



1 HVAC CONTROLS SCHEMATIC
SCALE: N.T.S.

SCOPE OF WORK:

- CONTROLS CONTRACTOR SHALL REMOVE ALL CONTROLS ASSOCIATED WITH EXISTING AIR HANDLING UNITS (AHU-1 & AHU-2) AND AIR MAKE-UP UNIT (AMU-1) AND REPLACE WITH NEW WIRING SO NEW ROOFTOP UNITS FUNCTION TO MATCH EXISTING CONTROLS SEQUENCE. CENTRAL CONTROL PANEL (CP-1) TO REMAIN.
- SCOPE OF WORK INCLUDES THE SUPPLY, INSTALLATION, COMMISSIONING AND TRAINING TO TIE-IN NEW EQUIPMENT AND MAINTAIN EXISTING CONTROLS SEQUENCE OF OPERATION FOR THE FOLLOWING:
 - NEW AHU-1 INTERLOCKED WITH EXISTING EF-1
 - NEW AHU-2 INTERLOCKED WITH EXISTING EF-2
 - NEW AMU-1 INTERLOCKED WITH EXISTING EF-3
- ALL CONTROL WIRING SHALL BE NEW AND INSTALLED IN ACCORDANCE WITH DIVISION 26 WIRING METHODS AND STANDARDS.
- COORDINATE INSTALLATION OF CONTROLS WIRING WITH ELECTRICAL CONTRACTOR. ELECTRICAL TO PROVIDE CONDUIT RUNS.
- PROVIDE TRAINING FOR THE DEPARTMENTAL REPRESENTATIVE REGARDING OPERATION OF ALL CONTROLS.

EXISTING SEQUENCE OF OPERATION TO BE MAINTAINED:

- AHU-1 CONTROL:**
 - THE FAN SYSTEM (AHU-1 AND EF-1) OPERATES ON AN OCCUPIED/UNOCCUPIED SCHEDULE AS PROGRAMMED AT THERMOSTAT. (NEW)
 - SHOULD THE SUPPLY AIR TEMPERATURE DROP BELOW THE MANUAL TEMPERATURE RESET SETTING THE UNIT WILL BE DE-ENERGIZED.
 - AN AUDIBLE AND VISUAL ALARM WILL BE ENERGIZED AT CENTRAL CONTROL PANEL CP1. (EXISTING)
 - VISUAL ALARM WILL REMAIN ON UNTIL THE LOW LIMIT CONDITION IS CORRECTED, AND LOW LIMIT CONTROL IS MANUALLY RESET.
 - THE FAN SYSTEM SHALL BE TIED INTO THE FIRE ALARM SYSTEM TO SHUTDOWN UPON FIRE ALARM.
- AHU-2 CONTROL:**
 - THE FAN SYSTEM (AHU-2 AND EF-2) OPERATES ON AN OCCUPIED/UNOCCUPIED SCHEDULE AS PROGRAMMED AT THERMOSTAT. (NEW)
 - SHOULD THE SUPPLY AIR TEMPERATURE DROP BELOW THE MANUAL TEMPERATURE RESET SETTING THE UNIT WILL BE DE-ENERGIZED.
 - AN AUDIBLE AND VISUAL ALARM WILL BE ENERGIZED AT CENTRAL CONTROL PANEL CP1. (EXISTING)
 - VISUAL ALARM WILL REMAIN ON UNTIL THE LOW LIMIT CONDITION IS CORRECTED, AND LOW LIMIT CONTROL IS MANUALLY RESET.
 - THE FAN SYSTEM SHALL BE TIED INTO THE FIRE ALARM SYSTEM TO SHUTDOWN UPON FIRE ALARM.
- AMU-1 CONTROL:**
 - THE FAN SYSTEM (AMU-1 AND EF-3) OPERATES CONTINUOUSLY VIA THE PACKAGED MAKE-UP AIR UNIT CONTROL SYSTEM. (NEW)
 - AMU-1 IS INTERLOCKED TO EF-3 SO THAT IT WILL NOT ENERGIZE UNLESS THE EXHAUST FAN (EF-3) IS CONFIRMED "ON" VIA THE AIR PROVING SWITCH.
 - SHOULD THE SUPPLY AIR TEMPERATURE DROP BELOW THE MANUAL TEMPERATURE RESET SETTING THE UNIT WILL BE DE-ENERGIZED.
 - AN AUDIBLE AND VISUAL ALARM WILL BE ENERGIZED AT CENTRAL CONTROL PANEL CP1. (EXISTING)
 - VISUAL ALARM WILL REMAIN ON UNTIL THE LOW LIMIT CONDITION IS CORRECTED, AND LOW LIMIT CONTROL IS MANUALLY RESET.
 - RESET OF THE UNIT IS PERFORMED BY TURNING THE SYSTEM "ON/OFF" SWITCH LOCATED AT AMU-1 REMOTE PANEL TO THE "OFF" POSITION, THEN BACK TO THE "ON" POSITION.
 - THE FAN SYSTEM SHALL BE TIED INTO THE FIRE ALARM SYSTEM TO SHUTDOWN UPON FIRE ALARM.

LEGEND:

- EXISTING EQUIPMENT/CONTROLS TO BE REPLACED
- EXISTING EQUIPMENT/CONTROLS TO REMAIN
- CONTROL WIRING TO BE REPLACED
- E/A EXHAUST AIR
- O/A OUTDOOR AIR
- R/A RETURN AIR
- AHU AIR HANDLING UNIT
- AMU AIR MAKE-UP UNIT
- T MANUAL TEMPERATURE RESET (LOW LIMIT)
- ⊖ THERMOSTAT
- F AIR PROVING SWITCH



DO NOT SCALE DRAWINGS

Revision/	Description/Description	Date/Date
0	ISSUED FOR CONSTRUCTION	13/05/09

Client/client
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

100-167 LOMBARD AVENUE
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REPLACEMENT OF AIR HANDLING UNITS
OSBORNE CORRECTIONAL COMMUNITY CENTRE
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Client/client

Drawing title/Titre du dessin
MECHANICAL
CONTROLS SCHEMATIC



Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
R.058521.001	H02 OF 03	0