LEGEND

SYMBOL	DESCRIPTION
HP	EXISTING 3PH MOTOR TO REMAIN
■	EXISTING PUSH-BUTTON (START/STOP/LOCK-OUT) TO BE REMOVED.
PB	EXISTING PUSH-BUTTON (START/STOP) TO BE REPLACED
P	EXISTING PULL BOX TO REMAIN
J	EXISTING JUNCTION BOX TO REMAIN
AS	DUAL COMBINATION STATER/ ALTERNATOR TO REMAIN
◪	EXISTING COMBINATION STARTER TO REMAIN
◪	EXISTING STARTER C/W "HAND/OFF/AUTO" CONTROLS TO REMAIN
⊟	EXISTING TWO-SPEED STARTER TO REMAIN
D	EXISTING DISCONNECT TO REMAIN
E	EXISTING END SWITCH (NORMALLY OPEN)
R	EXISTING RELAY TO REMAIN
PE	EXISTING PNEUMATIC / ELECTRIC SWITCH (PE) TO REMAIN
▼	EXISTING WELDER OUTLET TO REMAIN

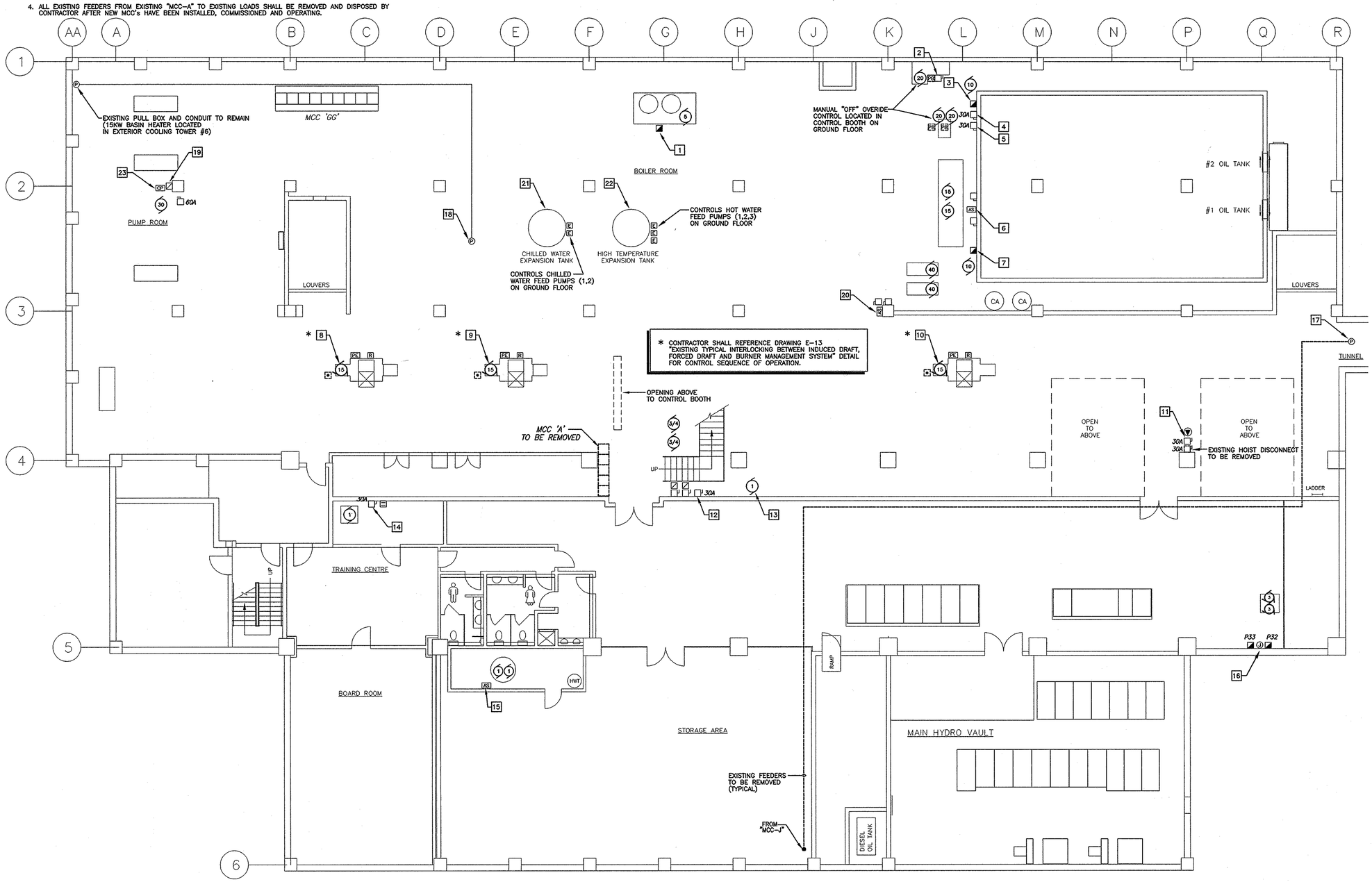
NOTES:

1. COMBINATION STARTER TO REMAIN (SONITEC FILTERS) (5HP) FED FROM "MCC-A"
2. 30A DISCONNECT TO REMAIN (UNLOADING PUMP) (20HP) FED FROM "MCC-C"
3. COMBINATION STARTER TO REMAIN (EXHAUST FAN) (10HP) TANK ROOM #1 FED FROM "MCC-C"
4. 30A DISCONNECT TO REMAIN (OIL PUMP #1) (20HP) FED FROM "MCC-C"
5. 30A DISCONNECT TO REMAIN (OIL PUMP #2) (20HP) FED FROM "MCC-C"
6. DUAL COMBINATION STARTER/ALTERNATOR TO REMAIN COMPRESSORS 1&2 (15HP) FED FROM "MCC-A"
7. COMBINATION STARTER TO REMAIN (EXHAUST FAN) (10HP) TANK ROOM #2 FED FROM "MCC-C"
8. FORCED DRAFT FAN #1 (15HP) FED FROM "MCC-A"
9. FORCED DRAFT FAN #2 (15HP) FED FROM "MCC-A"
10. FORCED DRAFT FAN #3 (15HP) FED FROM "MCC-A"
11. 2-30A DISCONNECTS (HOIST & WELDER) CONTRACTOR SHALL REMOVE HOIST DISCONNECT AND ASSOCIATED WIRING. WELDER DISCONNECT TO REMAIN. FED FROM MCC-A" HOIST SHALL BE FED FROM NEW "MCC-2" VIA EXISTING DISCONNECT ON GROUND FLOOR. SEE "NEW GROUND LEVEL" DRAWING E-7.
12. 30A DISCONNECT TO REMAIN (SUMP PUMP 1 & 2) (3/4 HP EACH) FED FROM "MCC-Z"
13. MOTORIZED VALVE (1HP) FED FROM "MCC-A"
14. EXISTING 30A DISCONNECT TO REMAIN (1HP A/C UNIT) FED FROM "MCC-A"
15. EXISTING DUAL COMBINATION STARTER/ALTERNATOR TO REMAIN SEWAGE PUMPS (1HP) FED FROM "MCC-A"
16. EXISTING JUNCTION BOX TO REMAIN. JUNCTION BOX FEEDS COMBINATION STARTERS WHICH FEED RESPECTIVE WEST SUMP PUMPS (P32 & P33) (PUMPS 3HP EACH) FED FROM "MCC-Z" CONTRACTOR SHALL REFEED WEST SUMP PUMPS SEPARATELY VIA COMBINATION STARTERS TO NEW "MCC-1". SEE "NEW BASEMENT LEVEL" DRAWING E-6.
17. EXISTING PULL BOX TO REMAIN (LIGHTING TUNNEL AND PBX BUILDING FEEDS)
18. PULL BOX TO REMAIN (15KW BASIN HEATER) FED FROM "MCC-A"
19. EXISTING "HAND/OFF/AUTO" STARTER TO REMAIN. STARTER FEEDS 30HP CIRC. PUMP VIA 60A DISCONNECT. CIRC. PUMP FED FROM INV.3. CONTRACTOR SHALL RECONNECT 30HP CIRC. PUMP TO NEW "MCC-1".
20. EXISTING DUAL COMBINATION STARTER/ALTERNATOR TO REMAIN. DUAL COMBINATION STARTER/ ALTERNATOR FEEDS 40HP COMPRESSORS 3&4 VIA 60A DISCONNECTS).COMPRESSORS FED FROM INV.3, CONTRACTOR SHALL RECONNECT COMPRESSOR 3&4 TO NEW "MCC-1"
21. CHILLED WATER FEED PUMP SEQUENCE OF OPERATION: A DROP IN WATER LEVEL IN THE EXPANSION/CUSHION TANK WILL CAUSE THE LEVEL CONTROLLER TO MODULATE THE CONTROL VALVE H136 OPEN. WHEN VALVE POSITION EXTENDS TO CLOSE THE END SWITCH, No.1 AND No.2 CHILLED WATER FEED PUMPS START TOGETHER, ONE END SWITCH BEING PROVIDED FOR BOTH PUMPS. WHEN WATER LEVEL RISES TO NORMAL, THE VALVE CLOSES AND THE SWITCH STOPS THE PUMPS.
22. HOT WATER FEED PUMP SEQUENCE OF OPERATION: A DROP IN WATER LEVEL IN THE EXPANSION/CUSHION TANK WILL CAUSE THE LEVEL CONTROLLER TO MODULATE THE CONTROL VALVE H137 OPEN. WHEN VALVE POSITION EXTENDS TO CLOSE THE END SWITCH, No.1 AND No.2 HOT WATER FEED PUMPS START TOGETHER, ONE END SWITCH BEING PROVIDED FOR BOTH PUMPS. WHEN WATER LEVEL RISES TO NORMAL, THE VALVE CLOSES AND THE SWITCH STOPS THE PUMPS.

    THE END SWITCH OPERATING No.3 FEED PUMP IS LOCATED TOWARDS THE END OF THE VALVE STEM'S TRAVEL, STARTING THE PUMP ONLY IF THE WATER LEVEL IN THE EXPANSION/ CUSHION TANK DROPS FURTHER, SHOULD No.1 OR No.2 FEED PUMP FAIL TO OPERATE. IF NECESSARY, No.3 FEED PUMP CAN BE SUBSTITUTED FOR EITHER No.1 OR No.2 FEED PUMP FOR NORMAL AUTOMATIC OPERATION, SIMPLY BY SWITCHING THE PLUGS (120V CONTROL POWER) AT THE CONTROL VALVE.
23. EXISTING COOLING TOWER & CONTROL PANEL. EXISTING CONTROL WIRING FOR 15KW BASIN HEATER IS FED TO EXISTING "MCC-A". CONTRACTOR SHALL RECONNECT CONTROL WIRING TO NEW "MCC-1" 15KW BASIN HEATER CONTACTOR.

