St Mark's Church
St Mark's Square, Prince Albert Road, London, NW1 7TN

Telecommunications Installation Impact Assessment

Scope:

Provide a heritage impact assessment for St Mark's Church for the proposed installation of Telefonica (O2) and Vodafone telecommunications equipment for Cornerstone Telecommunications Infrastructure Ltd (CTIL) within the church tower.

NET's background:

NET Coverage Solutions Ltd have over ten years of experience designing and installing telecommunications installations within Church of England and other denomination church buildings.

NET have installed telecommunications equipment on Grade 1 listed churches such as St Martin within Ludgate Church and All Hallows by the Tower Church. NET work very closely with Diocesan Advisory Committees to ensure our design and construction methods are sympathetic to the fabric and the visual appearance of the church.

Details of the proposal at Westminster Chapel:

The proposed CTIL installation comprises of 8no antennas to be mounted externally in front of the spire windows with a GRP panel located in front of the antennas painted to look like the existing louvers.

The radio equipment is proposed to be installed within the tower on a new steel floor within the base of the spire.

Between the equipment cabinets and the antennas are to be co-axial cables run in cable tray.

There is a requirement for a power supply to the equipment. It is proposed to install a sub metered power supply taken from the existing supply to the church.

A new transmission cable is to be run into the church through the church yard to the boundary wall and enter via a new core drilled hole into the spiral staircase below ground level.

In order to provide safe access for maintenance of the proposed equipment it is proposed to install new emergency lighting within the tower and install a new steel vertical access ladder up to the new platform within the spire.

Antennas mounted within spire windows

	
External view of spire windows close up	External view of spire windows

8no antennas are to be mounted within the spire windows in front of the existing louvers behind a GRP panel painted to match the louvers. The antenna fixing brackets will be mounted to the wall using stainless steel resin bolts fixed into the mortar joints where practicable to avoid any damage to brickwork/Stonework. From ground level the spire windows look black and so the GRP panel will not be noticeable.

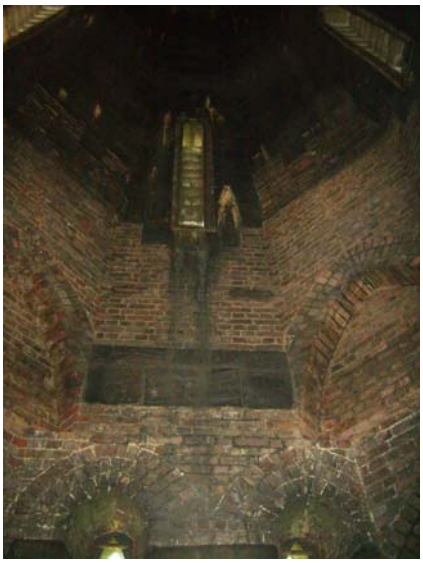
Equipment within base of spire:

It is proposed to locate the proposed equipment on a new steel platform within the base of the spire. The equipment and materials are to be lifted into position utilising the existing hatchway system in the tower floors.

The equipment is to be mounted on steel beams fixed to the tower walls. No additional loading will be transferred on to the floor.

All steelwork is to be galvanised and all fixings are to be stainless steel and made in to mortar joints rather than in stones or bricks where practicable.

Access ladders and lighting:

	
Access ladder and platform required up into base of spire.	Example of a ladder and platform installed in another chuch.

There is currently no access up into the tower above the bell chamber floor level. It is proposed to install a new steel access ladder and platform to provide safe access to equipment. This will also benefit the church for maintenance of the tower.

There is minimal lighting within the tower. In order to provide a safe access through the tower emergency bulkhead lighting is to be installed within the tower rooms and the spiral staircase.

Cable routing:

Co-axial cabling between equipment and antennas:

These cables are to be run on galvanised cable tray run internally around the walls of the tower.

Power Supply:

A sub metered power supply is to be taken from the churches existing power supply. A sub main cable will run from this point through the basement to the base of the tower and follow routes of existing cable up through the tower to the proposed equipment location.

Transmission Cable:

A new fibre optic transmission cable is required to be run into the church from the footpath. An underground duct will be installed between the boundary wall and the base of the tower.

the cable will enter the church tower via a 25mm diameter core drilled hole made below ground level. the cable will then run up the tower following routes of existing cables.

Conclusion:

The impact of the CTIL telecommunications installation is minimal on the fabric of the church and all elements of the installation are reversible at the end of the license period. The equipment will only be installed for a small moment in the overall lifetime of the church. Many of the elements of the installation will actually have a beneficial impact on the health and safety of church personnel and contractors accessing the tower for maintenance and inspection.

There will be minimal if any external visual impact on the church from the antennas mounted around within the spire windows.

The monetary impact of the installation for the church over the entirety of the licence agreement for the installation is over £286,000.00 which will go a long way to provide funds for the future upkeep of this grade 2 listed building.