* 1. Fire Scenario{% if NUM\_SCENARIOS > 1 %}s

{% endif %}

* + 1. {% if NUM\_MOE\_SCENARIOS == 0 %}

{{ NUM\_SCENARIOS\_TEXT[0]|upper }}{{ NUM\_SCENARIOS\_TEXT[1:] }} fire scenario{% if NUM\_SCENARIOS > 1 %}s have{%- else -%}has{% endif %} been considered in this assessment and will relate to the Fire Service Access phase only. The model{% if NUM\_SCENARIOS > 1 %}s{% endif %} will consider the likelihood of smoke penetrating into the stair based on {% if NUM\_SCENARIOS > 1 %}credible worst case apartment locations{%- else -%}a credible worst case apartment location{% endif %}.

{%- else -%}

{{ NUM\_SCENARIOS\_TEXT[0]|upper }}{{ NUM\_SCENARIOS\_TEXT[1:] }} fire scenario{% if NUM\_SCENARIOS > 1 %}s have{%- else -%}has{% endif %} been considered in this assessment, {{ NUM\_MOE\_SCENARIOS\_TEXT }} Means of Escape scenario{% if NUM\_MOE\_SCENARIOS > 1 %}s{% endif %} and {{ NUM\_FSA\_SCENARIOS\_TEXT }} Fire Service Access scenario{% if NUM\_FSA\_SCENARIOS > 1 %}s{% endif %}. Fire scenarios are based on credible worst case apartment locations.

{% endif %}

* + 1. The proposed fire scenario{% if NUM\_SCENARIOS > 1 %}s are{%- else -%}is{% endif %} summarised in Figure 1 – Figure XX

Figure 1: Proposed Fire Scenario{% if NUM\_SCENARIOS > 1 %}s{% endif %}

{#p IS note: to create super large table and delete rows not needed #}

{#p IS note: Mechanical Supply – 3.3 m3/s; 1.5m2 AOV; 1.5m2 Natural Smoke Shaft, 1.0m2 Corridor Vent; Though Stair Door via 1.0m2 AOV #}

{% if NUM\_SCENARIOS == 1 %}a fire which represents{%- else -%}fires which represent{% endif %}

{% if not HAS\_EXTENDED\_TRAVEL %}

* + 1. As travel distances within the scheme are compliant with the guidance of {% if BS9991 %}BS 9991{%- else -%}AD-B{% endif %}, the sole objective of the system is to ensure that the stair is kept relatively clear of smoke should fire occur. The CFD assessment undertaken and detailed in the report shows that this is achieved under the proposed design, should a “reasonable worst case” fire occur and, as such, the design can be considered to meet the functional requirements of Part B1 of the Building Regulations 2010. {%- else -%}
    2. The design features residential common corridors which feature single direction travel distances of up to {{MAX\_TD}}. This exceeds the {% if not HAS\_SPRINKLERS %}7.5m{%- else -%}15m{% endif %} limit stated in{% if BS9991 %} BS 9991[{{REF\_BS9991}}]{%- else -%} AD-B[{{REF\_ADB}}]{% endif %} in a building where sprinkler protection is {% if not HAS\_SPRINKLERS %}not {% endif %}provided. As such, a fire engineered solution is required to demonstrate that the proposed design provides an adequate level of safety. Under the methodology described in the SCA Guide, extended single directional travel distances of up to 30m can be considered acceptable if it is demonstrated that the common corridors can be cleared within two minutes of an occupant escaping from the apartment of fire origin (Means of Escape Phase). In addition, the SCA guide requires the system to be designed to ensure that the temperatures within the common corridor are controlled and the stair is kept relatively free of smoke when the Fire Service are fighting the fire (Fire Service Intervention Phase).
    3. A CFD modelling study has been undertaken to calculate the required extract rate of this system and demonstrate that these performance objectives are achieved and, as such, the design can be considered to meet the functional requirements of Part B1 of the Building Regulations 2010. {% endif %}

Text

Description automatically generated