A1

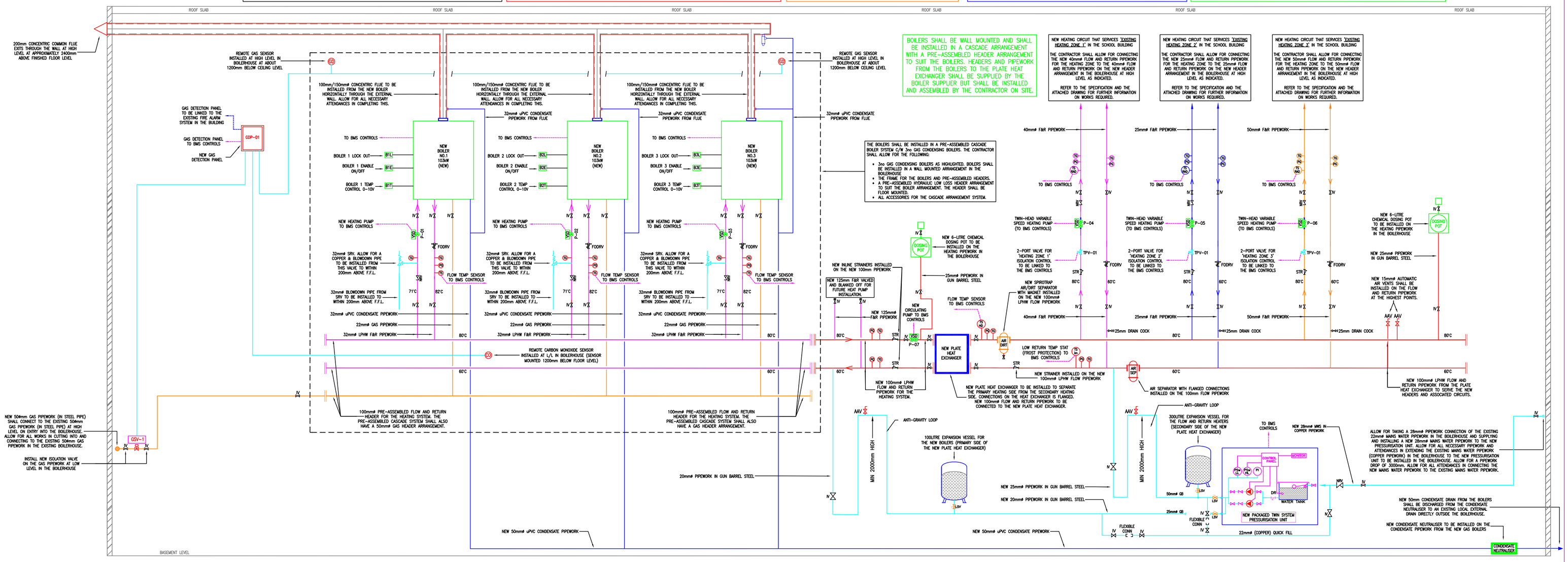
THE CONTRACTOR SHALL ALLOW FOR DECOMMISSIONING THE EXISTING HEATING CENTRE IN THE BOILERHOUSE. THIS INCLUDES ALL PIPEWORK, BOILERS, FLUES, PUMPS, GAS DETECTION SYSTEM, ETC. NEW SYSTEMS AND A NEW INSTALLATION SHALL BE INSTALLED IN REPLACEMENT OF THE DECOMMISSIONED ITEMS AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS.

ALL NEW LPHW FLOW AND RETURN PIPEWORK INSTALLED IN THE BOILERHOUSE FOR NEW HEATING SERVICES SHALL BE THOROUGHLY INSULATED. REFER TO SPECIFICATION FOR DETAILS ON INSULATION REQUIRED. ALL NEW LPHW FLOW AND RETURN PIPEWORK INSTALLED IN THE BOILERHOUSE SHALL BE INSTALLED IN GUN BARREL STEEL AND SHALL HAVE ALL JOINTS WELDED THROUGHOUT.