GENERAL NOTES:

1. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO BE DEMOLISHED IS SHOWN IN THICK DASHED LINES.
2. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO REMAIN IS SHOWN IN THIN SOLID LINES.
3. BASEMENT FLOOR PLAN SHALL BE REFERENCED WITH "MCC-A", "MCC-C" AND "MCC-Z" DETAILS ON DRAWING E-4. AND "EXISTING SINGLE-LINE DIAGRAM" ON DRAWING E-5.
4. ALL EXISTING FEEDERS FROM EXISTING "MCC-A" TO EXISTING LOADS SHALL BE REMOVED AND DISPOSED BY CONTRACTOR AFTER NEW MCC's HAVE BEEN INSTALLED, COMMISSIONED AND OPERATING.



Public Works Government Services Canada / Travaux publics Services Gouvernementaux Canada

National Capital
Capitale nationale

Property and Facilities Management
Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S.
Directrice S.O.S.

Stantec
Stantec Consulting Ltd.
400 – 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER
M. RIVARD
Feb. 19, 2000
PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS CENTRAL HEATING PLANT OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

EXISTING BASEMENT LEVEL

scale	1:100 (echelle)
designed by (concu par)	S. WALKER
drawn by (dessine par)	J. DUBEAU
reviewed by (examine par)	M. RIVARD
approved by (approuve par)	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E-1 of 14

LEGEND

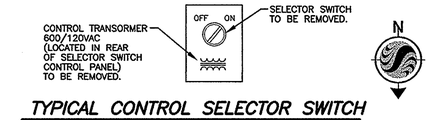
SYMBOL	DESCRIPTION
HP	EXISTING 3PH MOTOR TO REMAIN
■	EXISTING PUSH-BUTTON (START/STOP/LOCK-OUT) TO BE REMOVED.
□	EXISTING DISCONNECT
◪	EXISTING COMBINATION STARTER TO REMAIN
S	EXISTING 120V COOLING WATER SOLENOID TO REMAIN
T	EXISTING THERMOSTAT
J	EXISTING JUNCTION BOX TO BE REMOVED
▼	EXISTING WELDER OUTLET TO REMAIN
PB	EXISTING "ON/OFF" PUSH-BUTTON TO BE REMOVED
CT	EXISTING CONTROL TRANSFORMER TO BE REMOVED

NOTES:

1. CHILLED WATER PUMP#4 (150HP) FED FROM "MCC-C"
2. CHILLED WATER PUMP#3 (150HP) FED FROM "MCC-C"
3. CHILLED WATER PUMP#2 (60HP) FED FROM "MCC-C"
4. CHILLED WATER PUMP#1 (60HP) FED FROM "MCC-C"
5. HOT WATER CIRC. PUMP#4 (20HP) FED FROM "MCC-C"
6. HOT WATER CIRC. PUMP#3 (40HP) FED FROM "MCC-C"
7. HOT WATER CIRC. PUMP#2 (40HP) FED FROM "MCC-Z"
8. HOT WATER CIRC. PUMP#1 (25HP) FED FROM "MCC-C"
9. HOT WATER CIRC. PUMP#5 (10HP) FED FROM "MCC-C"
10. HOT WATER FEED PUMP#1 (25HP) FED FROM "MCC-Z"
11. HOT WATER FEED PUMP#2 (25HP) FED FROM "MCC-C"
12. HOT WATER FEED PUMP #3 (25HP) FED FROM "MCC-C"
13. CHILLED WATER FEED PUMP#1 (20HP) FED FROM "MCC-C"
14. CHILLED WATER FEED PUMP#2 (20HP) FED FROM "MCC-C"
15. BOILER #4 – CONTROL PANEL FED FROM "MCC-C"
16. 30A DISCONNECT (WELDER) FED FROM "MCC-C"
17. 30A DISCONNECT – POWER SUPPLY (BOILER #1) FED FROM "MCC-C"
18. 30A DISCONNECT – POWER SUPPLY (BOILER #2) FED FROM "MCC-C"
19. 30A DISCONNECT – POWER SUPPLY (BOILER #3) FED FROM "MCC-C"
20. EXISTING 30A DISCONNECT (DOOR OPENER) FED FROM "MCC-J"
21. WELDER OUTLET – CHILLER ROOM FED FROM "MCC-C"
22. EXHAUST FAN #1 – TRANSFORMER ROOM (7.5HP)
23. EXHAUST FAN #2 – TRANSFORMER ROOM (7.5HP)
24. EXHAUST FAN #3 – TRANSFORMER ROOM (7.5HP)
25. EXISTING AUTOMATIC TRANSFER SWITCH 1200A, 3P, ASCO 940.
26. DISTRIBUTION SWITCHBOARD "INV.3"
27. HIGH RESISTANCE GROUNDING (HRG) SYSTEM CONTROLS
28. EXISTING TRANSFORMER "T4" 4160V-600/347V, 1000KVA.
29. SUPPLY FAN DIESEL ROOM – 2 SPEED (1/2+5HP) LOCATED WITHIN EXISTING DUCTWORK CONTROLLED BY ATS STATUS AND THERMOSTAT
30. EXISTING DOWN BLOWING HEATER FAN (10HP) FED FROM EXISTING "MCC-E" SHALL BE RECONNECTED TO NEW "MCC-2". EXISTING "ON/OFF" PUSH-BUTTON AND THERMOSTAT SHALL BE REPLACED.
31. EXISTING COMBINATION STARTER (CHILLER ROOM EXHAUST FAN) FED FROM "MCC-C" TO BE REPLACED WITH NEW 30A DISCONNECT
32. ALL CONTROL BOOTH "ON/OFF" CONTROL SELECTOR SWITCHES AND "OFF" PUSH-BUTTONS HAVE AN INTEGRAL 600V/120VAC CONTROL TRANSFORMER TO STEP DOWN INCOMING 600V CONTROL WIRING TO 120VAC. CONTRACTOR SHALL REMOVE ALL CONDUIT AND 600V CIRCUIT WIRING BACK TO RESPECTIVE EQUIPMENT.
33. EXISTING THERMOSTAT AND "ON/OFF" PUSH-BUTTON FOR REVOLVING HEATER ON CEILING (FED FROM "MCC-F") TO BE REMOVED.

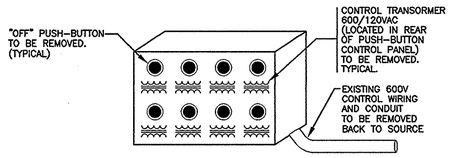
GENERAL NOTES:

1. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO BE DEMOLISHED IS SHOWN IN THICK DASHED LINES.
2. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO REMAIN IS SHOWN IN THIN SOLID LINES.
3. GROUND FLOOR PLAN SHALL BE REFERENCED WITH "MCC-C", "MCC-J" AND "MCC-Z" DETAILS ON DRAWING E-4. AND "EXISTING SINGLE-LINE DIAGRAM" ON DRAWING E-5.
4. ALL EXISTING FEEDERS FROM EXISTING "MCC-C", "MCC-J" AND "MCC-Z" TO EXISTING LOADS SHALL BE REMOVED AND DISPOSED BY CONTRACTOR AFTER NEW MCC's HAVE BEEN INSTALLED, COMMISSIONED AND OPERATING.
5. CONTRACTOR SHALL NOTE CERTAIN FEEDS TO MOTORS SHARE POWER AND CONTROL WIRING IN SAME CONDUIT AND IN OTHERS POWER AND CONTROL WIRING ARE IN SEPERATE CONDUITS.



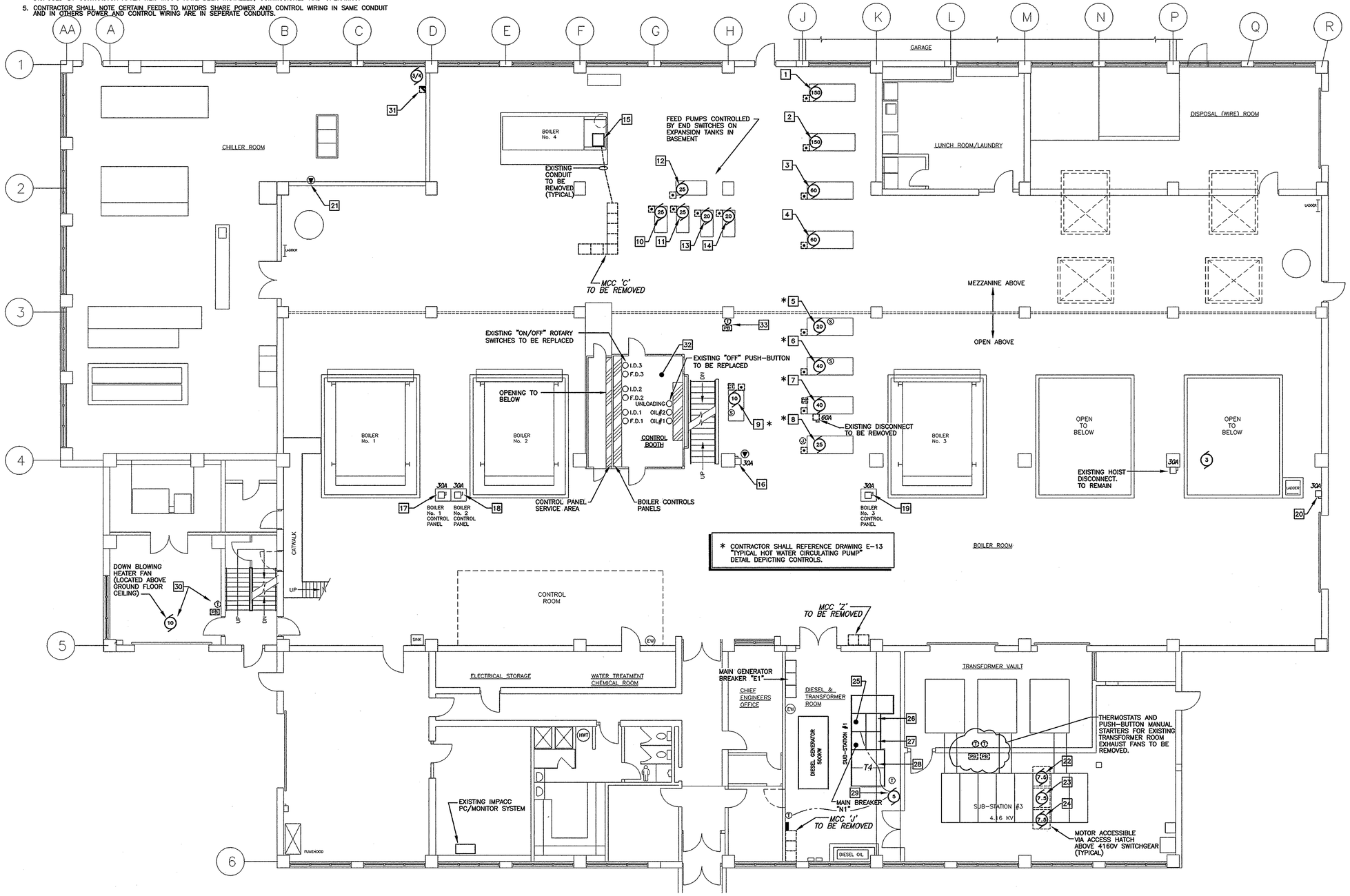
TYPICAL CONTROL SELECTOR SWITCH

SCALE: N.T.S.



