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2589 / 3.1
14 November 2008

Westgate Plaza One Barnsley

Design Statement for the extension of the biomass boiler exhaust flue

Background

The development was completed in 2007 as civic offices for Barnsley Metropolitan Borough Council. The building is five storeys in height, with prominence in particular from the south west.

Existing Situation

When the biomass boiler is active, fumes from the exhaust flue are entering the air handling unit intakes during certain wind conditions.

Proposal

The proposal is to increase the height of one of the flues from 1.8m to 3.8m to allow the fumes to vent at a higher level and prevent the re-entry of fumes. A flue gas recirculation system is to be installed to increase the efflux velocity to 10m/sec and increase flue gas temperatures to aid gas dispersion. The moisture content of the wood fuel is also to be controlled by using seasoned woodchip. This is all in accordance with Ecoenergy's recommendations.

Visual Impact

Currently the two 1.8m polished stainless steel flues are clearly visible from the public road. The new 3.8m flue will be higher but finished in matt stainless steel to minimise its visual impact from the road. It is acknowledged that the flue will be visible from the taller adjacent Gateway Plaza development currently under construction, but it is relatively small in diameter and is unlikely to have an impact in longer views throughout the town centre.

Enclosure of the flues has been considered, but discounted owing to the resultant increase in bulk of the installation and the potential interference with flue gas dispersion.

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