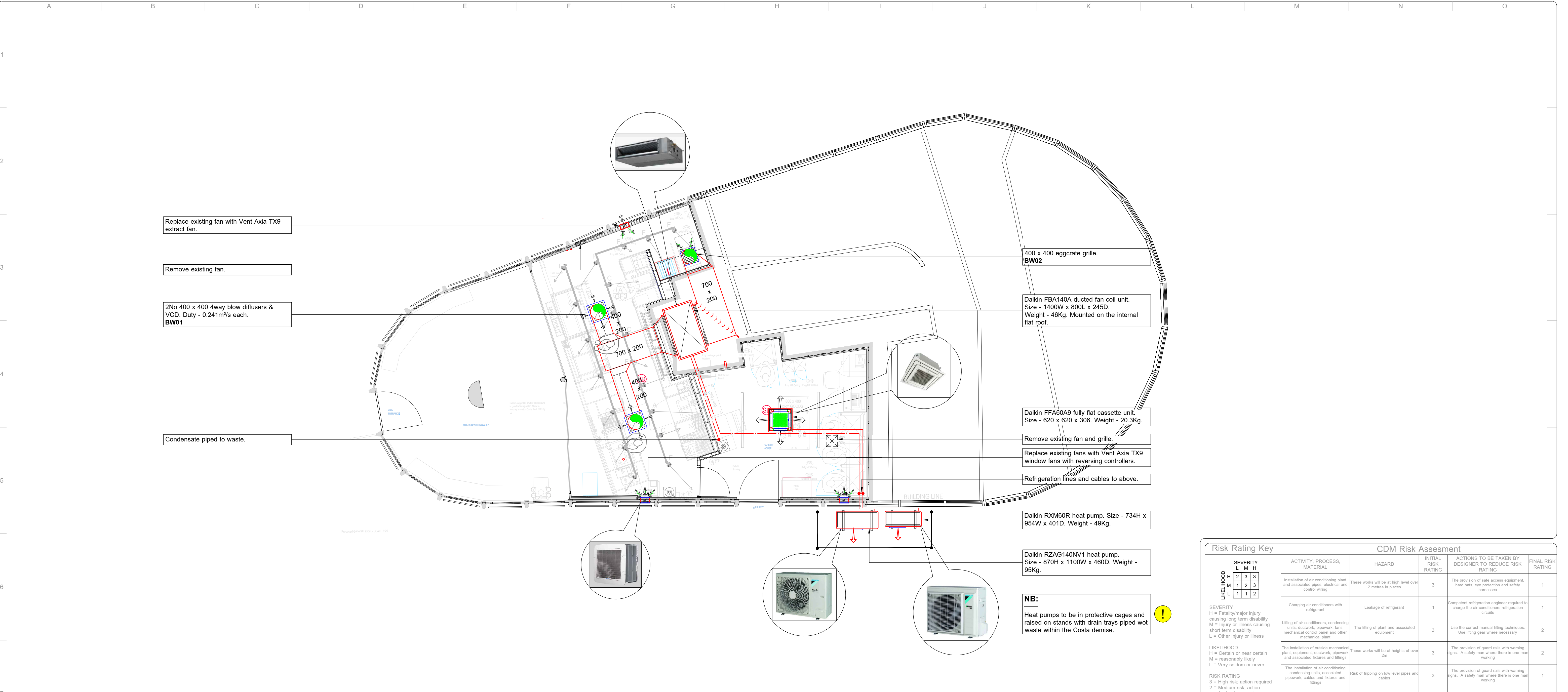




Electrical Requirements				
Equipment	Current(A)	Phase	Noise(dBA)	
AC System 1	30.1	1	52	
AC System 2	15.09	1	49	
Fresh Air Supply Fan x2	TBA	1	TBA	
General Extract Fan	TBA	1	TBA	

Builder's Work Schedule		
Ref	Size(Approx)	Location
BW01	400 x 400	Holes Through Internal Roof
BW02	400 x 400	Holes Through Internal Roof

Electrical Wiring

- All wiring to be carried out by the mechanical contractor to give a turn key installation other than main electrical supplies and outdoor A/C plant which shall be carried out by electrical contractor
- All wiring to be in accordance with the current edition of the IET Regulations (BS7671:2018)
- All plant to be locally isolated. Indoor cassette units to be supplied from outdoor unit isolator
- Cut short all tie wraps used to secure fridge cables

Ductwork Installation

- All fire dampers to be 2 hour fusible link type unless otherwise detailed. Dampers to be of Actionair manufacture complete with installation frame where within brickwork or concrete wall or floor, and with installation frame 'Series SP' where within stud partitioning. Dampers to be installed to manufacturer's detail
- Ductwork insulation to be to 'Class 0' rating
- All grilles and diffusers to be painted to match the wall or ceiling finishes, including any fixing screws on view. External louvers must be paint coloured to be sympathetic to the surrounding areas e.g to match brickwork or wall finish or the same as window and door frames as agreed with the project manager / designer.
- Where smoke operated fire dampers are required these should be motor open, spring closed type operated by the fire alarm system. The mechanical contractor shall advise the site electrician with regards to the power supply and controls required. This will generally be in instances where ductwork crosses a fire corridor.
- Any ductwork that is on view should be installed and fixed using rigid supports in preference to gripple or performed steel suspension banding. Rigid supports should comprise all-thread rod suspensions and proprietary duct suspension brackets.
- Flexible ducts must be no longer than 1m. The flex should not be used to form a bend or turn.
- All fans and ducted plant to have flexible final connections.

