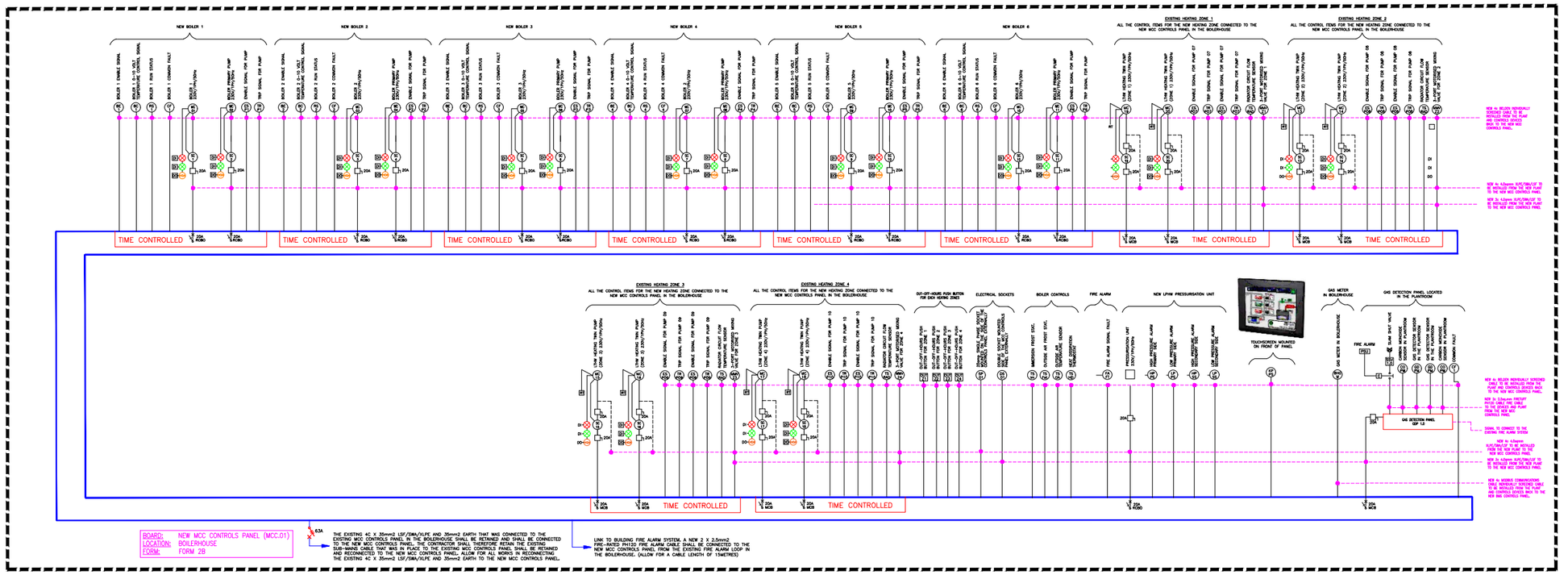
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BOILERHOUSE SCHEMATIC LAYOUT (NOT TO SCALE)

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 MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL THE NECESSARY INFORMATION TO ALLOW THE MAIN CONTRACTOR CO-ORDINATE ALL SERVICES.

3. THE MECHANICAL 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.

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

5. THE CONTRACTOR SHALL ALLOW FOR THE SUPPLY AND INSTALLATION OF ALL MECHANICAL SERVICES INDICATED ON THIS DRAWING.

6. THE CONTRACTOR SHALL BE RESPONSIBLE TO IDENTIFY SUITABLE FINAL ROUTES FOR PIPEWORK, MECHANICAL SERVICES, ETC. AS INDICATED ON THE DRAWINGS.

7. NEW MAINS RUN OF MECHANICAL PIPEWORK SHALL BE INSTALLED IN THE AREAS AS INDICATED. THIS IS INDICATIVE ONLY AND IF THE CONTRACTOR FINDS A MORE CONVENIENT ROUTE FOR THE MECHANICAL SERVICES ON SITE THEN THAT WILL BE ACCEPTABLE.

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

9. ALL SERVICES THROUGH FIRE BARRIERS SHALL BE SLEEVED EACH SIDE OF THE BARRIER. THE MAIN CONTRACTOR SHALL ALLOW FOR FIRE PROOFING THE OPES AFTER SERVICES IS INSTALLED.