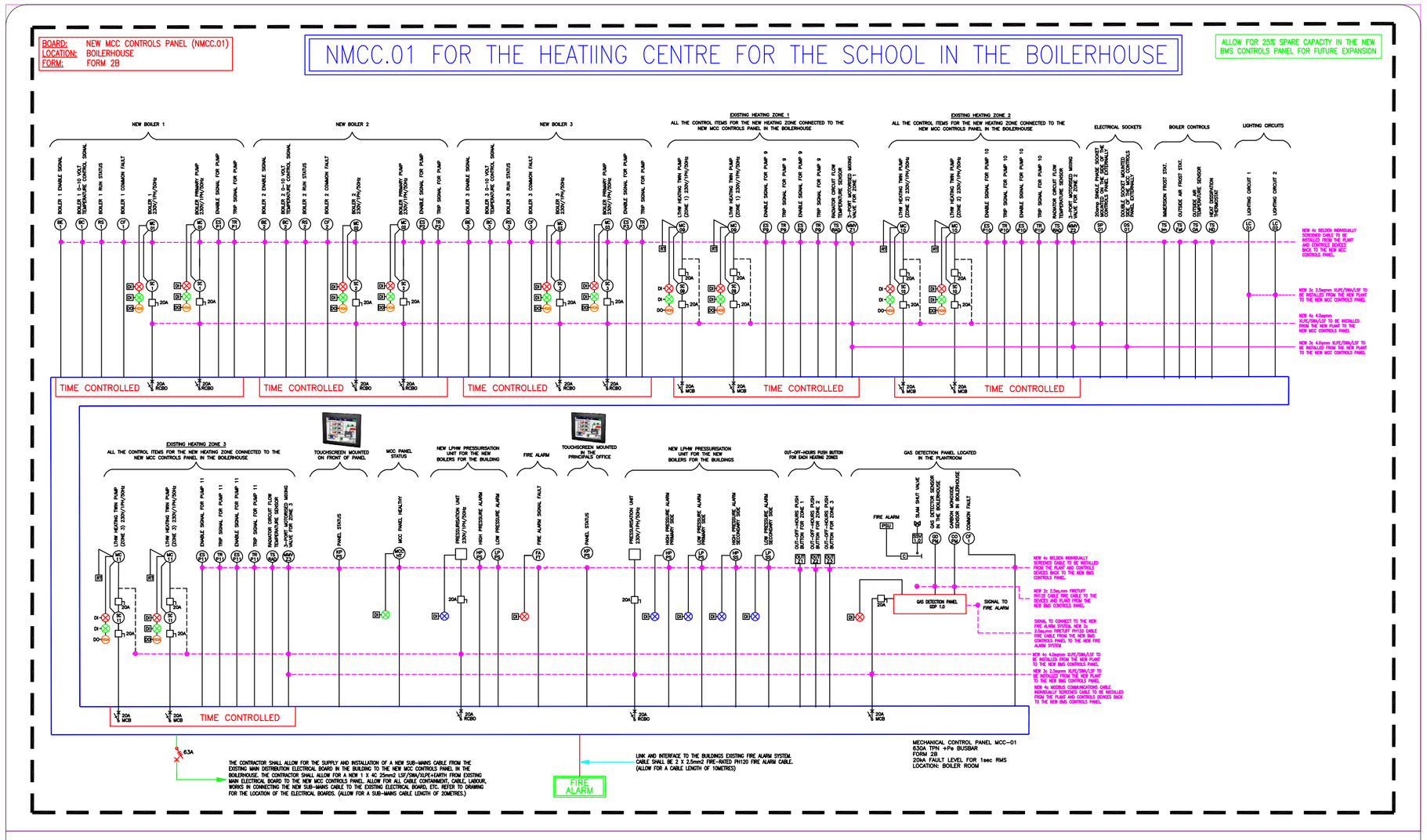
ALL NEW GAS PIPEWORK INSTALLED IN THE BOILERHOUSE SHALL BE INSTALLED IN GUN BARREL STEEL AND SHALL HAVE ALL JOINTS WELDED THROUGHOUT. ALL GAS PIPEWORK SHALL BE PAINTED YELLOW IN COMPLIANCE WITH I.S. 810:2019.

