with smoke seals.

Although this is a mixed-use building (i.e. both residential and assembly purpose groups), the 'alternative' means of escape from the place of assembly on the lower ground floor, which is needed to comply with the requirement for an additional exit for a seated audience in excess of 60 persons (the travel distance is within 32m), will share the stairs to the ground floor and corridor through to the final exit (i.e. the main entrance to the flats). This is based on the building having only three storeys above the ground floor, all apartments being separated from the staircase by protected lobbies (corridors) and provided with sprinkler protection and enhanced fire detection, in support of the 'defend in situ' protocol (see 'fire evacuation strategy' section, below), which is also expected to limit any conflicting demands on the shared escape route.

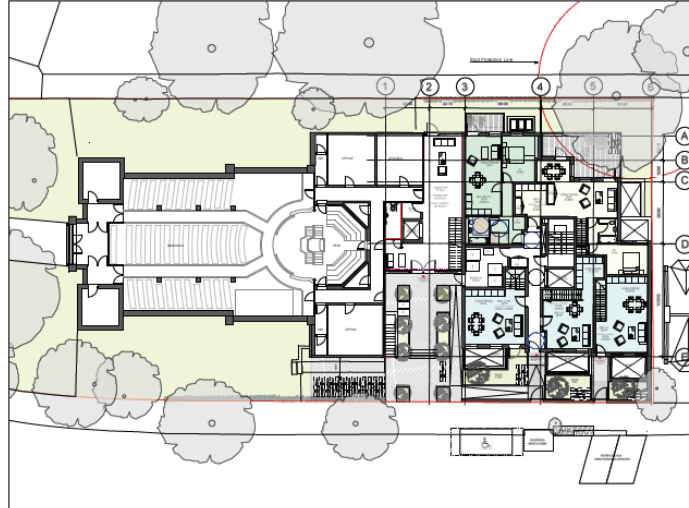
In relation to residential part of the building, a single minimum-width staircase (i.e. 750mm) will be provided and accessible within 7.5m of each apartment entrance door (as opposed to 4.5m), due to it being no more than three storeys above the ground storey and the mitigation afforded by the provision of sprinklers (see above) and enhanced fire detection (see below), together with the anticipated low numbers of persons likely to use it in the event of a fire (see 'fire evacuation strategy' section, below) and is acceptable for day-to-day circulation. Furthermore, subject to discussion with and approval by, the Building Control Authority, the staircase will not be separated at ground floor level, as there will only be one small room in the basement (see comment above, regarding the redesign of the 'alternative' escape route from the place of assembly), containing very little to no fire loading (i.e. bicycle store, only) or ignition source.

The staircase enclosure will also be provided with a 1.5m² automatic opening vent (AOV) and accessed via a protected corridor / lobby that is similarly provided at each floor level. The system will be designed to ensure that the AOV on the fire floor and the AOV at the head of the staircase operate at the same time, via the common L5 detection arrangements (see below, in relation to automatic fire detection).