Condensate Drainage

- Condensate waste from indoor units to be pumped using reservoir condensate pumps as Harefil PAS-2X with failsafe facility.
- The failsafe facility on the condensate pumps shall investigate individual plant shutdown.
- Condensate to be pumped to connection point via Hepworth Hepvo self sealing trap by mechanical contractor.

Controls

- Electric air heater where applicable control shall ensure the following:
A. Leaving air temperature does not exceed 40°C
B. Heater is not activated when there is no air flow
C. The fan runs on after heater has been switched off to dissipate residual heat.
- All back of house units to have individual hard wired controllers - Infra red controllers are not acceptable.
- All AC and ventilation plant to be switched by the 'last man out switch' and shut down on fire alarm activation.

Outdoor Plant

- All steelwork and plant bases etc, by mechanical contractor.
- Mechanical contractor to allow for craneage of plant onto roof level where applicable.
- All unistrut supports to have end caps fitted. Site cut steel work should be filed to remove burrs and sharp edges and then painted with galvaloid paint on galvanized components or colour matched paint finish on pre-painted steelwork.
- All external heat pumps to have labelling stating 'Costa Coffee' and the unit reference - e.g ACU1. Labels to be permanently fixed Traffolyte using screws or contact adhesive. The indoor unit must also be labelled using a small discrete Traffolyte label in one corner of the fascia panel to denote unit number - e.g ACU1. The remote controllers are to be labelled clearly to denote which units they control and the area served.

Refrigeration Installation

- Refrigeration pipework to be insulated to manufacturer's requirements using Armstrong Amalflex Class 0 internally and Class 1 externally. Complete with glued and tape sealed joints. External insulation shall be further protected using 'Amalfinish FR UV resistant' paint, minimum 2 coats, applied to manufacturer's requirements.
- Refrigeration pipework to be run on heavy duty slotted cable tray installed by mechanical contractor. All cable trays to be earth bonded.
- Cut short all tie wraps used to secure fridge lines.
- Internal Plant**
- All Daikin cassette units to have BYCQ140 self cleaning filter facias (Colour to be confirmed by designer) unless stated otherwise and be provided with vacuum cleaner extension hoses.
- Where stores have all services exposed, the installation is to be of a high standard. No flexible ducts on view, condensate pumps fitted to top of cassette units and cassette fascia panels to be painted to match the ceiling.

Exact colour references and finishes to be confirmed by the project manager / designer. Where the fascia panel comprises of a number of parts the components should be sprayed individually so that the components can be dismantled without cracking and flaking any paint finish.

- The cassette at the front of the store must be located so that it does not discharge air onto the open display shelf. If there is no option with regard to position, then the discharge on that side of the cassette must be blanked off using the manufacturer's insert.

Builders Works

- Mechanical contractors to confirm all builders work and electrical requirements with the relative shopfitters at the pre start meeting. Any holes for refrigeration lines to be sealed with expanding foam and weathered as necessary by the mechanical contractor, holes for ducts and louvers etc, to be made good by the shopfitter. External grilles and louvers must be screw fixed to the structure and not simply glued in place with mastic.
- Where fridge lines exit via a cowl or roof cowl the gaps around the services must be adequately filled to stop vermin ingress and drafts/heat loss.

Commissioning & Testing

- The commissioning of the building services installation shall be carried out in strict accordance with the CIBSE Commissioning Codes and the BSRIA Commissioning Codes. Certificates will shall be included within the building log book. A self-contained building log book shall be produced, this will contain the following information: A schedule of the floor areas of each of the building zones categorised by environmental servicing type (eg. Air conditioned, naturally ventilated); the purpose of the individual building servicesystems; the location of the relevant plant and equipment; the installed capacities (input power and output power ratings) of the services plant; simple descriptions of the operational and control strategies of the energy consuming services in the building; and operating and maintenance instructions that include provisions enabling the specified performance to be sustained during operation. The log book and certificates are to be made available for inspection by the Building Control Officer prior to completion of the works on site.
- Mechanical Contractors to attend handovers with 2 copies of a completed 'As fitted' instruction manual, one copy to be retained on site and one copy for the Shopfitters health and safety manual (this may be forwarded electronically prior to handover). A copy of the manual, on disc, should be handed or sent to the relative project manager. The Mechanical Contractor should instruct the Store manager on the operation of the air conditioning controls and cleaning of Cassette and Wall mounted unit filters.
- There must be a representative on site on the day of handover to instruct the staff on the correct operation of the equipment.