ALL NEW WATER SERVICES PIPEWORK INSTALLED IN THE BOILERHOUSE FOR NEW WATER SERVICES SHALL BE THOROUGHLY INSULATED. REFER TO SPECIFICATION FOR DETAILS ON INSULATION REQUIRED. ALL NEW WATER SERVICES PIPEWORK INSTALLED IN THE BOILERHOUSE SHALL BE INSTALLED IN COPPER.

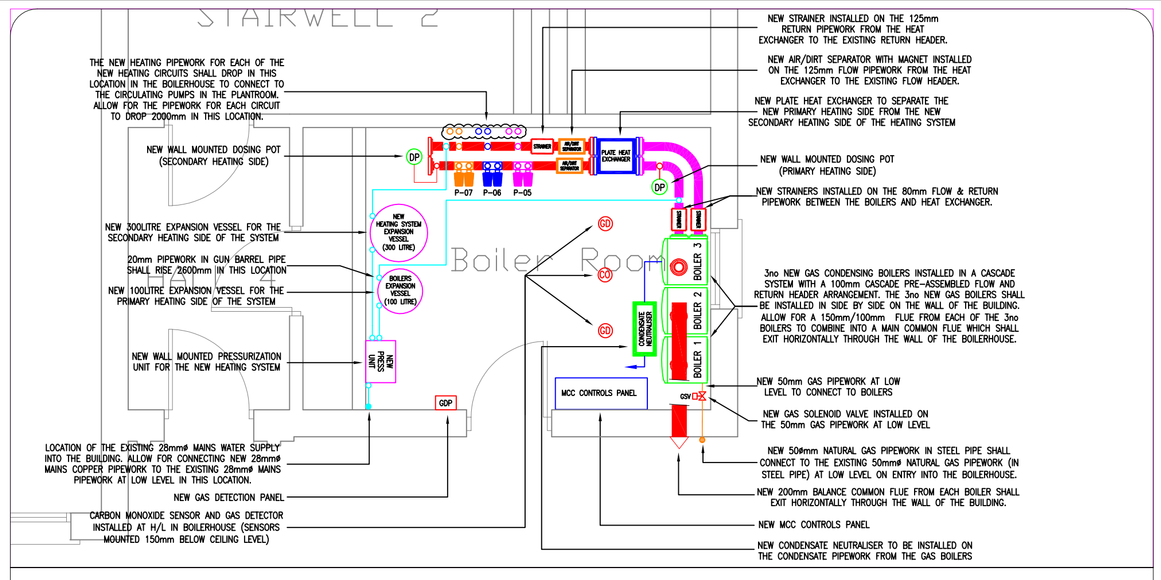
BOILERS SHALL BE WALL MOUNTED AND SHALL BE INSTALLED IN A CASCADE ARRANGEMENT WITH A PRE-ASSEMBLED HEADER ARRANGEMENT TO SUIT THE BOILERS. HEADERS AND PIPEWORK FROM THE BOILERS TO THE PLATE HEAT EXCHANGER SHALL BE SUPPLIED BY THE BOILER SUPPLIER BUT SHALL BE INSTALLED AND ASSEMBLED BY THE CONTRACTOR ON SITE.



MECHANICAL SCHEMATICS FOR THE BOILERHOUSE IN THE BUILDING (NOT TO SCALE)



MECHANICAL MCC CONTROLS SCHEMATIC FOR THE BUILDING (NOT TO SCALE)



BOILERHOUSE LAYOUT FOR THE BUILDING (SCALE 1:50)