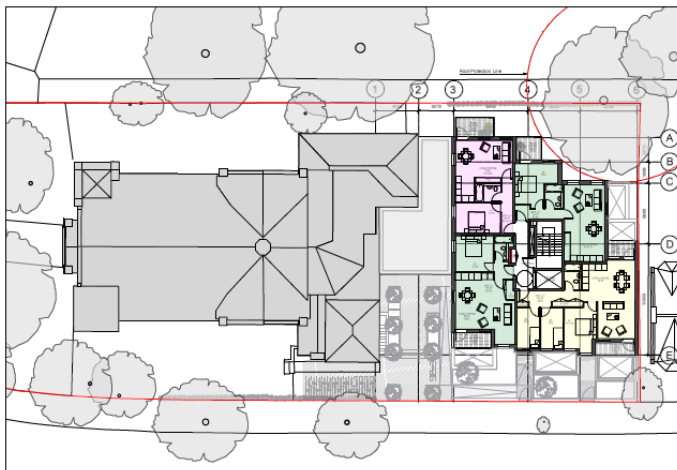
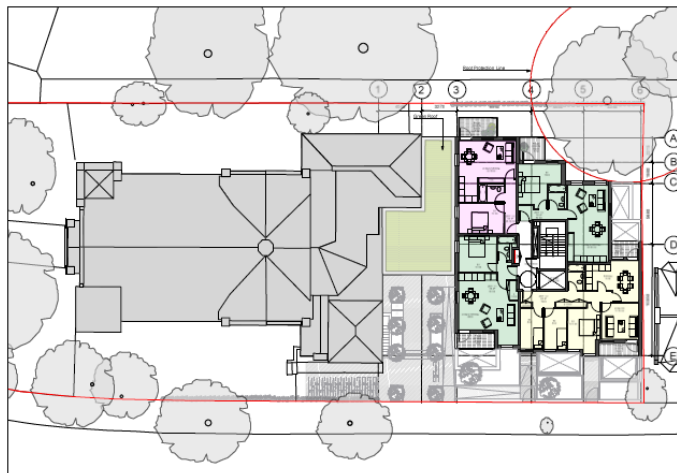
In relation to the four maisonettes (i.e. ground and lower ground floor accommodation), although the lower ground floor bedrooms are lobby protected, they all emerge into a kitchen / diner and living space and further discussion with the Building Control Authority, regarding the mitigation afforded by the provision of sprinklers (see above) and enhanced fire detection (see below) for the 'inner room' condition, will be required.

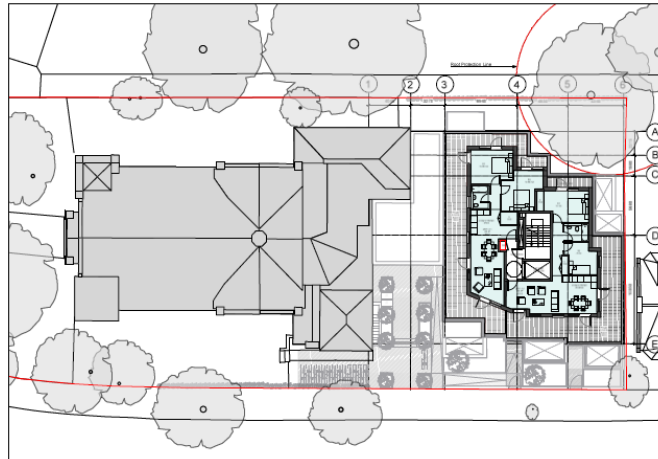


The accessible apartment on the ground floor will be provided with flat and level access / egress of 900mm, both within the apartment and through to the final exit (i.e. the main entrance). In addition, an evacuation lift will also be provided in accordance with the requirements of the London Plan Policy D5(B5), although this will only be required to support the evacuation strategy (see 'fire evacuation strategy' section, below) and not 'necessarily' as a means of escape only for persons who are unable to self-evacuate.



In relation to the flats on the first floor, the layout is based on the protected entrance hallway, which is rated to 30 minutes fire resistance with FD30 internal fire doors and the maximum travel distance within the hallway being limited to 9m (maximum). This is replicated on the second floor, with the exception of apartment 2.2, which, together with the apartments on the third floor that do 'not' have internal entrance hallways but reflect similar circumstances to those highlighted within the maisonettes (see above), whereby further discussion with the Building Control Authority, regarding the mitigation afforded by the provision of sprinklers (see above) and enhanced fire detection (see below) for the 'inner room' condition, will be required.





Active fire detection and warning system will be provided separately, for the residential and assembly parts of the building (see also 'evacuation strategy' section, below), although, subject to discussion with and approval by, the Building Control Authority, a link to a remote call handling centre is recommended, to prevent a fire in growing, without external warning or early summoning of the F&RS, when the assembly part of the building is unoccupied. Within the apartments, an LD1 category of fire detection will be designed, installed and commissioned, in accordance with BS5839-6 and within the assembly part(s) of the building, an L2 category of detection, at least, will be designed, installed and commissioned, in accordance with BS5839-1. In addition, an L5 category of detection will be designed, installed and commissioned, in accordance with BS5839-1, within the staircase and common approach corridors, without manual call points or sounders, to activate a separately designed but integrated electro-mechanical smoke extraction system (see above, in relation to staircase protection), both of which being independent of all other systems (see also 'access and facilities for the F&RS' section, below).