TYPICAL CONTROL "OFF" PUSH-BUTTON

SCALE: N.T.S.



Public Works Government Services Canada / Travaux publics Services Gouvernementaux Canada

National Capital Capitale nationale

Property and Facilities Management Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S. Directrice S.O.S.

Stantec

Stantec Consulting Ltd.
400 – 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER M. RIVARD Feb. 18, 2000 PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS CENTRAL HEATING PLANT OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

EXISTING GROUND LEVEL

scale	1:100 / echelle
designed by / concu par	S. WALKER
drawn by / dessine par	J. DUBEAU
reviewed by / examine par	M. RIVARD
approved by / approuve par	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E-2 of 14

LEGEND

SYMBOL	DESCRIPTION
HP	EXISTING 3PH MOTOR TO REMAIN
	EXISTING PUSH-BUTTON (START/STOP/LOCK-OUT) TO BE REMOVED
R	EXISTING RELAY TO REMAIN
PE	EXISTING PNEUMATIC / ELECTRIC SWITCH (PE) TO REMAIN
	EXISTING DISCONNECT TO REMAIN
W.P.	INDICATES WEATHERPROOF

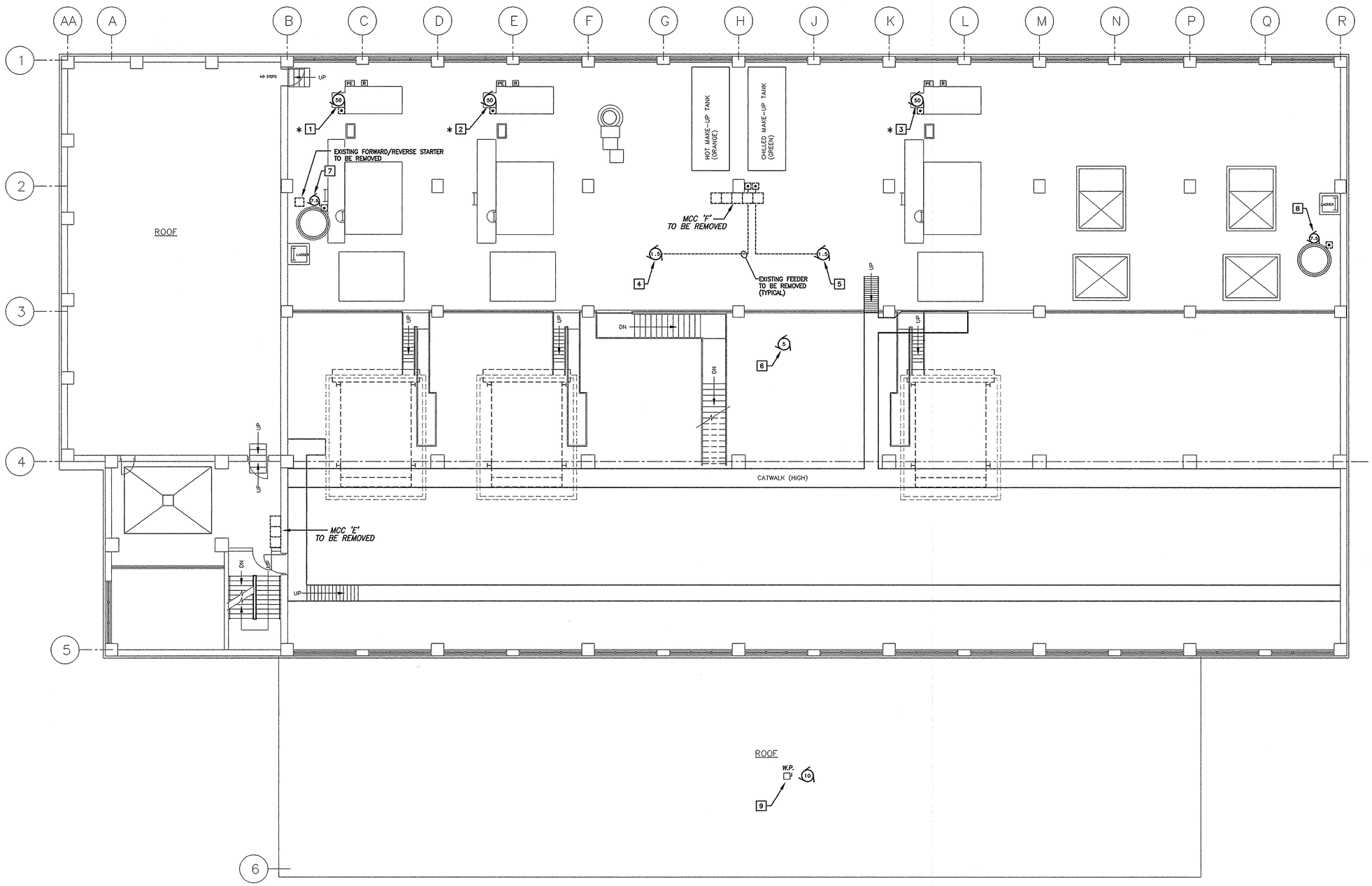
NOTES:

1. I.D. FAN #1 (50HP). FED FROM "MCC-F"
2. I.D. FAN #2 (50HP). FED FROM "MCC-F"
3. I.D. FAN #3 (50HP). FED FROM "MCC-F"
4. ROOF EXHAUSTER #1 (1.5HP-CEILING MOUNTED). FED FROM "MCC-F"
5. ROOF EXHAUSTER #2 (1.5HP-CEILING MOUNTED). FED FROM "MCC-F"
6. REVOLVING HEATER (CEILING MOUNTED). FED FROM "MCC-F"
7. FRESH AIR BLOWER #2 (7.5HP). FED FROM "MCC-F"
8. FRESH AIR BLOWER #1 (7.5HP). FED FROM "MCC-F"
9. EXISTING 30A DISCONNECT TO REMAIN - RADIATOR FAN ON ROOF (10HP) FED FROM "MCC-J"

GENERAL NOTES:

1. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO BE DEMOLISHED IS SHOWN IN THICK DASHED LINES.
2. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO REMAIN IS SHOWN IN THIN SOLID LINES.
3. MEZZANINE FLOOR PLAN SHALL BE REFERENCED WITH "MCC-F" DETAIL ON DRAWING E-4 AND "EXISTING SINGLE-LINE DIAGRAM" ON DRAWING E-5.
4. ALL EXISTING FEEDERS FROM EXISTING "MCC-E" AND "MCC-F" TO EXISTING LOADS SHALL BE REMOVED AND DISPOSED BY CONTRACTOR AFTER NEW MCC's HAVE BEEN INSTALLED, COMMISSIONED AND OPERATING.

* CONTRACTOR SHALL REFERENCE DRAWING E-13 "EXISTING TYPICAL INTERLOCKING BETWEEN INDUCED DRAFT, FORCED DRAFT AND BURNER MANAGEMENT SYSTEM" DETAIL FOR CONTROL SEQUENCE OF OPERATION.



Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

National Capital
Capitale nationale

Property and Facilities Management
Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S.
Directrice S.O.S.

Stantec

Stantec Consulting Ltd.
400 - 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER
M. RIVARD
Feb 18, 2000
PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS CENTRAL HEATING PLANT OTTAWA, ONTARIO

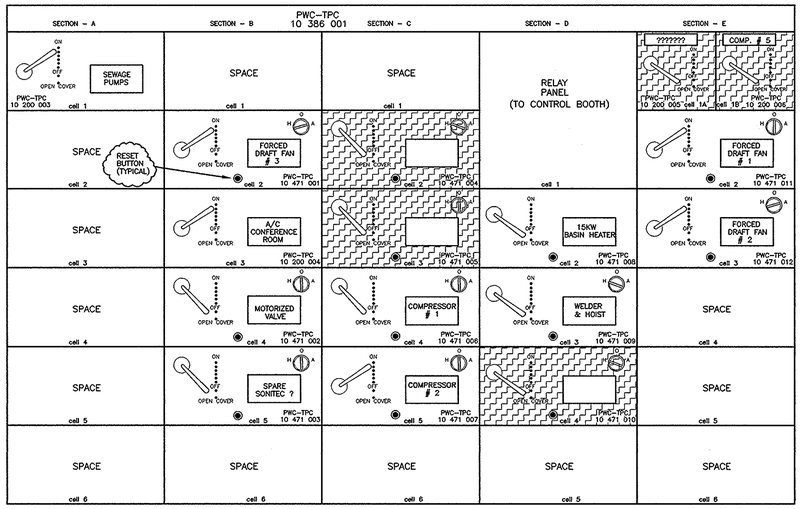
UPGRADE MCC'S

drawing title / titre du dessin

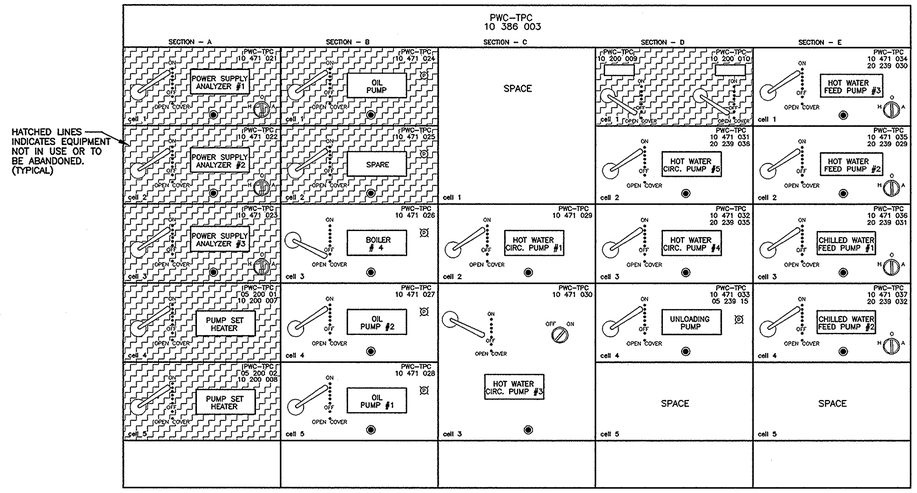
ELECTRICAL

EXISTING MEZZANINE LEVEL

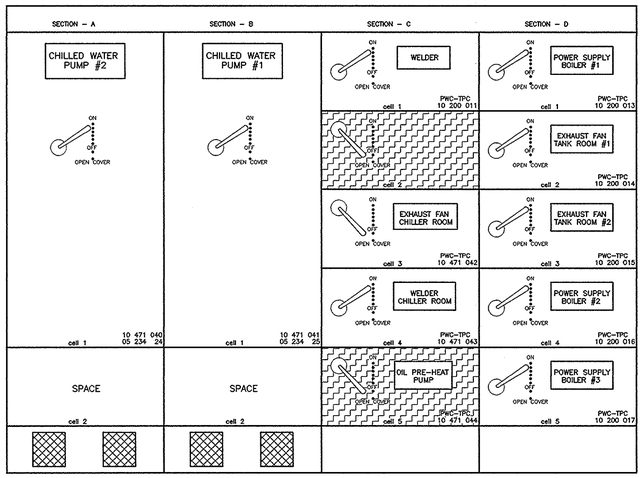
scale / echelle	1:100
designed by / concu par	S. WALKER
drawn by / dessine par	J. DUBEAU
reviewed by / examine par	M. RIVARD
approved by / approuve par	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E-3 of 14



