Transport for London

2344 – Cobourg Street

Design concept overview

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Architecture

1. Existing substation description

Cobourg Street substation is located at the junction between Euston Street, Cobourg Street and Drummond Street. The site is surrounded by a mixture of residential, hospitality and office accommodation. The building is accessed by Cobourg Street via a gate. The substation acts as a primary substation receiving power before transforming it for final distribution to load centres. The ground floor houses switchgear, transformer rectifiers and LVAC equipment. The first floor accommodates additional switchgear and associated protection relay panels, SCADA outstation and fibre optic termination panels.

The substation complex was built circa 1968 as part of the development associated with the Victoria line. It consists of a single storey substation, a three storey office building, a two storey switch house and a one storey control centre building for the Northern line, located on the roof of the substation.

The switch house is clad in precast concrete aggregate panels, with an inner leaf of blockwork.

2. External Works

External architectural works to the substation will include two new floors to be constructed above the existing building. These will house a new cable flat level at level B and new HV switchgear at level C. The new supporting structure for these floors will be encased in blockwork construction; the external finish is a mechanically fixed insulated lightweight rainscreen metal cladding that will follow the cladding design of the building below, adjusted for heights, speed of construction, overall appearance and ventilation requirements, with external fire escape doors opening to an external staircase at each level. The cladding is to be of sufficient height to function as a balustrade to the roof. A new ladder access to the adjacent roof is to be added, in order to allow inspection and repairs to the adjacent roof and any equipment on it without entering the substation building.
Extension of existing internal stair to both levels, encased in fire rated construction with door access at each new level with a rooflight installed above.
The roof will use a sustainable drainage build up designed to attenuate and manage storm water (Blue roof), with an accessible paved finish to allow for roof and drainage inspection.

3. Scale

The existing building is 11.4m high, and the proposed two storeys are just over 8m in height. This is due to internal constraints regarding the equipment that will be installed inside the extension. While this is higher than the buildings adjacent, that are mostly residential, it is in line with the heights for buildings around this area. Considering that the area opposite will be the object of a large development in the context of HS2, this increase in scale for this particular building will not impact the future landscape significantly.

4. Appearance

The existing building ensemble, which includes the substation and offices adjacent, utilises a very specific colour palette of greens and greys (fig.1), which associated to brick fit into the context in a fairly integrated way.

Fig. 1

It was our aim to preserve this colour scheme and the horizontal nature of the design, while making sure we also considered ease of installation and maintenance. To do so, the extension to the building takes into account the colouring of the aggregate in the panels below (fig.2), and the horizontal nature of the panel design.

Fig. 2

To differentiate the intervention from the original building, a shadow gap was added between existing and new, while the horizontal nature of the design is emphasised through the push-pull nature of the panelling, that creates subtle shadows and helps mask the louvres. The vertical circulation elements within the building take on the same language as the shadow gap to provide some contrast and animate the block, which could be quite monolithic and imposing otherwise. A subtle touch of colour will be added in the handrail to the staircase at the back, visible from both Cobourg street and Drummond street (figs 3 and 4).

All downpipes and main access routes are on the internal elevations as to keep the external language as simple and harmonious as possible within the context.