MCC CONTROLS SCHEMATIC LEGENDS AND SYMBOLS

- TS = TEMPERATURE SENSOR
- TSt = TEMPERATURE STAT
- HS = HUMIDITY SENSOR
- Psw = PRESSURE DIFFERENTIAL SWITCH
- FSt = FROST CONTROL THERMOSTAT
- DM = MOTORISED DAMPER
- HCV = HEATING CONTROL VALVE
- CCV = COOLING CONTROL VALVE
- TC = TEMPERATURE CONTROLLER
- HC = HUMIDITY CONTROLLER
- HOA = HAND/OFF/AUTO SELECTOR SWITCH
- D/S = DUTY/STANDBY SELECTOR SWITCH
- KP = KEYPAD
- OUT = OUT-OFF-HOURS PUSH BUTTON
- HP = HIGH PRESSURE
- LP = LOW PRESSURE
- HWS = HOT WATER SYSTEM
- SOL = SOLAR
- PW = POWER
- = SINGLE PHASE ISOLATOR (RATING AS NOTED)
- = LAMP ON PANEL (RED LIGHT)
- = LAMP ON PANEL (GREEN LIGHT)
- HOA = HAND-OFF-AUTO SWITCH
- XX X.X = FIELD MOUNTED INSTRUMENT
- XX YY = PANEL MOUNTED INSTRUMENT
- MMV X.X = CONTROL VALVE ACTUATOR
- R = RANGE
- SP = SET POINT
- GD = GAS DETECTOR
- MV = MOTORISED VALVE
- MMV = MOTORISED MIXING VALVE
- EM = ELECTRICITY METER
- GM = GAS METER
- WM = WATER METER
- CF = COMMON FAULT
- = FUSE DISCONNECT SWITCH
- = POWER AND CONTROL WIRING
- VSD = VARIABLE SPEED DRIVE
- PRSR X.X = PRIORITY SELECT CONTROL PROGRAMME
- DI = DIRECT INPUT
- MC = MOTOR CONTROLLER
- = 3PHASE ISOLATOR (RATING AS NOTED)

MECHANICAL SCHEMATIC SYMBOLS

- F = FLOW
- R = RETURN
- GB = GUN BARRELL
- MMV = 3-PORT MOTORISED MIXING VALVE (* DENOTES NUMBER OF VALVE)
- = ALTITUDE GAUGE
- P* = SINGLE HEAD PUMP C/W VARIABLE SPEED DRIVE (* DENOTES NUMBER OF PUMP)
- GSV-* = GAS SOLENOID VALVE (* DENOTES NUMBER OF VALVE)
- = DRAIN VALVE
- AAV = AUTOMATIC AIR VENT
- DWV = DEAD WEIGHT VALVE
- IV = ISOLATION VALVE
- LSV = LOCK SHIELD VALVE
- l/s = LITRES PER SECOND
- FDRV = FIXED ORIFICE DOUBLE REGULATING VALVE (COMMISSIONING)
- = FIXED ORIFICE DOUBLE REGULATING VALVE (COMMISSIONING)
- = FIXED ORIFICE DOUBLE REGULATING VALVE (COMMISSIONING)
- NRV = NON RETURN VALVE
- VSD P* = SINGLE-HEAD PUMP C/W VARIABLE SPEED DRIVE (* DENOTES NUMBER OF PUMP)
- VSD P* = TWIN-HEAD PUMP C/W VARIABLE SPEED DRIVE (* DENOTES NUMBER OF PUMP)
- PDRV = COMMISSIONING REGULATING VALVE
- TS = TEMPERATURE SENSOR/STAT (* DENOTES NUMBER OF DEVICE)
- TG = TEMPERATURE GAUGE
- PG = PRESSURE GAUGE
- F.F.L. = FINISHED FLOOR LEVEL
- PRV = PRESSURE REDUCING VALVE
- = GAS PRESSURE REGULATOR
- STR = STRAINER
- SRV = SAFETY RELEASE VALVE
- CO = GAS DETECTOR
- CO = CARBON MONOXIDE DETECTOR
- = GAS SLAM-SHUT VALVE
- OUT *** = OUT OF HOURS PUSH BUTTON (*** DENOTES REFERENCE NUMBER

GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL MECHANICAL, ELECTRICAL, ARCHITECTURAL AND STRUCTURAL DRAWINGS & SPECIFICATIONS.