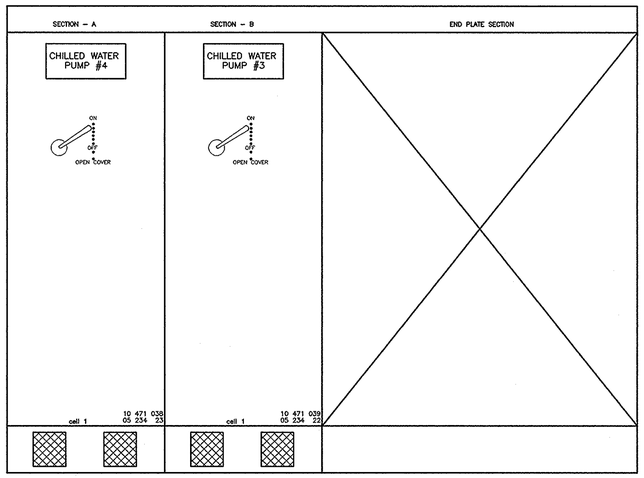
MCC "A" – BASEMENT FLOOR



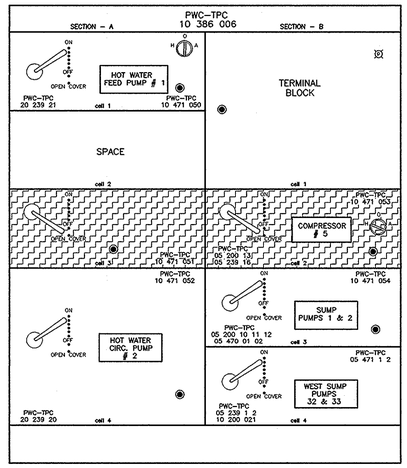
MCC "C" ELEVATION – GROUND FLOOR (EAST FACE)



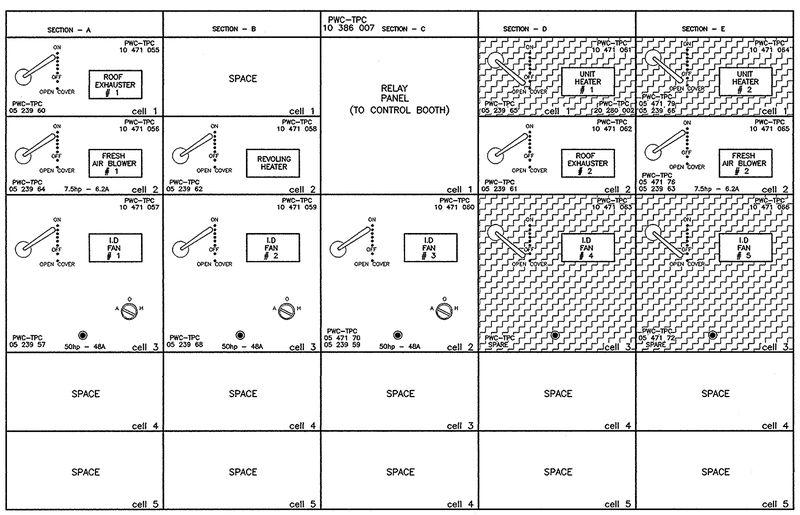
MCC "C" ELEVATION – GROUND FLOOR (WEST FACE)



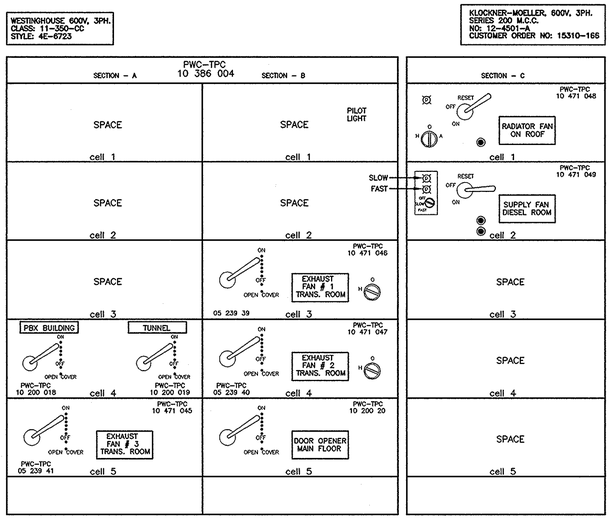
MCC "C" ELEVATION – GROUND FLOOR (SOUTH FACE)



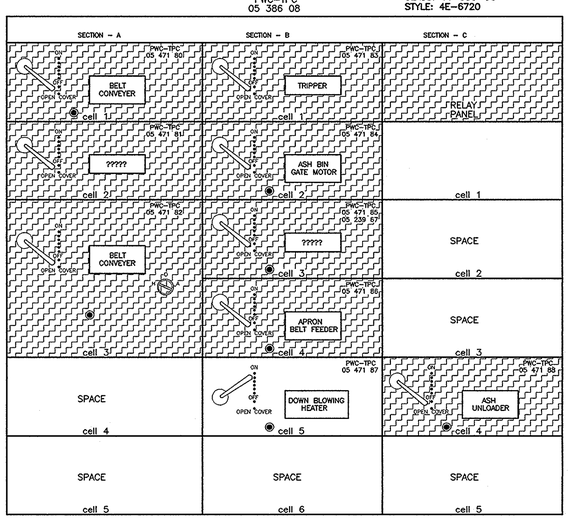
MCC "Z" – GROUND FLOOR



MCC "F" – MEZZANINE FLOOR



MCC "J" – GROUND FLOOR (DIESEL ROOM)



MCC "E" – 2ND FLOOR EAST

Public Works Government Services Canada / Travaux publics Services Gouvernementaux Canada

National Capital
Capitale nationale

Property and Facilities Management
Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S.
Directrice S.O.S.

Stantec

Stantec Consulting Ltd.
400 – 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER
M. RIVARD
Feb. 18, 2000
PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS CENTRAL HEATING PLANT OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