10. THE CONTRACTOR SHALL ALLOW FOR ALL NECESSARY LABOUR, WIRING AND ATTENDANCES IN COMPLETING ALL THE MECHANICAL WORKS AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS.

MECHANICAL SCHEMATIC NOTES:

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

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

13. ALL PIPEWORK IS SIZED BASED ON A FLOW TEMPERATURE OF 82 DEGREES CELSIUS AND A RETURN TEMPERATURE OF 71 DEGREES CELSIUS.

14. ALL PIPEWORK SHALL BE MEDIUM GRADE BLACK MILD STEEL TUBE & SHALL BE WELDED THROUGHOUT.

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

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

17. THE BOILER SHALL BE FITTED WITH A PERMANENTLY FIXED NOTICE, 200 X 200mm SCREWED TO THE BOILER CASING WITH THE FOLLOWING WORDING: "IMPORTANT NOTICE – DO NOT REDUCE THE BOILER OPERATING FLOW TEMPERATURE BELOW 80°C".

18. THE HEATING SYSTEM PIPEWORK THROUGHOUT (INCLUDING ALL HEATING PIPEWORK IN THE BOILERHOUSE AND IN THE BUILDING) SHALL BE MEDIUM GRADE BLACK MILD STEEL TUBE.

19. INSULATION SHALL BE PREFORMED SECTIONS OF RIGID MINERAL WOOL WITH ALUMINIUM FOIL LAMINATE COVER. INSULATION SHALL BE FITTED TO ALL CONNECTIONS, BENDS, TEE'S AND VALVES.

20. ALL HEATING PUMPS SHALL BE OPERATED THROUGH VARIABLE SPEED DRIVES.

21. 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.

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

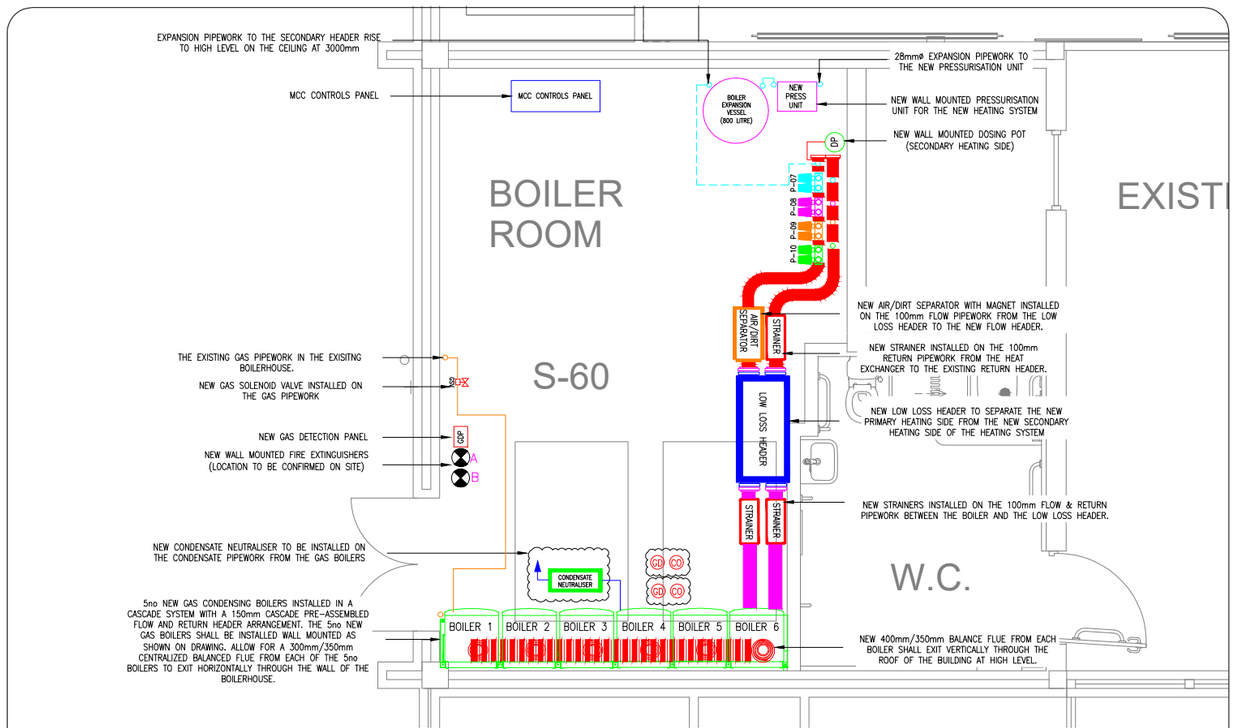
23. SEE SPECIFICATION FOR FURTHER INFORMATION ON THE MECHANICAL AND ELECTRICAL ATTENDANCES REQUIRED.