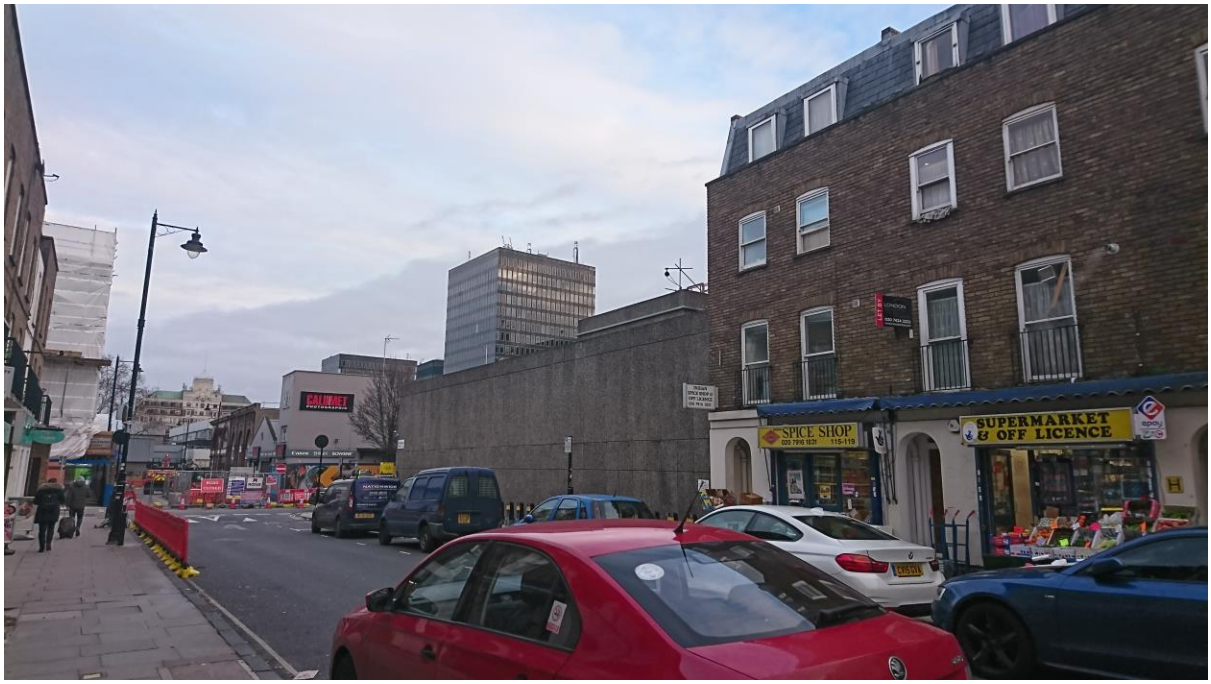

Fig. 3 – View from Drummond Street

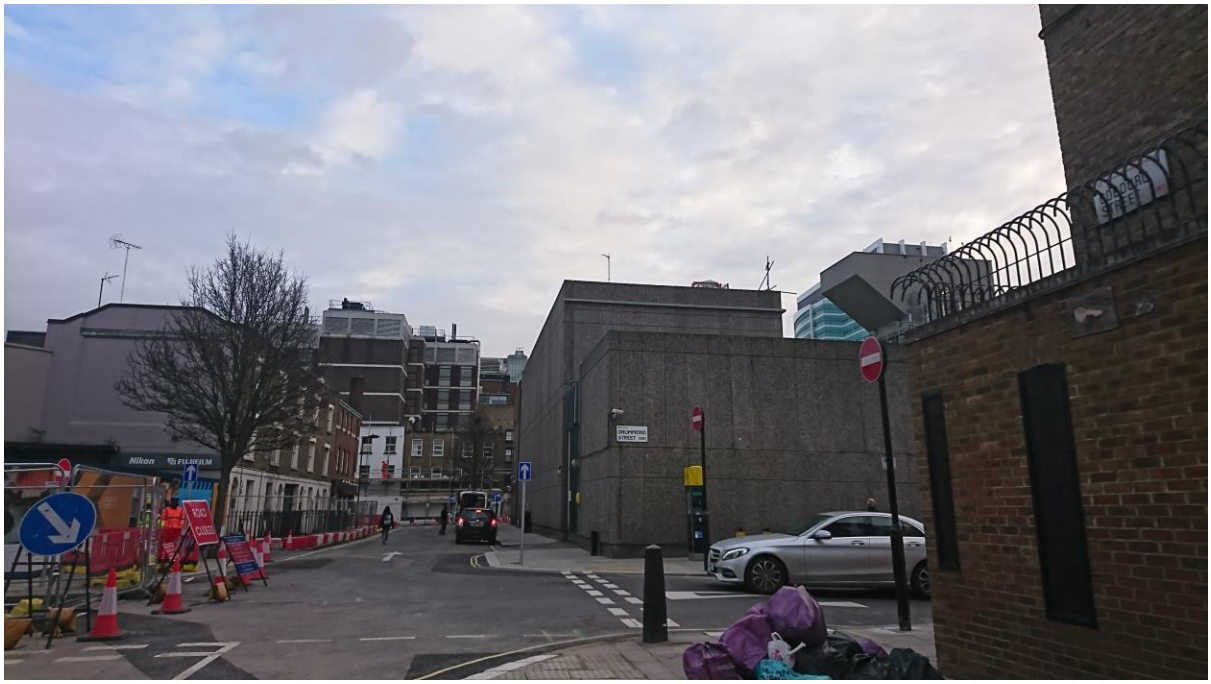

Fig. 4 – View from Cobourg Street