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40-46 Princess St - Planning Response

Date: **15th August 2017**

Subject: **Potential Gym Flue Locations**

There is the potential for the proposed basement Gym at 40-46 Princess St to install a gas-fired heater installation to serve their hot water and heating requirements. This will require a flue to be installed to remove the products of combustion.

The following 4 options have been reviewed for the location of the flue:

1. External flue rising on the Courtyard elevation
2. Internal flue rising in service riser in office tenancy
3. Internal flue rising in service riser in Lift Lobby
4. Internal flue rising in Cleaners Cupboard

The potential output of the gym gas-fired heaters would potentially be above 70kW and as a result we have used the guidelines within BS 6644:2011, to determine the flue heights for each of the options.

Option 1 - External flue rising on the Courtyard elevation

This option has the flue exiting the building at basement level directly from the proposed boiler room location. The flue then rises external to roof level on the Courtyard elevation. The flue's discharge height will potentially be lower than the height of the building.

The Benefits of this option are:

- The least disruptive as the flue could be installed after the refurbishment has been completed
- No internally structural amendments required
- Potentially the flue has the lowest discharge height of any of the options
- Flue discharge location will not be visible from Princess St or Hater St
- Does not require access into the Landlord's part of the building or office/retail tenancies for installation and maintenance

- Flues are generally installed in stainless steel, so can be more aesthetically pleasing than galvanised ducts

The Negatives of this option are:

- Flue is viable from the Courtyard and buildings adjoining the Courtyard

Option 2 - Internal flue rising in service riser in office tenancy

This option has the flue rising internally into a service riser in the office tenancies, that is approximately directly below the proposed Gym boiler room. The flue would rising internally and penetrate the flat roof adjacent the Courtyard elevation. The discharge height of the flue could potentially be higher than the height of the building.

The Benefits of this option are:

- Easy access from proposed boiler room
- Internal flue not installed on the external façade of the building
- Potentially the flue will not visible from Princess St or Hater St

The Negatives of this option are:

- Limited or no space within service riser. The service riser is currently proposed to house the Landlord's supply and extract ducts serving the office area with fresh air and general extract. This riser is currently the only internal route for ventilation ducts from the sub-basement (new location of the Landlord's and Gym AHUs internally within the building). Using this route for the flue will require additional service risers installing for ventilation ducts
- Installation and maintenance of the flue would require access into an office tenancy on all levels; this is not good practice and is not recommended. Generally all other Tenant risers should be accessed from a Landlord area
- The flue could potentially be higher than the height of the building
- The flat roof structure where the flue discharges has not been surveyed and the structure is unknown, therefore there is a risk that additional structural works may be required to allow for the flue penetration

Option 3 - Internal flue rising in service riser in Lift Lobby

This option has the flue rising internally by extending the service riser that is located within the Landlord's lift lobby. The flue would rising internally and penetrate the pitched flat roof of 40 Princess St. This option would require the lift lobby to be reconfigured and would reduce the net lettable office space per floor. Also the discharge height of the flue would be higher than the height of both 40 and 46 Princess St.

The Benefits of this option are:

- Internal flue not installed on the external façade of the building

The Negatives of this option are:

- Flue will be higher than the height of the building
- Flue could potentially be visible from Princess St and/or Hater St
- Installation and maintenance of the flue would require access into the 5th floor office tenancy; this is not good practice and is not recommended. Generally all other Tenant risers should be accessed from a Landlord area
- Service riser area would increase, requiring reconfiguration of the lift lobby
- Will reduce net lettable office space on all floors

Option 4 - Internal flue rising in Cleaners Cupboard

This option has the flue rising internally within the current cleaner's cupboard in 46 Princess St. The flue would rise internally and penetrate in the pitched flat roof of 46 Princess St. This option would require the proposed Gym boiler room to be repositioned, as its current location would require the flue to drop to enter 46 from 40 Princess St (good practice states flues should always rise and contain no drops). The discharge height of the flue would be higher than the height of 46 Princess St.

The Benefits of this option are:

- Internal flue not installed on the external façade of the building

The Negatives of this option are:

- Flue will be higher than the height of 46 Princess St
- Flue could potentially be visible from Princess St and/or Hater St
- Installation and maintenance of the flue would require access into the Café retail tenancy; this is not good practice and is not recommended. Generally all other Tenant risers should be accessed from a Landlord area
- Will reduce net lettable space in the Café unit
- This option will require the Gym boiler room to be repositioned into 46 Princess St. The implication of this may result in restriction in accessing the lift or it could restrict access to Stair 5 leaving part of the net lettable area unusable

Recommendations

It is our recommendation that the Gym flue location proposed as part of the refurbishment is Option 1 (External flue rising on the Courtyard elevation).

We consider this is the least intrusive and potentially has the lowest flue discharge height over any of the other options. The flue should not be higher than the current height of the building.

We consider the flue discharge location will have no visually impact from Princess St and/or Harter St.

The installation and maintenance of the flue requires no access into the building and the office tenancies.