Lighting levels throughout the building will be adequate for normal usage and in the event of a fire, although in the unlikely event of a loss of power while any occupants are escaping, emergency evacuation lighting (EEL) will also be designed, installed and commissioned in accordance with the requirements of BS 5266-1, for the common escape routes, only and either integrated into, or capable of 'adequately' illuminating, any escape route signage provided, which will be designed and installed in accordance with the requirements of the Health and Safety (Safety Signs and Signals) Regulations 1996 and BS EN ISO 7010, although no fire exit signage will be required in the single common escape route, as it is expected to be in regular (probably daily) use.

Maintenance of both passive and active fire safety provision will be the responsibility of the premises 'Responsible Person(s)' as identified in accordance with the provisions of the FSO (i.e. the person(s) having any degree of control over all or part of the subject premises).



4.0 FIRE EVACUATION STRATEGY

During the construction phase, an immediate and simultaneous (i.e. single stage) evacuation of the whole site will be undertaken, in the event of fire, together with an appropriate method of alerting any occupants of the church, as identified in the construction phase fire risk assessment (FRA), together with the location of a 'suitable' Fire Assembly / Muster point (see also 'fire safety during construction' section, above).

Once occupied the fire safety strategy for the place of assembly (i.e. church and tabernacle) will be to follow the 'single stage' evacuation strategy, in accordance with the 'significant findings' of a 'suitable and sufficient' FRA. However, serious consideration should also be given to providing a link to a call handling centre, that will summon the F&RS when the place of assembly is unoccupied.

A type 1 (non-invasive) FRA of the common escape provisions, should also be completed for the residential part of the building, upon hand-over, which should highlight the 'defend in situ' strategy, whereby, in the event of a fire occurring within the compartment of origin (i.e. an apartment) or directly affecting it (e.g. fire and / or smoke spreading into an adjacent apartment), only those persons affected by the fire need to evacuate. Thereafter further evacuation will be undertaken by the F&RS, as they consider necessary, including use of the evacuation lift, if appropriate (e.g. where persons require flat / level access). This approach is facilitated by the provision of extensive compartmentation and robust escape route protection, standalone fire detection systems within each apartment and effective smoke ventilation systems in the common escape routes.

In relation to those persons who are unable to self-evacuate, specifically, it is not acceptable to rely on F&RS rescue and all such persons should be asked to complete a personal emergency evacuation plan (PEEP) and share it with the 'Responsible Person' for the place of assembly, their family or carer(s). Where known, the details will also be provided in the premises information box (see 'access and facilities for the F&RS' section, below).

In relation to all occupants, information concerning the 'relevant' fire safety provisions (i.e. the fire evacuation strategy and how to report a fire and in particular, the importance of keeping fire doors closed), will be provided as soon as they move in, to ensure they are aware of and understand the fire safety rationale for their building.

5.0 ACCESS AND FACILITIES FOR THE FIRE AND RESCUE SERVICE

Vehicular access is provided to the front elevation of the building in Braemar Avenue, direct to within 5m of the main residential entrance and 12m of the tabernacle entrance, with full further access, on foot to the rear, via Nightingale Gardens. In total, approximately 60% of the perimeter of the building is available for 'effective' firefighting operations, with half of that accessible to pumping appliances and aerial ladders / platforms.

Several fire hydrants are available, in the streets surrounding the building, within easy access and there is no requirement for additional or alternative water supplies.

As the height of the building, from ground to the upper floor, is 8.833m and a hose line can reach to within 45m of all points within each apartment, there is no requirement for either a firefighting lift or staircase or a dry rising main. However, an evacuation lift will be installed.