Costa Coffee - Demarcation of Mechanical and Electrical Services Wiring and Testing of Installations

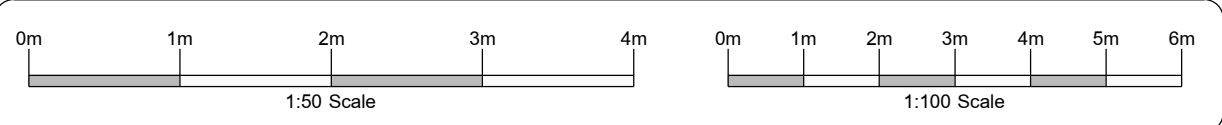
All electrical installations provided as part of the construction and fit out of a new, or re-model of an existing Costa Coffee store are to be fully tested in accordance with the requirements of BS 7671 and all of it's current updates and amendments by a suitably qualified electrical engineer whose employer is a member of the National Inspection Council for Electrical Installation Contracting (NICEIC).

Each NICEIC Approved Contractor must:-
Carry out electrical installation work to the regulatory industry standards. Employ competent electricians who are properly supervised. Use materials of good quality that conform to the relevant British Standards. Undergo regular inspection by NICEIC Inspecting Engineers and comply with the NICEIC Complaints Procedure and Guarantee of Standards Scheme.

Upon completion of the project and before handover to the client the entire installation must be fully tested and results recorded for the whole installation on prescribed forms. The Mechanical services installations generally comprise comfort heating and cooling plant, fresh air ventilation and extract plant. The electrical contractor must allow within his quotation for provision of power supplies terminating in suitably sized weatherproof isolators adjacent to each of the outdoor A/C units. The contractor shall use steel wire armoured cables. A similar supply will be required terminating in a suitably sized contractor for the mechanical distribution board.

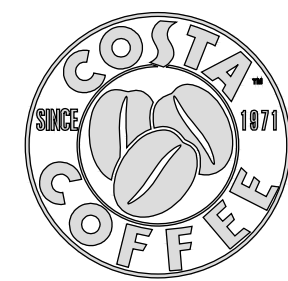
The electrical contractor will provide a changeover relay operated by the 'Last Person' keyswitch. The mechanical contractor is to use this control to control the plant to start and stop in accordance with the building being occupied. The same control circuit can also be used for shut down of plant in the event of a fire alarm.

Risk Rating Key		CDM Risk Assessment				
LIKELIHOOD	SEVERITY	ACTIVITY, PROCESS, MATERIAL	HAZARD	INITIAL RISK RATING	ACTIONS TO BE TAKEN BY DESIGNER TO REDUCE RISK RATING	FINAL RISK RATING
	L M H	Installation of air conditioning plant and associated pipes, electrical and control wiring	These works will be at high level over 2 metres in places	3	The provision of safe access equipment, hard hats, eye protection and safety harnesses	1
	M	Charging air conditioners with refrigerant	Leakage of refrigerant	1	Competent refrigeration engineer required to charge the air conditioners refrigeration circuits	1
	L	Lifting of air conditioners, condensing units, ductwork, pipework, fans, mechanical control panel and other mechanical plant	The lifting of plant and associated equipment	3	Use the correct manual lifting techniques. Use lifting gear where necessary	2
LIKELIHOOD	H	The installation of outside mechanical plant, equipment, ductwork, pipework and associated fixtures and fittings	These works will be at heights of over 2m	3	The provision of guard rails with warning signs. A safety man where there is one man working	2
	M	The installation of air conditioning condensing units, associated pipework, cables and fixtures and fittings	Risk of tripping on low level pipes and cables	3	The provision of guard rails with warning signs. A safety man where there is one man working	1
RISK RATING		Water treatment works, system flushing and testing	Chemical spillage and splashing onto operators	3	Protective clothing, eye protection, chemical data sheets	1
3 = High risk; action required 2 = Medium risk; action required unless good reason 1 = Low risk; no action required						



Approvals Issue

A	Approvals	Issued For Approvals	02/10/24	TIW	RC
0	Tender	Issued For Tender	06/09/24	EA	RC
Revision	Drawing Status	Description	Date	Drawn	Chk'd



Client Costa Coffee

Project

Oxford Rd Station
Manchester
M1 6FU

Title

Mechanical
Services
Layout

Designed RC
Date Aug 2024
Draughted TIW
Scale
Checked RC
Scale
1:50 @ A1

Drawing Number 240860 / M01

Mechanical Services

Revision

A

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