2. THE CONTRACTOR SHALL CO-ORDINATE FULLY WITH ALL OTHER TRADES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY RESOURCES FOR THE SUCCESSFUL CO-ORDINATION OF THE WORKS. THE CONTRACTOR SHALL ALLOW FOR CO-ORDINATING THE MECHANICAL INSTALLATION WITH THE ELECTRICAL CONTRACTOR ON SITE. EXTRA COSTS INCURRED DUE TO THE CO-ORDINATION EXERCISE NOT BEING COMPLETED WILL NOT BE ACCEPTED BY THE ENGINEER.

3. DO NOT SCALE THIS DRAWING. ALL DIMENSIONS TO BE TAKEN ON SITE.

4. EXACT LOCATIONS OF ALL SERVICES TO BE AGREED ON SITE. FINAL LOCATIONS OF ALL SERVICES TO BE CO-ORDINATED ON SITE WITH FIXED FURNITURE LAYOUTS.

5. THE CONTRACTOR SHALL ALLOW FOR ALL DECOMMISSIONING WORKS AS IDENTIFIED ON THE DRAWINGS AND IN THE SPECIFICATIONS.

6. THE CONTRACTOR SHALL BE RESPONSIBLE TO IDENTIFY SUITABLE FINAL ROUTES FOR PIPEWORK ROUTES. ROUTES THAT ARE INDICATED ON THE DRAWING ARE ONLY INDICATIVE.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MECHANICAL WORKS, ELECTRICAL WORKS, BUILDERS WORKS, BUILDING FINISHES, ETC. AS IDENTIFIED ON THE DRAWINGS AND IN THE SPECIFICATIONS.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORKS AND SHALL EMPLOY A SUITABLY QUALIFIED ELECTRICAL TO CARRY OUT ALL THE ASSOCIATED ELECTRICAL WORKS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BUILDERS WORKS AND SHALL EMPLOY A SUITABLY QUALIFIED BUILDING CONTRACTOR TO CARRY OUT ALL THE ASSOCIATED BUILDERS WORKS.

12. REFER TO ALL OTHER DRAWINGS FOR SPECIFIC LAYOUT OF REQUIRED SERVICES THROUGHOUT THE BUILDING.

13. THE CONTRACTOR SHALL ALLOW FOR DECOMMISSIONING THE EXISTING SPACE HEATING INSTALLATION THROUGHOUT THE MAIN BUILDING INCLUDING ALL RADIATORS, ASSOCIATED HEATING SERVICES PIPEWORK, ETC.

14. THE CONTRACTOR SHALL ALLOW FOR THE SUPPLY AND INSTALLATION OF A NEW SPACE HEATING INSTALLATION THROUGHOUT THE MAIN BUILDING INCLUDING ALL NEW RADIATORS, LPHW FLOW AND RETURN PIPEWORK, CONTROLS, ELECTRICAL WORKS, ETC. AS INDICATED ON THE DRAWINGS.

15. THE EXISTING HEATING CENTRE, BOILERS, CONTROLS, PUMPS, ETC. IN THE EXISTING MAIN BOILERHOUSE SHALL BE DECOMMISSIONED AND REMOVED FROM SITE AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION.

16. LOCATION OF ALL ITEMS OF PLANT/EQUIPMENT/PIPEWORK ROUTES, ETC. SHALL BE AGREED ON SITE WITH THE EMPLOYERS REPRESENTATIVE AND THE CLIENT.

17. ALL PIPEWORK IS SIZED BASED ON A FLOW TEMPERATURE OF 80 DEGREES CELSIUS AND A RETURN TEMPERATURE OF 60 DEGREES CELSIUS.

18. AUTOMATIC AIR VENTS SHALL BE PROVIDED AT ALL HIGH POINTS THROUGHOUT THE SYSTEM.

19. DRAIN VALVES SHALL BE PROVIDED AT ALL LOW POINTS THROUGHOUT THE SYSTEM.

20. ALL NEW PIPEWORK FOR THE HEATING SYSTEM IN THE BOILERHOUSE SHALL BE MEDIUM GRADE BLACK MILD STEEL TUBE AND ALL JOINTS IN THE PIPEWORK SHALL BE WELDED.

