Manchester Central University NHS Foundation Trust

Manchester Royal Infirmary

Life Cycle Works – Steamline & Condensate Infrastructure Upgrades

Supporting Information Document

Company	CM Oxendale Ltd & Bradbury Consulting	**Job Reference**	2022.096
Site Address	Manchester Royal Infirmary, Oxford Road, Manchester, M13 9WL		
Document Ref.	2022.096. Supporting Information	**Revision No.**	001
Proposed Start Date	04/09/2023	**Proposed End Date**	05/04/2023

Description of the Works

The works associated with this application are for the supply and installation of new steam and condensate mains to serve the Phase I/II buildings at this site. The new mains will replace the existing mains which are reaching the end of their designed lifespan. This project forms part of the on-going Life Cycle works being undertaken at the Manchester Royal Infirmary site.

Two separate steam, two separate condensate mains and a cold water main are to be installed which will emanate from the existing main boiler house (Energy Centre) and the condensate return mains are routed back to this location.

This project is considered a public service infrastructure development.

Existing Installation Arrangement

The existing installation consists of a single steam main and single condensate main which run between the Energy Centre Building and the Phase I/II MRI Building within an existing above ground service corridor along North Road. This is denoted on Drawing 2022.096.PL02 and the appended Photographic Schedule.

The steamlines then enter a below ground service duct, travel beneath North Road and onto the roof of the Phase I/II building via an existing riser; where they then serve various roof mounted plantroom locations across the site.

Proposed Installation Arrangement

The proposed installation consists of two separate steam, two separate condensate mains (300mm diameter) and a 150mm diameter cold water main in order to provide an increase in capacity to futureproof the installation and allow one set of mains to be shut down for maintenance purposes whilst the other remains live.

Due to the increase in size / number of the steamlines and also the need to carry out the proposed installation whilst the existing installation remains live - The existing service ducts do not have capacity to accommodate the proposed installation.

Therefore the proposed installation involves the new mains being installed above the existing above ground service duct along North Road, mounted on a new steel support frame, as shown on View B-B on drawing Q5045-GA-02.

The new mains will then cross North Road via a new gantry support structure which will carry the new pipework at high level onto the roof of the Phase I/II MRI building and will include a walkway and handrails for maintenance purposes. The mains will then be distributed across the roof areas to various roof mounted plantroom areas.

Please refer to the ‘Option 2’ proposed installation drawings Q5045-GA-02 to 05 for full details of the proposed installation. Note that whilst a replacement below ground service duct was considered as shown on the ‘Option 1’ version of the plans – This is currently not considered a viable option due to the extent of below ground services in the vicinity. Therefore the ‘Option 2’ Gantry proposal is being put forward for planning consideration.

Once the new installation is completed – The existing arrangement will be stripped out and the above ground service corridor will be retained in place as existing.

Proposed Materials

The following materials will be used in the proposed installation:

- Galvanised steel support frame mounted over existing service corridor, fixed back to existing masonry boundary along North Road.
- Galvanised steel gantry support structure, complete with maintenance walkway, associated steel support structure and metal cladded façade.
- Roof mounted pipework runs to be support via new ‘Roof-pro’ support system as per the appended Alumasc Data Sheet example.
- All exposed pipework is to be finished in an insulated metal cladding system as per the appended Armacell Data Sheet example.