EXISTING MCC DETAILS

scale: N.T.S. / echelle

designed by / concu par: S. WALKER

drawn by / dessine par: J. DUBEAU

reviewed by / examine par: M. RIVARD

approved by / approuve par: M. RIVARD

Job number / No du projet: 408388

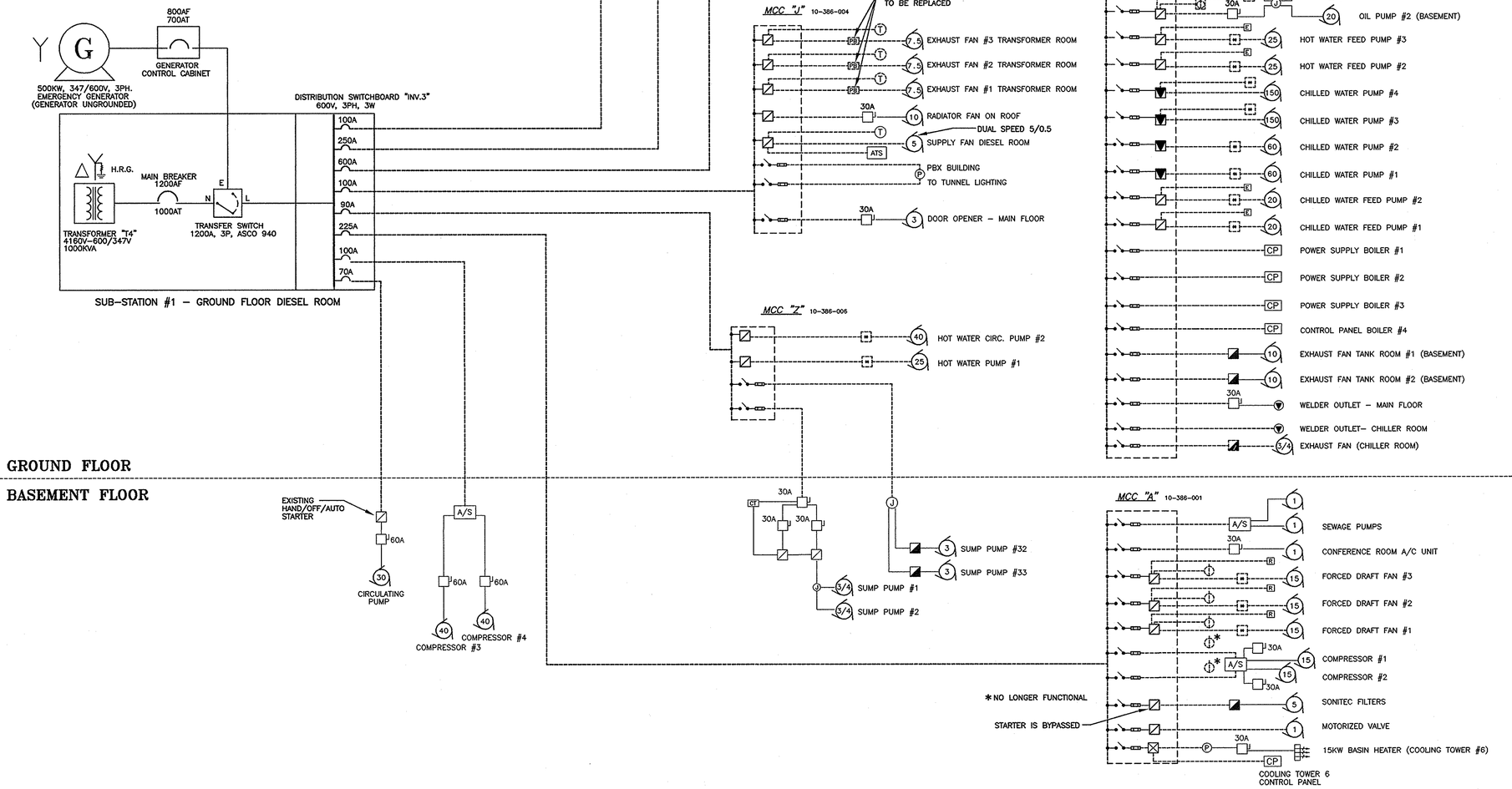
Dwg no. / Dessin no.: E–4 of 14

LEGEND

SYMBOL	DESCRIPTION
HP	EXISTING 3PH MOTOR TO REMAIN
	EXISTING PUSH-BUTTON (ON/OFF/LOCK-OUT) TO BE REMOVED
	EXISTING COMBINATION STARTER
	EXISTING MAGNETIC STARTER
	EXISTING REDUCED VOLTAGE TRANSFORMER STARTER (RVTS) TO BE REMOVED
	EXISTING DISCONNECT
PB	EXISTING PUSH-BUTTON (ON/OFF) TO BE REPLACED
	EXISTING CONTACTOR TO BE REPLACED
T	EXISTING THERMOSTAT TO BE REMOVED
	EXISTING ROTARY ON/OFF SWITCH IN CONTROL BOOTH TO BE REMOVED
	EXISTING "OFF PUSH-BUTTON IN CONTROL BOOTH TO BE REMOVED
	EXISING FUSED SWITCH TO BE REMOVED
CP	EXISTING BOILER CONTROL PANEL TO REMAIN
	SOLID GROUND
	HIGH RESISTANCE GROUND
	WELDER OUTLET TO REMAIN
E	EXSITING END SWITCH TO REMAIN
R	EXISTING RELAY TO REMAIN
	EXISTING MANUAL SWITCH TO BE REMOVED
P	EXISTING PULL BOX TO REMAIN
J	EXISTING JUNCTION BOX TO REMAIN
A/S	EXISTING DUAL COMBINATION STARTER / ALTERNATOR TO REMAIN
ATS	EXISTING 1200A AUTOMATIC TRANSFER SWITCH TO REMAIN
CT	EXISTING CONTROL TRANSFORMER TO REMAIN

GENERAL NOTES:

1. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO BE DEMOLISHED IS SHOWN IN THICK DASHED LINES.
2. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO REMAIN IS SHOWN IN THIN SOLID LINES.
3. MANY OF THE EXISTING FEEDERS TO MOTORS HAVE POWER AND CONTROL WIRING RUN IN THE SAME CONDUIT.



Public Works Government Services Canada / Travaux publics Services Gouvernementaux Canada

National Capital
Capitale nationale

Property and Facilities Management
Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S.
Directrice S.O.S.

Stantec

Stantec Consulting Ltd.
400 - 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENCED PROFESSIONAL ENGINEER
M. RIVARD
Feb. 18, 2000
PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS CENTRAL HEATING PLANT OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

EXISTING SINGLE-LINE DIAGRAM

scale	N.T.S.
designed by / concu par	S. WALKER
drawn by / dessine par	J. DUBEAU
reviewed by / examine par	M. RIVARD
approved by / approuve par	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E-5 of 14

LEGEND

SYMBOL	DESCRIPTION
HP	EXISTING 3PH MOTOR TO REMAIN
	COMBINATION STARTER
	NEW DISCONNECT. SIZED AS INDICATED
	NEW SUSPENDED SUPPORT CHANNEL (SEE SPECIFICATION SECTION 16133)
	EXISTING STARTER C/W "HAND/OFF/AUTO" CONTROLS TO REMAIN
	EXISTING TWO-SPEED STARTER TO REMAIN
PB	NEW PUSH-BUTTON (START/STOP)
J	EXISTING JUNCTION BOX TO REMAIN
AS	EXISTING DUAL COMBINATION STATER/ ALTERNATOR TO REMAIN
P	PULL BOX
E	EXISTING END SWITCH (NORMALLY OPEN) TO REMAIN
R	EXISTING RELAY TO REMAIN
PE	EXISTING PNEUMATIC – ELECTRIC SWITCH (PE) TO REMAIN

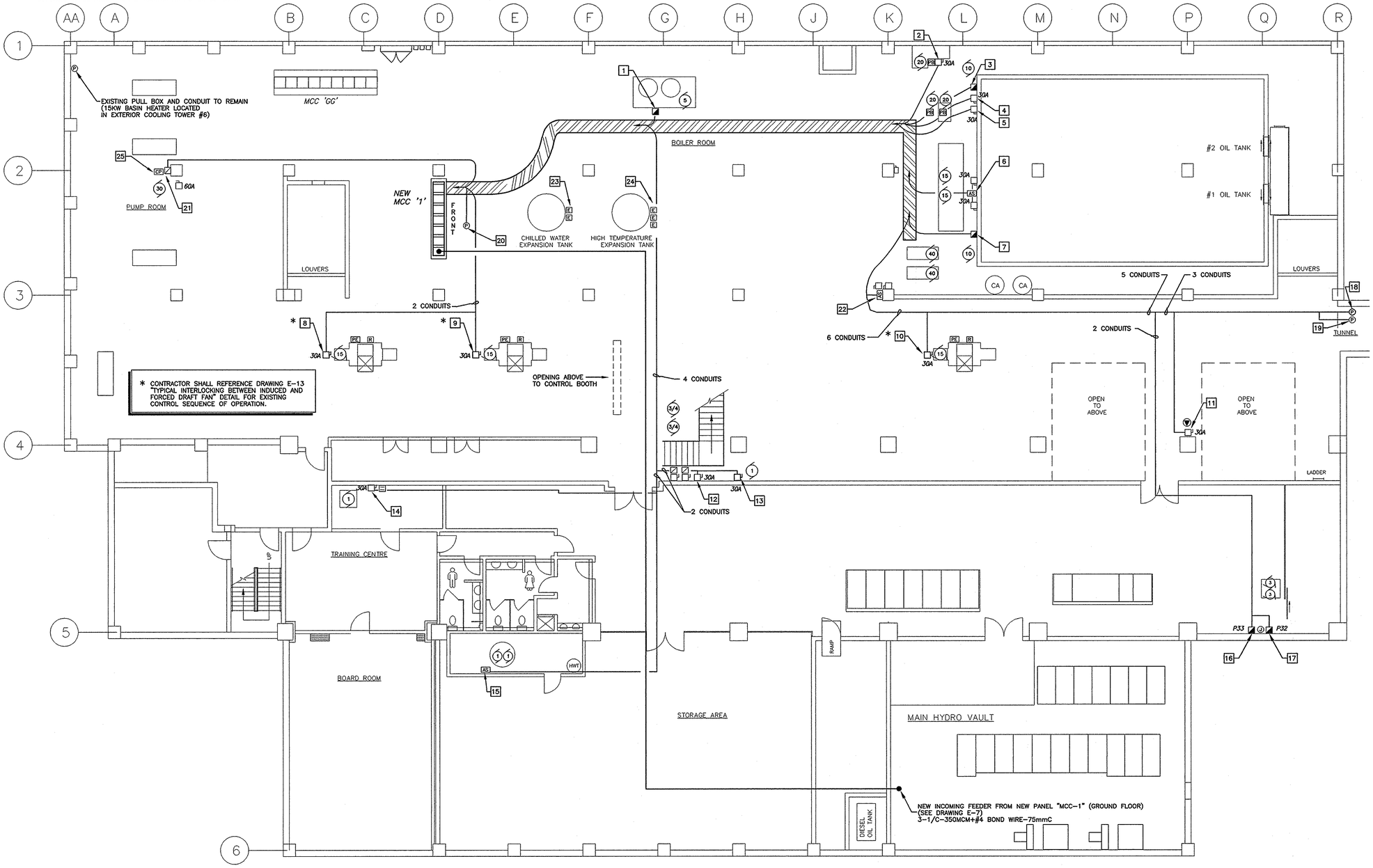
GENERAL NOTES:

1. EXCEPT AS NOTED OTHERWISE, ALL NEW EQUIPMENT IS SHOWN IN THICK SOLID LINES.
2. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO REMAIN IS SHOWN IN THIN SOLID LINES.
3. BASEMENT FLOOR PLAN SHALL BE REFERENCED WITH NEW "MCC–1" DETAIL ON DRAWING E–9.
4. ALL PROPOSED RACEWAY AND FEEDER LOCATIONS SHALL BE CONFIRMED ON SITE.
5. ONLY POWER CONDUIT RUNS ARE SHOWN ON FLOOR PLAN, COMMUNICATION AND CONTROL CONDUITS SHALL FOLLOW SAME ROUTING AS POWER CONDUITS

NOTES:

1. EXISTING COMBINATION STARTER (SONITEC FILTERS–5HP)
2. EXISTING 30A DISCONNECT – UNLOADING PUMP (20HP) PROVIDE NEW 120V "START/STOP" PUSH–BUTTON EXACT LOCATION TO BE VERIFIED ON SITE
3. EXISTING COMBINATION STARTER EXHAUST FAN TANK ROOM #1 (10HP)
4. EXISTING 30A DISCONNECT – OIL PUMP #1 (20HP) PROVIDE NEW 120V "START/STOP" PUSH–BUTTON EXACT LOCATION TO BE VERIFIED ON SITE
5. EXISTING 30A DISCONNECT – OIL PUMP #2 (20HP) PROVIDE NEW 120V "START/STOP" PUSH–BUTTON EXACT LOCATION TO BE VERIFIED ON SITE
6. EXISTING DUAL COMBINATION STARTER/ALTERNATOR COMPRESSORS 1&2 (40HP)
7. EXISTING COMBINATION STARTER – EXHAUST FAN TANK ROOM #2 (10HP)
8. NEW 30A DISCONNECT – FORCED DRAFT FAN #1 (15HP)
9. NEW 30A DISCONNECT – FORCED DRAFT FAN #2 (15HP)
10. NEW 30A DISCONNECT – FORCED DRAFT FAN #3 (15HP)
11. EXISTING 30A DISCONNECT – WELDER OUTLET
12. EXISTING 30A DISCONNECT – SUMP PUMP 1 & 2 (3/4 HP EACH)
13. NEW 30A DISCONNECT MOTORIZED VALVE (1HP)
14. EXISTING 30A DISCONNECT – A/C UNIT – CONFERENCE ROOM
15. EXISTING DUAL COMBINATION STARTER/ALTERNATOR SEWAGE PUMPS (1HP)
16. EXISTING COMBINATION STARTER – WEST SUMP PUMP P33
17. EXISTING COMBINATION STARTER – WEST SUMP PUMP P32
18. CONTRACTOR SHALL PROVIDE A NEW PULL BOX FOR TUNNEL LIGHTING
19. EXISTING PULL BOX TO REMAIN (PBX BUILDING)
20. CONTRACTOR SHALL MAKE COMPRESSION SPLICE WITH EXISTING 15KW BASIN HEATER FEEDER FROM NEW MCC"1" IN EXISTING PULL BOX. (15KW BASIN HEATER)
21. EXISTING "HAND/OFF/AUTO" STARTER FEEDS CIRC. PUMP (30HP) VIA 60A DISCONNECT
22. EXISTING DUAL COMBINATION STARTER/ALTERNATOR FEEDS 40HP COMPRESSORS (3&4) VIA 60A DISCONNECTS
23. CONTRACTOR SHALL RECONNECT FROM END SWITCHES WITH NEW CONTROL WIRING AND CONDUIT TO NEW "MCC–2" (LOCATED ON GROUND LEVEL) RESPECTIVE STARTERS. CHILLED WATER FEED PUMP SEQUENCE OF OPERATION: A DROP IN WATER LEVEL IN THE EXPANSION/CUSHION TANK WILL CAUSE THE LEVEL CONTROLLER TO MODULATE THE CONTROL VALVE H136 OPEN. WHEN VALVE POSITION EXTENDS TO CLOSE THE END SWITCH, No.1 AND No.2 CHILLED WATER FEED PUMPS START TOGETHER, ONE END SWITCH BEING PROVIDED FOR BOTH PUMPS. WHEN WATER LEVEL RISES TO NORMAL, THE VALVE CLOSES AND THE SWITCH STOPS THE PUMPS.
24. CONTRACTOR SHALL RECONNECT FROM END SWITCHES WITH NEW CONTROL WIRING AND CONDUIT TO NEW "MCC–2" (LOCATED ON GROUND LEVEL) RESPECTIVE STARTERS. HOT WATER FEED PUMP SEQUENCE OF OPERATION: A DROP IN WATER LEVEL IN THE EXPANSION/CUSHION TANK WILL CAUSE THE LEVEL CONTROLLER TO MODULATE THE CONTROL VALVE H137 OPEN. WHEN VALVE POSITION EXTENDS TO CLOSE THE END SWITCH, No.1 AND No.2 HOT WATER FEED PUMPS START TOGETHER, ONE END SWITCH BEING PROVIDED FOR BOTH PUMPS. WHEN WATER LEVEL RISES TO NORMAL, THE VALVE CLOSES AND THE SWITCH STOPS THE PUMPS.

