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Document

Design & Access Statements

Including AC unit specification

Project

External AC condenser plant and HV enclosure Installation.

Unit 3, Banbury Office Village

Client



To be read in conjunction with drawings:

307-002	Site Location Plan, Block Plan and Elevations as Existing
307-003	Site Location Plan, Block Plan, Elevations, Detailed Enclosure Fence Elevations and Sections and Fence details as Proposed
EKV0015	Western Power Distribution Standard GRP Enclosure Drawing
24675rp	Acoustic Report

REVISION

DATE

A Reviewed against revision of 307-003A

17.08.17

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Design

USE

The existing Unit 3 at Banbury Office Village is to be adapted to provide a new test facility for national internet infrastructure equipment with the associated offices retained at first floor.

New condenser plant is to be mounted in an enlarged existing external plant area within the courtyard to the north-west side of the L shaped Unit 3. The additional plant is required to serve the new AC units within Unit 3 to maintain the optimal temperature for efficient running of the internal electronic equipment which requires cooling. The new AC units and external condensers have been specified to run efficiently and at low noise levels.

In association with the above a new HV electricity supply is required to serve the building. This will require the installation of a new HV transformer which will be covered by a GRP enclosure. The optimal location for this element is to the south of the unit to maintain efficiency in supply.

AMOUNT

The size and number of the new condensers is suited to the requirements of the building's internal operation. Refer to drawing 307-003 for the location.

The additional plant will not require any additional personnel on site.

The HV transformer has been sized to suit the necessary electrical supply.

In addition to the plant works an existing door to the north of the unit is to be adapted to provide a 2.4m clear opening to facilitate the delivery and installation of the internal equipment. This will require the removal of the existing steel and glass canopy. A new access door to the south elevation will also be installed within an existing brickwork panel.

LAYOUT

The existing external plant enclosure has been enlarged to accommodate the additional units. This is situated in the most efficient location to suit the internal equipment, minimising the length of pipe runs into the building which in turn minimises loss of cooling. The condenser plant needs to be sited externally to allow for adequate air flow across the units ensuring maximum efficiency. This location also has the benefit of being screened by the existing buildings and will not be visible from Noral Way or the adjacent site to the east.

The existing 1875mm timber fence to the enclosure is to be removed and a new 2200mm high hit and miss treated timber fence made up of vertical sections, fixed to a new ground level high concrete hardstanding.

There is limited flexibility in the location of the HV transformer. The site to the south of the unit between Unit 3 and Noral Way is reasonably well screened by the existing bank and soft landscaping.

The existing entrance to the west of the building is to be utilised as the personnel entrance. The entrance to the north of the unit will be adapted to allow deliveries of internal equipment. Both will allow emergency escape.

SCALE

The size of the external condenser plant will be installed to suit the new internal equipment. There are 4 No. Airedale CR 50-75 condensers at 2180mm wide x 1104mm deep x 920mm high mounted in the horizontal plane and 4 No. Daikin Sky Air condensers at 940mm wide x 320mm deep x 990mm high mounted in the vertical plane. They will all be installed on a new ground level concrete base.

The new enclosure fence will be slightly higher than the existing to provide increased acoustic screening and better security.

The units will generally not be visible from outside the enclosure. The new screen hit and miss fence will be of treated timber to match the original and adjacent condenser enclosures.

The HV transformed requires a GRP weatherproof cover. For full details see Western Power Distribution drawing EKV0015 included with this application.

The works to adapt the existing access door is to be undertaken so as to retain the colour and appearance of the existing glazing system.

ENVIRONMENTAL

The installation of the new plant has been designed to utilise free air cooling for the AC system. This will reduce the energy consumption for the new plant and ensure a sustainable operation.

Rainwater from the new base will run off to the perimeter and directly back into the surrounding landscape.

To ensure a safe environment the existing external wall mounted light fittings to the building perimeter are to be removed and re-fixed 750mm higher (3.00m to 3.75m above ground level).

Access

Pedestrian access to the building will be through the existing personal doors to the west of the building. The adaptations to the internal layout do not affect the unrestricted accessibility to all floors.

The building will retain the use of the shared car park to the Office Village.

The primary mode of access to this site will be by private vehicle due to the nature of the building. The site is located on Noral Way and has adequate parking for the reduced numbers of staff who will be on site.

The site can be accessed by a combination of bus and walking from Banbury Town Centre.

AC Condensor Unit specification

Airedale and Daikin data sheets appended.