24. REFER TO ALL OTHER DRAWINGS FOR SPECIFIC LAYOUT OF REQUIRED HEATING SERVICES THROUGHOUT THE EXISTING BUILDING.

25. ALL BUILDERS WORK SHALL BE CARRIED OUT BY THE APPOINTED CONTRACTOR. IT SHOULD BE CO-ORDINATED AT AN EARLY STAGE ON THE PROVISION OF OPES, TRENCHES, OPENINGS, ETC. FOR THE NECESSARY INSTALLATION OF THE MECHANICAL AND ELECTRICAL SITE SERVICES AS INDICATED ON THE DRAWINGS. TRENCHING, DUCTING AND PIPING TO BE INSTALLED AS PER DRAWINGS AND AS PER DETAILS ON THE DRAWINGS.

26. THE CONTRACTOR SHALL BE RESPONSIBLE TO IDENTIFY SUITABLE FINAL ROUTES FOR FOR ALL UNDERGROUND DUCTING FOR THEIR SERVICES. ROUTES THAT ARE INDICATED ON THE DRAWING ARE ONLY INDICATIVE.

27. REFER TO OTHER DRAWINGS FOR SPECIFIC LAYOUT OF REQUIRED SERVICE THROUGHOUT THE BUILDING.



BOILERHOUSE LAYOUT (NOT TO SCALE)

GAS SERVICES LEGENDS

- GD — GAS DETECTOR FOR THE GAS DETECTION SYSTEM/GAS PRESSURE PROVING SYSTEM
- GDP — GAS DETECTION PANEL FOR THE GAS APPLIANCES IN THE BOILERHOUSE
- GSV — GAS SOLENOID VALVE FOR THE GAS DETECTION SYSTEM IN THE BOILERHOUSE.
- GM — GAS CHECK METER
- GAS SERVICES PIPEWORK AT LOW LEVEL (SURFACE MOUNTED AND EXPOSED)
- GAS SERVICES PIPEWORK AT H/L IN CEILING VOID (NOT VISIBLE). ALL JOINTS ON THE GAS PIPEWORK ABOVE THE CEILING SHALL BE WELDED THROUGHOUT.
- GAS SERVICES PIPEWORK AT HIGH LEVEL (SURFACE MOUNTED AND EXPOSED)
- GAS CONNECTION C/W ISOLATION VALVE
- ISOLATION VALVE
- CONTROL WIRING BETWEEN DEVICES

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
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
= SINGLE PHASE ISOLATOR (RATING AS NOTED)
= LAMP ON PANEL (RED LIGHT)
= LAMP ON PANEL (GREEN LIGHT)
HOA = HAND-OFF-AUTO SWITCH
DI = DIRECT INPUT
MC = MOTOR CONTROLLER
= 3PHASE ISOLATOR (RATING AS NOTED)

BMS INTEGRATION NOTE

THE CONTRACTOR SHALL ALLOW FOR THE INTEGRATION OF THE NEW BMS ASSOCIATED WITH THE HEATING INSTALLATION INTO THE EXISTING DELTA CONTROLS BMS SERVING THE SCHOOL'S BUILDING C, ORIGINALLY INSTALLED BY CONTROL TECH.

THE CONTRACTOR SHALL LIAISE AND COORDINATE WITH CONTROL TECH TO CONFIRM COMPATIBILITY, INTERFACING REQUIREMENTS AND THE NECESSARY COMMUNICATIONS BETWEEN THE NEW AND EXISTING BMS SYSTEMS.

ALLOW FOR ALL NECESSARY INTERFACES, WIRING, PROGRAMMING, POINT MAPPING, TESTING AND COMMISSIONING REQUIRED TO ACHIEVE FULL INTEGRATION AND ENSURE THE NEW HEATING PLANT CAN BE MONITORED AND CONTROLLED VIA THE EXISTING BMS, AS REQUIRED. ALL WORKS SHALL BE FULLY COORDINATED WITH THE SCHOOL AND CONTROL TECH.

REV	DATE	PREPARED BY/PROJECT ENGINEER	QUALITY CHECK BY:
T1	13.10.28	E. OLAYA	C. BENNDORF

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Architect:

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