   THE END SWITCH OPERATING No.3 FEED PUMP IS LOCATED TOWARDS THE END OF THE VALVE STEM'S TRAVEL, STARTING THE PUMP ONLY IF THE WATER LEVEL IN THE EXPANSION/ CUSHION TANK DROPS FURTHER, SHOULD No.1 OR No.2 FEED PUMP FAIL TO OPERATE. IF NECESSARY, No.3 FEED PUMP CAN BE SUBSTITUTED FOR EITHER No.1 OR No.2 FEED PUMP FOR NORMAL AUTOMATIC OPERATION, SIMPLY BY SWITCHING THE PLUGS (120V CONTROL POWER) AT THE CONTROL VALVE.
25. EXISTING COOLING TOWER 6 CONTROL PANEL. CONTRACTOR TO CONNECT CONTROL WIRING FROM CONTROL PANEL TO NEW 15KW BASIN HEATER CONTACTOR WITHIN NEW "MCC–1"



Public Works Government Services Canada / Travaux publics Services Gouvernementaux Canada

National Capital
Capitale nationale

Property and Facilities Management
Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S.
Directrice S.O.S.

Stantec

Stantec Consulting Ltd.
400 – 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER
M. RIVARD
Feb 18, 2000
PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS CENTRAL HEATING PLANT OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

NEW BASEMENT LEVEL

scale	1:100
designed by / concu par	S. WALKER
drawn by / dessine par	J. DUBEAU
reviewed by / examine par	M. RIVARD
approved by / approuve par	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E–6 of 14

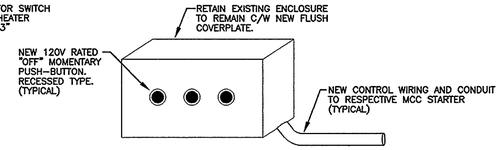
LEGEND

SYMBOL	DESCRIPTION
HP	EXISTING 3PH MOTOR TO REMAIN
	NEW DISCONNECT. SIZED AS INDICATED
	NEW 30A, 6 POLE DISCONNECT
	EXISTING WELDER OUTLET TO REMAIN
S	EXISTING COOLING WATER SOLENOID
	NEW SUSPENDED SUPPORT CHANNEL (SEE SPECIFICATION SECTION 16133)
	NEW 120V "ON/OFF" SELECTOR SWITCH
T	THERMOSTAT

NOTES:

1. NEW 150A DISCONNECT – CHILLED WATER PUMP#4 (150HP)
2. NEW 150A DISCONNECT – CHILLED WATER PUMP#3 (150HP)
3. NEW 60A DISCONNECT – CHILLED WATER PUMP#2 (60HP)
4. NEW 60A DISCONNECT – CHILLED WATER PUMP#1 (60HP)
5. NEW 30A DISCONNECT – HOT WATER CIRC. PUMP#4 (20HP)
6. NEW 60A DISCONNECT – HOT WATER CIRC. PUMP#3 (40HP)
7. NEW 60A DISCONNECT – HOT WATER CIRC. PUMP#2 (40HP)
8. NEW 30A DISCONNECT –
9. NEW 30A DISCONNECT – HOT WATER CIRC. PUMP#5 (10HP)
10. NEW 30A DISCONNECT – HOT WATER FEED PUMP#1 (25HP)
11. NEW 30A DISCONNECT – HOT WATER FEED PUMP#2 (25HP)
12. NEW 30A DISCONNECT – HOT WATER FEED PUMP #3 (25HP)
13. NEW 30A DISCONNECT – CHILLED WATER FEED PUMP#1 (20HP)
14. NEW 30A DISCONNECT – CHILLED WATER FEED PUMP#2 (20HP)
15. BOILER #4 – CONTROL PANEL
16. EXISTING 30A DISCONNECT – WELDER OUTLET (MAIN FLOOR)
17. EXISTING 30A DISCONNECT – POWER SUPPLY (BOILER #1)
18. EXISTING 30A DISCONNECT – POWER SUPPLY (BOILER #2)
19. EXISTING 30A DISCONNECT – POWER SUPPLY (BOILER #3)
20. EXISTING 30A DISCONNECT – (DOOR CONTROLLER)
21. NEW 30A DISCONNECT – WELDER OUTLET (CHILLER ROOM)
22. NEW 30A DISCONNECT – EXHAUST FAN #1 – TRANSFORMER ROOM (7.5HP) PROVIDE A NEW 120V THERMOSTAT
23. NEW 30A DISCONNECT – EXHAUST FAN #2 – TRANSFORMER ROOM (7.5HP) PROVIDE A NEW 120V THERMOSTAT
24. NEW 30A DISCONNECT – EXHAUST FAN #3 – TRANSFORMER ROOM (7.5HP) PROVIDE A NEW 120V THERMOSTAT
25. EXISTING AUTOMATIC TRANSFER SWITCH 1200A, 3P, ASCO 940.
26. EXISTING DISTRIBUTION SWITCHBOARD "INV.3"
27. EXISTING HIGH RESISTANCE GROUNDING (HRG) SYSTEM CONTROLS
28. EXISTING TRANSFORMER "T4" 4160V–600/347V, 1000KVA.
29. NEW 30A, 6 POLE DISCONNECT – SUPPLY FAN DIESEL ROOM – 2 SPEED MOTOR (5/0.5HP)

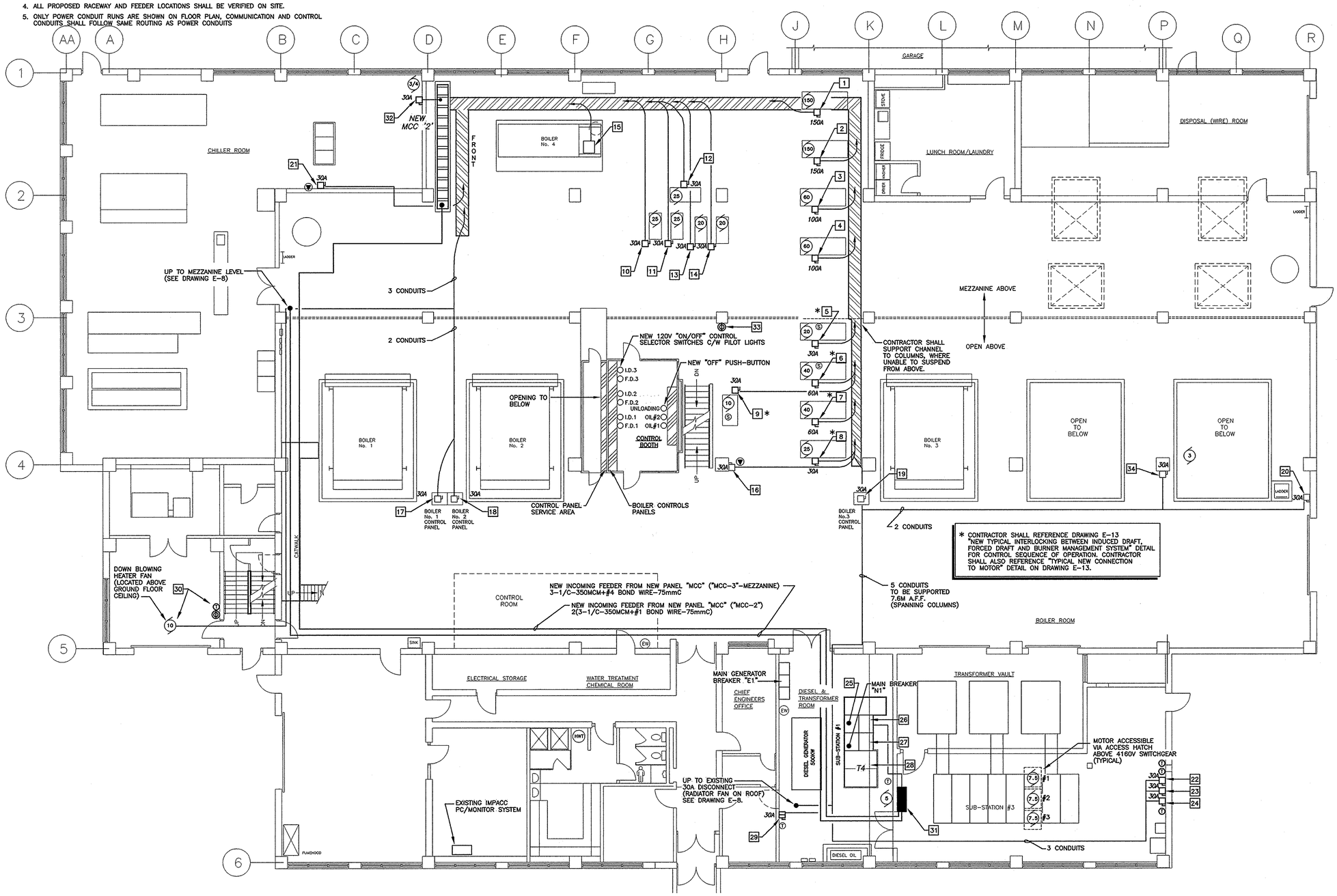
    CONTRACTOR SHALL SUPPLY AND INSTALL NEW WIRING AND CONDUIT TO RE–INSTATE EXISTING FUNCTIONS:
    1– AUTOMATIC TRANSFER SWITCH (ATS) TRANSFERS TO EMERGENCY POWER, SUPPLY FAN STARTS ON "LOW SPEED" (0.5HP)
    2– IF TEMPERATURE EXCEEDS 85'F STARTER SHALL OPERATE AT HIGH SPEED (5HP).
    3– DURING OPERATION OF GENERATOR SHOULD THE AIR EXHAUST TEMPERATURE EXCEED 135'F, THE SUPPLY FAN SHALL SHUT DOWN
    4– ATS TRANSFER TO NORMAL POWER, FAN STOPS.
30. EXISTING DOWN BLOWING HEATER (10HP) PROVIDE A NEW 120V "ON/OFF" SELECTOR SWITCH AND A NEW 120V THERMOSTAT
31. NEW DISTRIBUTION PANEL "MCC" 1200A, 3PH, 3W, 600V
32. NEW 30A DISCONNECT (CHILLER ROOM EXHAUST FAN)
33. PROVIDE A NEW 120V "ON/OFF" SELECTOR SWITCH FOR CONTROL OF EXISTING REVOLVING HEATER LOCATED ON CEILING. FED FROM "MCC–3" SEE DRAWING E–8
34. EXISTING 30A DISCONNECT (3HP HOIST)



