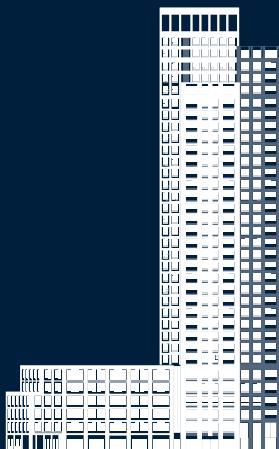

CANADA WATER MASTERPLAN



Design and Access Statement
Volume III Part 9 of 9
Plot A1

May 2018
Allies and Morrison

9 TECHNICAL CONSIDERATIONS

9.1 Detailed reports in this submission

This chapter is a high level summary of technical considerations that influenced the design. They refer to more detailed reports that can be found as part of the Plot A1 detailed submission, or in the Environmental Statement of the wider planning submission of the masterplan.

Servicing / Transport (ARUP)

The logistic arrangements and interfaces with the public highways have been carefully analysed and co-ordinated with ARUP. All servicing will be carried out within the plot except for deliveries to one small retail unit along Deal Porters Way. The loading bay has been located with least impact to the public realm and with road safety in mind. Waste storage has been sized appropriately for the type and size of the development.

Energy / Sustainability (SWECO)

The development follows the masterplan strategy (set out by ARUP) of using heat pumps instead of CHP plant. The plot has also been designed to allow for a future district heating connection. Plot A1 is designed with an integrated and holistic approach to sustainability, spanning from a high density mixed-use brief through to technical detailing of the building fabric, systems and materials to ensure the environmental sustainability of the building and the health and well-being of its end users. The scheme has been set up to achieve BREEAM excellent for the office, BREEAM very good for the retail component and Home Quality Mark 3 stars for the residential development.

Construction Management Plan (RPM)

This document demonstrates how impacts from the construction process of Plot A1 on the amenity of neighbouring occupiers and the environment will be managed and mitigated. It addresses traffic management, dust, noise, vibration and stability. It also describes how specific existing site constraints (protection of existing trees, relocation of services, TFL tunnel monitoring) will be integrated in the construction process.

Sun / Daylight (GIA)

The residential development has been designed to allow for dual aspect flats throughout except for the studio flats. As a result, all flats experience a good level of daylight. All external communal amenity areas have access to good levels of direct sunlight exceeding the BRE required minimum hours. Detailed analysis can be found in the report by GIA.

9.2 Environmental Statement

Wind (RWDF)

Following the original massing of the masterplan proposal, the design of Plot A1 has been adjusted and improved the initial wind loads on the ground surrounding the building. Canopies are not required from a wind mitigation measure, but have been introduced for rain protection and to mark the main entrances to the building. Mitigation measures on the upper amenity roofs will be provided in form of glass balustrades and pergolas on roof levels 29 and 32. The accessible roof on level 6 will provide shelter through a combination of pergolas and vegetation. Access will be managed with seating areas and play space provided in areas of acceptable wind conditions. External private amenity in the form of balconies and loggias were distributed in response to prevailing wind with the ambition to ensure good visual connectivity to the outside by keeping balustrade heights below 1.1m from a wind perspective. This approach has been verified as suitable in a wind tunnel test carried out on the basis of the scheme as proposed in this submission.

Noise / Vibration (Waterman)

The development will follow good acoustic design within its given constraints. Impact from external plant has been reduced by relocating the majority into the basement of the development. Externally located generators (if required by future tenants) will follow Southwark Council requirements of noise level limitations. Internally, good acoustic design has been co-ordinated and integrated with other key disciplines such as thermal analysis to allow for natural ventilation and avoid mechanical cooling of the building. Vibration studies in response to the TFL tunnel noise levels have been carried out and informed the design. As a result, no residential units have been proposed in the lower parts of the building.

Air quality (Waterman)

The air quality assessment carried out by Waterman suggests that lower floor residential units may not be able to depend on natural ventilation and may require mechanical ventilation. All other parts of the building will be able to have access to openable windows to provide sufficient air exchange. Air intake and extracts will be located in sufficient distance to avoid shortcuts of used up air. Any extracts at high level ground discharged to the outside will be filtered to sufficient levels.