The apartments are all provided with sprinkler protection and the building has a single fire-protected staircase and common protected escape routes, incorporating a wayfinding system and automatic opening vents (AOV), with manual override facilities.

Each maisonette (i.e. ground and lower ground floor) is provided with a manually operated natural smoke outlet, via the bedroom doors giving onto a private amenity space (i.e. lightwell), away from the internal staircase and common escape routes. Similar arrangements exist in the place of assembly.



6.0 FIRE SAFETY INFORMATION AND MANAGEMENT

Relevant building information, including that required to further develop the 'golden thread' related to fire safety, will be handed over, by the PD or PC, upon completion of the project, in accordance with Regulation 38 of the Building Regulations 2010, in an 'appropriate' format that will enable the 'Responsible Person(s)' to understand and implement the fire safety strategy, maintain the fire systems and carry out an 'effective' FRA.

The strategy outlined in the previous sections, together with an 'effective' FRA and fire safety manual, developed from this strategy, will provide a template for effective fire management of these premises and should consist of the following:

- The Fire Safety Strategy (i.e. this document) and all design assumptions relating to the management of the building.
- Escape routes, evacuation strategy and where applicable, fire assembly / muster points.
- Details of all 'passive' fire safety measures (i.e. compartmentation, cavity barriers and fire stopping, fire stop doors, relevant hardware (e.g. self-closing devices, access control etc.), ducts, dampers and shutters, fire safety signage).
- Details of all 'active' fire safety measures (i.e. fire detection and warning arrangements, emergency communication systems, emergency evacuation lighting, fire firefighting equipment and facilities for the fire and rescue service, smoke control system(s) design, including mode of operation and control arrangements).
- Any high-risk areas (e.g. heating machinery) and particular hazards
- As-built plans of the building showing the locations of the above items.
- Specifications of any fire safety equipment provided, including operational details, operators manuals, software, system zoning and routine inspection, testing and maintenance schedules.
- Records of any acceptance or commissioning test certificates.
- Facilities for the evacuation of persons unable to self-evacuate (e.g. evacuation lift etc.).
- Any other relevant details.

Although the building is less than 11m in height, it is also recommended that all fire doors in communal areas of the building must be checked, by the Managing Agent (i.e. not a technical specialist) at least every three months, to ensure that they are all in good condition and either 'effectively' self-closing or, in the case of cupboard and riser doors, are kept locked shut.

Where possible, the Managing Agent will also endeavour to undertake checks of all flat entrance fire doors, at periods not exceeding 12 months and maintain records of the checks and any remedial action required / undertaken.



AUTHOR

Malcolm Tullett (Fire Safety Advisor and Fire Engineer) is a Member of the Institution of Fire Engineers (MIFireE), after having served for twenty (20) years in the London Fire Brigade (LFB), ultimately as a Senior Fire Safety Officer, with responsibility for a team of Fire Safety Inspecting Officers covering the City of London and City of Westminster, as well as several notable special projects. In addition to his fire safety accreditation and experience he has extensive operational experience and knowledge having also been a Station Commander and relevant commercial experience, having been advising clients on fire safety and fire engineering, for nearly thirty (30) years.

Alan Emms (technical Fire Safety Advisor) has worked in regulatory fire safety since 1995 with London Fire Brigade (LFB), the Fire Service College (FSC) and The Fire Protection Association (FPA). As technical consultant Alan specialises in engineering solutions to the satisfaction of regulatory authorities and clients. He has for many years delivered quality training to Fire Services, Local Authorities and Fire Industry professionals in Building Regulations and regulatory compliance.

Risk and Safety Plus (RS+) warrants that this report has been prepared with all reasonable skill and care.

	Author	Reviewer
Name	Malcolm Tullett 	Alan Emms 
Job Title	Fire Safety Advisor and Fire Engineer	Fire Safety Advisor
Date	13 December 2022	13 December 2022