NEW CONTROL PUSH–BUTTON DETAIL
SCALE: N.T.S.

GENERAL NOTES:

1. EXCEPT AS NOTED OTHERWISE, ALL NEW EQUIPMENT IS SHOWN IN THICK SOLID LINES.
2. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO REMAIN IS SHOWN IN THIN SOLID LINES.
3. GROUND FLOOR PLAN SHALL BE REFERENCED WITH NEW "MCC–2" DETAIL ON DRAWING E–10 AND "NEW SINGLE–LINE DIAGRAM" ON DRAWING E–12.
4. ALL PROPOSED RACEWAY AND FEEDER LOCATIONS SHALL BE VERIFIED ON SITE.
5. ONLY POWER CONDUIT RUNS ARE SHOWN ON FLOOR PLAN, COMMUNICATION AND CONTROL CONDUITS SHALL FOLLOW SAME ROUTING AS POWER CONDUITS



Public Works Government Services Canada / Travaux publics Services Gouvernementaux Canada

National Capital Capitale nationale

Property and Facilities Management Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S. Directrice S.O.S.

Stantec
Stantec Consulting Ltd.
400 – 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER M. RIVARD Feb 18, 2000 PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS CENTRAL HEATING PLANT OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

NEW GROUND LEVEL

scale	1:100 / echelle
designed by / concu par	S. WALKER
drawn by / dessine par	J. DUBEAU
reviewed by / examine par	M. RIVARD
approved by / approuve par	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E–7 of 14

LEGEND

SYMBOL	DESCRIPTION
HP	EXISTING 3PH MOTOR TO REMAIN
	DISCONNECT. SIZED AS INDICATED
	NEW SUSPENDED SUPPORT CHANNEL (SEE SPECIFICATION SECTION 16133)
R	EXISTING RELAY TO REMAIN
PE	EXISTING PNEUMATIC / ELECTRIC SWITCH (PE) TO REMAIN
	NEW 120V "ON/OFF" SELECTOR SWITCH
W.P.	INDICATES WEATHERPROOF

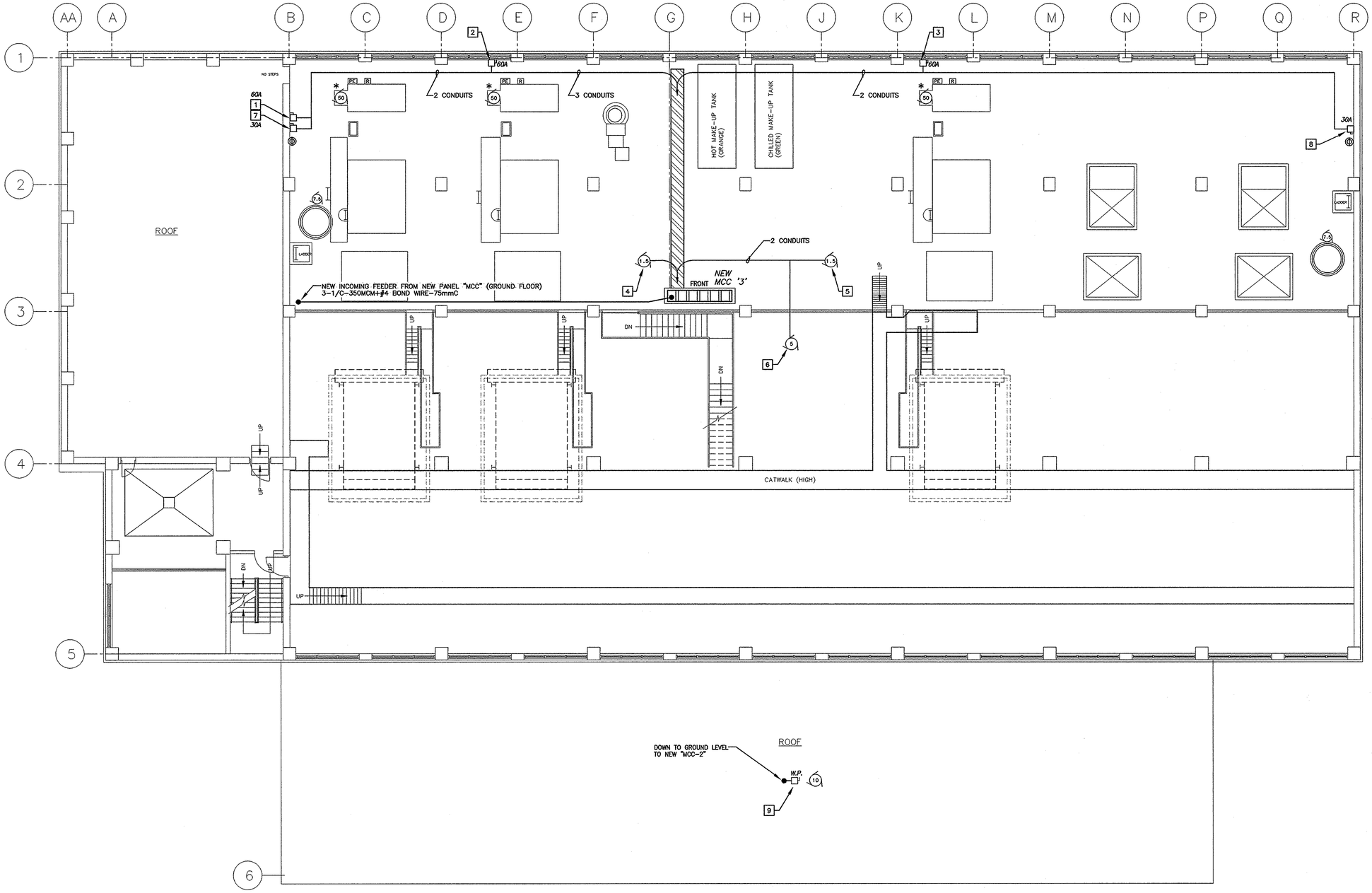
NOTES:

1. NEW 60A DISCONNECT – INDUCED DRAFT (I.D.) FAN #1 (50HP).
2. NEW 60A DISCONNECT – INDUCED DRAFT (I.D.) FAN #2 (50HP).
3. NEW 60A DISCONNECT – INDUCED DRAFT (I.D.) FAN #3 (50HP).
4. EXISTING ROOF EXHAUSTER #1 (1.5HP–CEILING MOUNTED).
5. EXISTING ROOF EXHAUSTER #2 (1.5HP–CEILING MOUNTED).
6. EXISTING REVOLVING HEATER (CEILING MOUNTED). CONTRACTOR SHALL PROVIDE A NEW 120V "ON/OFF" SELECTOR SWITCH ON GROUND FLOOR (SEE DRAWING E–7)
7. NEW 30A DISCONNECT – FRESH AIR BLOWER #2 (7.5HP). CONTRACTOR SHALL PROVIDE A NEW 120V "ON/OFF" SELECTOR SWITCH
8. NEW 30A DISCONNECT – FRESH AIR BLOWER #1 (7.5HP). CONTRACTOR SHALL PROVIDE A NEW 120V "ON/OFF" SELECTOR SWITCH
9. EXISTING 30A DISCONNECT – RADIATOR FAN ON ROOF TO NEW "MCC–2" ON GROUND FLOOR

GENERAL NOTES:

1. EXCEPT AS NOTED OTHERWISE, ALL NEW EQUIPMENT IS SHOWN IN THICK SOLID LINES.
2. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO REMAIN IS SHOWN IN THIN SOLID LINES.
3. MEZZANINE FLOOR PLAN SHALL BE REFERENCED WITH NEW "MCC–3" DETAIL ON DRAWING E–11. AND "NEW SINGLE–LINE DIAGRAM" ON DRAWING E–12.
4. ALL PROPOSED RACEWAY AND FEEDER LOCATIONS SHALL BE VERIFIED ON SITE.
5. ONLY POWER CONDUIT RUNS ARE SHOWN ON FLOOR PLANS, COMMUNICATION AND CONTROL CONDUITS SHALL FOLLOW SAME ROUTING AS POWER CONDUITS.

* CONTRACTOR SHALL REFERENCE DRAWING E–13 "NEW TYPICAL INTERLOCKING BETWEEN INDUCED DRAFT, FORCED DRAFT AND BURNER MANAGEMENT SYSTEM" DETAIL FOR CONTROL SEQUENCE OF OPERATION.



Public Works Government Services Canada / Travaux publics Services Gouvernementaux Canada

National Capital
Capitale nationale

Property and Facilities Management
Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S.
Directrice S.O.S.