21. THE CONTRACTOR SHALL ALLOW FOR THOROUGHLY INSULATING ALL NEW HEATING SERVICES PIPEWORK THAT IS TO BE INSTALLED IN THE MAIN BOILERHOUSE.

22. ALL NEW HEATING PUMPS SHALL BE OPERATED THROUGH VARIABLE SPEED DRIVES.

23. UNLESS INDICATED, THE SIZE OF ISOLATION VALVES, DRAIN VALVES, COMMISSIONING VALVES, ETC. SHALL MATCH THE INDICATED LINE SIZE OF THE PIPEWORK, WHERE THE EQUIPMENT IS INDICATED.

24. THE CONTRACTOR SHALL ALLOW FOR ALL BENDS, ELBOWS AND NECESSARY PIPEWORK IN ORDER TO INSTALL THE COMPLETE HEATING SYSTEM.

25. THE CONTRACTOR SHALL ALLOW FOR ALL NECESSARY BUILDERS WORKS FOR THE MECHANICAL AND ELECTRICAL INSTALLATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORING OF THE WALL AND FOR ENSURING THAT THE OPES THROUGH THE WALL FOR THE FLUE ARE SEALED PROPERLY TO ELIMINATE ANY WATER INGRESS INTO THE BOILERHOUSE.

26. THE CONTRACTOR SHALL ALLOW FOR ALL WORKS FOR THE COLLECTING OF THE CONDENSATE FROM THE BOILERS IN EACH BOILERHOUSE BEFORE IT IT IS BROUGHT TO THE NEAREST GULLY. REFER TO DRAWING AND SPECIFICATION FOR FURTHER INFORMATION.

27. THE CONTRACTOR SHALL ALLOW FOR THOROUGHLY INSULATING ALL NEW HEATING SERVICES PIPEWORK THAT IS TO BE INSTALLED IN THE BOILERHOUSE.

28. THE CONTRACTOR SHALL ALLOW FOR THE DECOMMISSIONING AND REMOVAL OF THE EXISTING MCC CONTROLS PANEL IN THE BOILERHOUSE. THE EXISTING MCC CONTROLS PANEL SHALL BE REPLACED WITH A NEW MCC CONTROLS PANEL. THE CONTRACTOR SHALL ALLOW FOR THE SUPPLY AND COMMISSIONING OF THE NEW MCC/BMS CONTROLS PANEL AND SUBSEQUENT CONTROL SYSTEMS FOR THE BOILERHOUSE.

29. ALL ELECTRICAL WIRING SHALL BE COMPLETED BY THE CONTRACTOR AS PART OF THIS CONTRACT AS THE CONTRACTOR IS RESPONSIBLE FOR ALL WORKS INCLUDING ELECTRICAL WORKS. THE CONTRACTOR SHALL ALLOW FOR THE INSTALLATION AND WIRING OF THE MCC/BMS CONTROLS PANEL AND SUBSEQUENT CONTROL SYSTEMS FOR THE BUILDING.

30. THE NEW MCC CONTROLS PANEL SHALL BE INTERFACED TO THE EXISTING FIRE ALARM SYSTEM FOR THE MAIN BUILDING.

31. SEE SCHEMATIC FOR DETAILS ON THE MCC/BMS CONTROLS PANEL AND WIRING DETAILS. WIRING DETAILS TO BE CONFIRMED BY THE MCC/BMS CONTROLS SPECIALIST AND DISCUSSED WITH THE ELECTRICAL CONTRACTOR PRIOR TO ANY CONTROLS WIRING.

32. REFER TO THE SPECIFICATION FOR THE SPECIFIC CONTROL OF THE SYSTEMS.

REV	DATE	PREPARED BY/PROJECT ENGINEER	QUALITY CHECK BY:
T1	17.08.26	J. O'SULLIVAN	G. BENNDORF

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Y14 YN98.

Drawing Title
MECHANICAL SCHEMATIC AND MCC CONTROLS SCHEMATIC FOR THE BUILDING.

Architect

Drawing No:
51(M001)

Job No.	Drawn by:	Scale:	Rev.
26-052	J.O'S	AS INDICATED	T1