Flood Risk (Waterman)

The topography around Plot A1 falls from east (5.5 m AOD) to west (3.1 m AOD). Waterman have advised that the FFL of 5.5 m AOD to the east is acceptable and that the existing level of the road on Deal Porters Way (6.0 m AOD) will be maintained in the new highway design. The level in the west ties in with the existing levels of the Dock Offices Courtyard. Although advice has been that the level is acceptable from a flood risk assessment, this has been raised to 3.2 m AOD to remove further potential residual risk of flooding to this area and into the basement, with flooding only occurring in a breach event, i.e. failure of Thames tidal defences

Ecology (Waterman)

Most of the current site is occupied by an asphalt surface car park. Existing trees of ecological value to the north and within the Dock Offices Courtyard will be retained. New vegetation in the public realm will enhance areas that are currently of little value. Roofs of the proposed A1 development will provide a variety of ecological features. Communal external amenity roofs will consist of a combination of small trees, urban gardens (herbs and other edible plants) hedges and small areas of grass. Non accessible roofs will receive sedum / brown roofs where there is no requirement for building services roof plant and PVs.

9.3 Security

Crime prevention (QCIC)

Plot A1 forms the entrance to British Land's Canada Water Masterplan for which a site wide security strategy is being developed. The design measures proposed for Plot A1 are considered to be commensurate with the site wide security aspirations for the Masterplan.

It is proposed that the design of Plot A1 will seek to comply with the requirements of Secured by Design (SbD) in consultation with the Designing Out Crime Officer (DOCO).

QCIC have assisted the design to date and will further develop security aspects in more detail. A review of the project was held with the MET Police on 18 August 2017 and recommendations have been considered in the design process since. A follow up meeting will be arranged to align the security aspects with SbD requirements and ensure that the proposed development will provide a secure and safe working and living environment.

To assist in British Land's BREEAM aspirations for Plot A1, QCIC has undertaken a Security Needs Assessment (SNA). This meets with the requirements of BREEAM 2014 Hea '06.

The design approach to security is based on the following principles:

- Ensuring an appropriate separation of multiple building functions, to enable the effective management of access.
- Facilitating secure use of the building through provision of an automated access control system (AACS) for back of house areas, office spaces, residential areas.
- Mitigating the risk of forcible intrusion through the inclusion of enhanced physical security in vulnerable locations.
- Deterring and detecting intrusion or theft in the building through provision of a video surveillance (CCTV) system.
- Allowing electronic security systems to be controlled and managed as a standalone building through a building control room, whilst also providing a link to a centralized estate control room (to be determined in later phases).
- Mitigate the effects of a terrorist attack against the building, or in the vicinity of the building through the provision of proportionate physical security measures.
- Security equipment, whether physical or electronic, will be designed or selected wherever possible in order not to detract from the visual impact of Plot A1, and in particular communal spaces and views of the facades.

9.4 Further considerations

Fire (Olsson Fire)

A fire engineered approach by Olsson Fire has been adopted for Plot A1. The building will be fully sprinklered using a BS EN 12845 commercial system for the offices and a domestic BS9251 system for the apartments. The office parts will be served by two fire-fighting cores with a simultaneous evacuation process in case of emergency. Office and Residential parts are separated by fire rated construction and are structurally separate in the main.

Office escape is via the two fire fighting stairs and travel distances are in line with code recommendations taking future unknown fit-out into account. A mechanical smoke extract system will be provided in the residential common corridor to return tenable conditions in the event of fire and support the extended travel distances in these areas. This will be further justified using computational fluid dynamics during the next stages.

All external cladding and insulation will be formed from materials of limited combustibility.

Maintenance and Access

Plot A1 has been designed with ease of maintenance and robustness in mind. Brick has been chosen for the lower office buildings. Where the metal clad towers come to ground, pre-cast elements have been introduced to improve the robustness of finishes on ground level.

All windows and glazed elements have been designed to be replaced from within. Lifts to each core have been sized to accommodate glass and small plant replacement. A BMU at roof level of the tower has been sized to enable access to all facades of the tower for cleaning, and to lift up equipment from the last terrace floor to roof level, as lifts are designed to stop on the last habitable floor to reduce the overall height of the building.

Lower floors will be cleaned in a combination of reach and wash and MEWP access.

For further information please contact

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