Stantec

Stantec Consulting Ltd.
400 – 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER
M. RIVARD
Feb. 18, 2000
PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS CENTRAL HEATING PLANT OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

NEW MEZZANINE LEVEL

scale / echelle	1:100
designed by / concu par	S. WALKER
drawn by / dessine par	J. DUBEAU
reviewed by / examine par	M. RIVARD
approved by / approuve par	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E–8 of 14

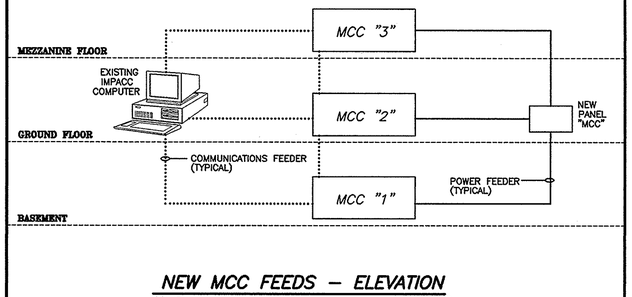
LEGEND

SYMBOL	DESCRIPTION
FVNR	FULL VOLTAGE NON-REVERSING STARTER
RVAS	REDUCED VOLTAGE AUTO-TRANSFORMER STARTER
MCB	MOULDED CASE BREAKER
MCP	MOTOR CIRCUIT PROTECTORS

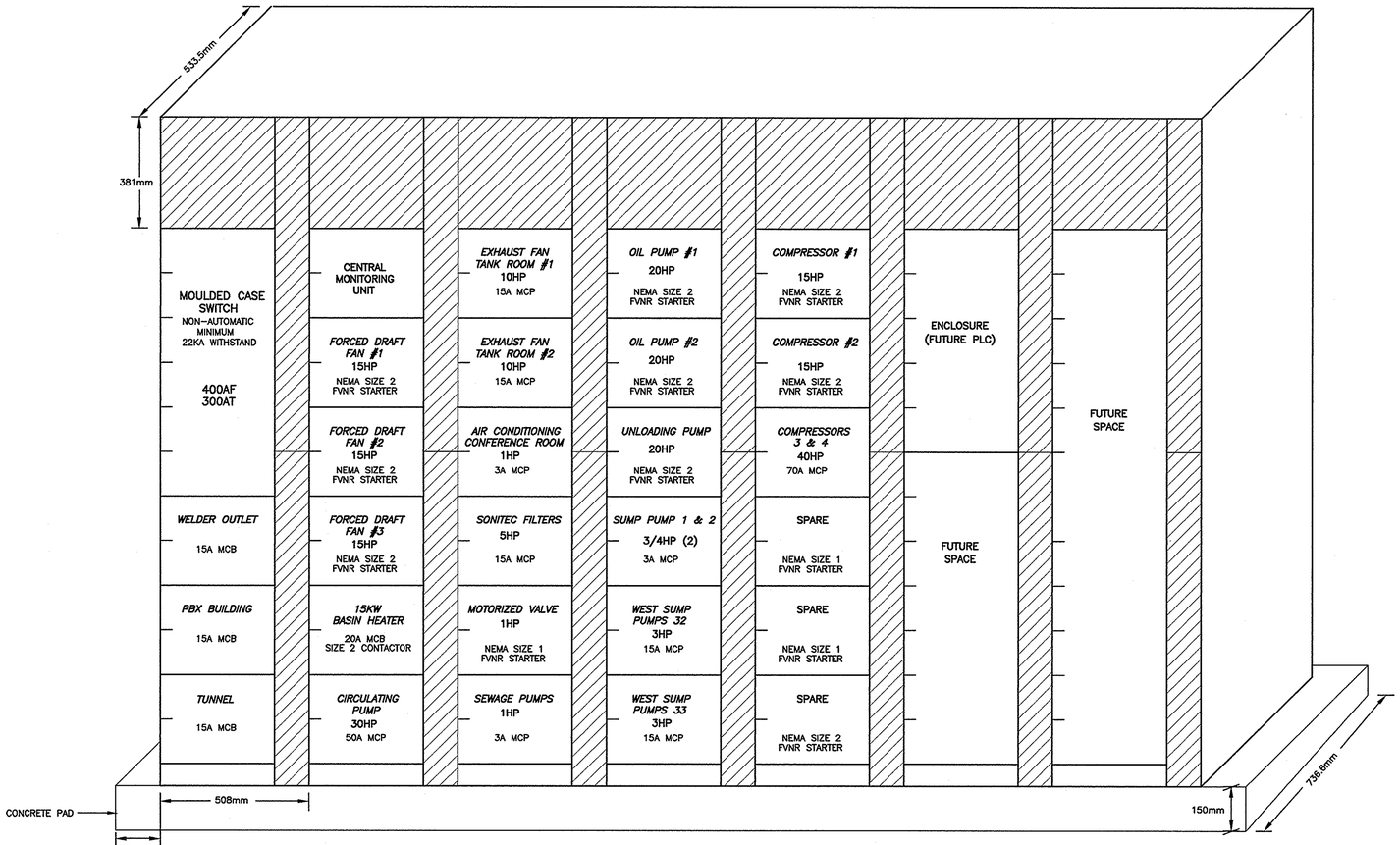
GENERAL NOTES:

1. THIS DRAWING SHALL BE REFERENCED WITH "NEW BASEMENT LEVEL" DRAWING E-6.
2. MCC "1" C/W 600A HORIZONTAL BUS AND 400A VERTICAL BUS. UNLESS OTHERWISE NOTED.
3. CONCRETE PAD: 35Mpa CONCRETE PAD C/W WIREMESH FOR CEMENT POUR. (TYPICAL FOR ALL MCC's.)
4. ALL NEW STARTERS ARE COMBINATION TYPE C/W MOTOR CIRCUIT PROTECTORS (MCP) AS PER SINGLE LINE DIAGRAM ON DRAWING E-12.
5. ALL NEW FEEDERS TO BE TOP ENTRY.

NOTE:
MCC FEEDER ROUTES ARE SHOWN FOR REFERENCE ONLY.



NEW MCC FEEDS – ELEVATION
SCALE: N.T.S.



MCC "1" – BASEMENT
SCALE: 1:10

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

National Capital
Capitale nationale

Property and Facilities Management
Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S.
Directrice S.O.S.

Stantec
Stantec Consulting Ltd.
400 – 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENCED PROFESSIONAL ENGINEER
M. RIVARD
Feb. 18, 2000
PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS CENTRAL HEATING PLANT OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

NEW MCC "1" DETAIL

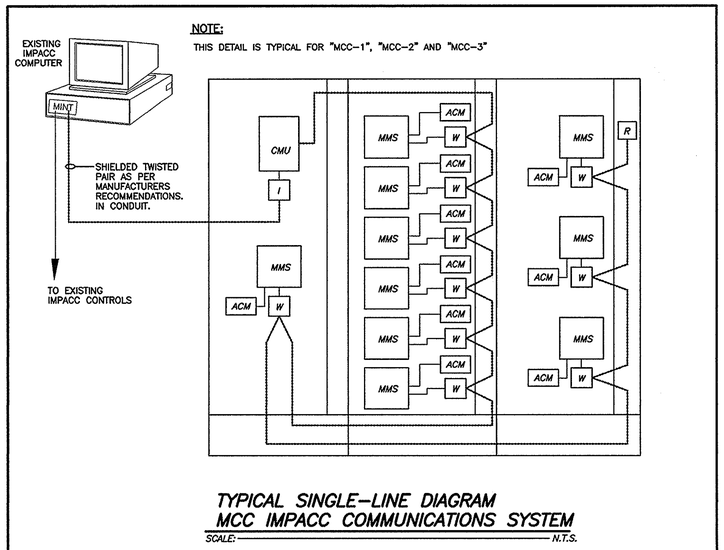
scale	AS NOTED
designed by / concu par	S. WALKER
drawn by / dessine par	J. DUBEAU
reviewed by / examine par	M. RIVARD
approved by / approuve par	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E-9 of 14

LEGEND

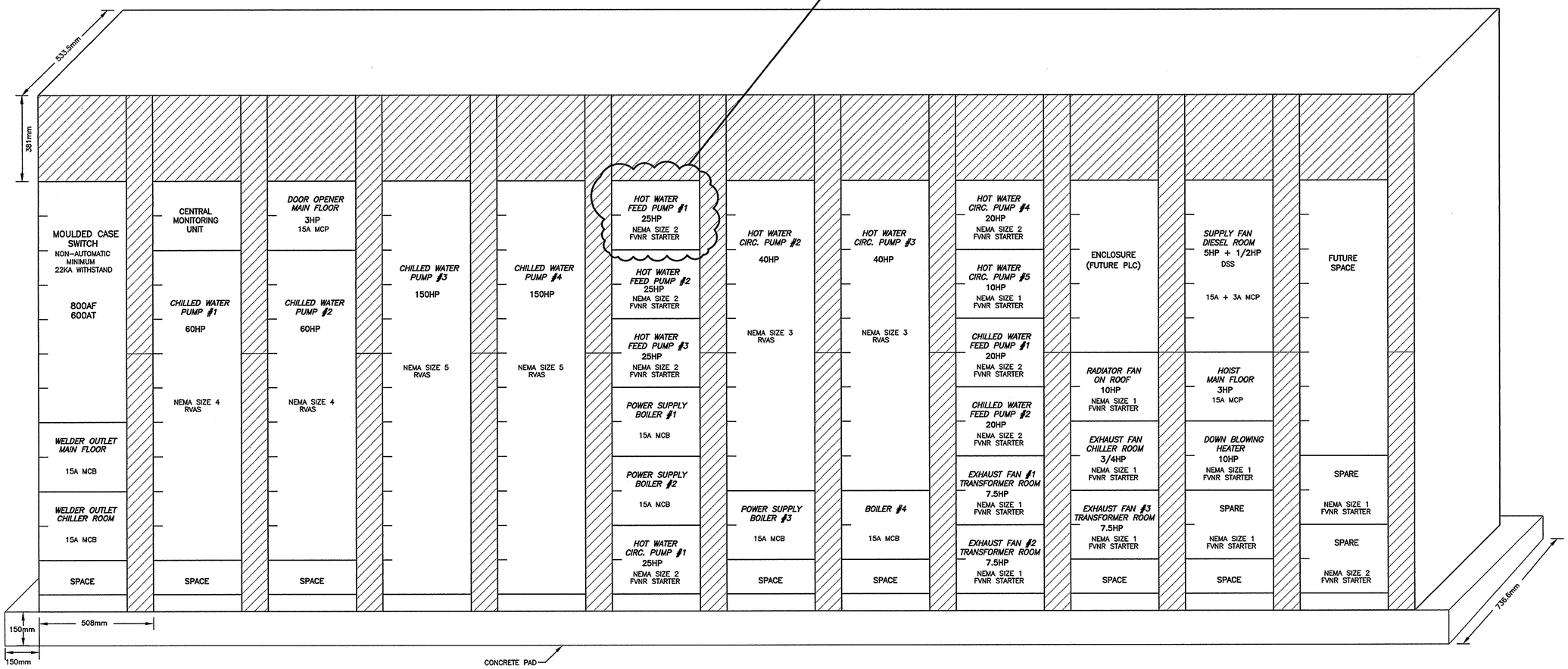
SYMBOL	DESCRIPTION
FVNR	FULL VOLTAGE NON–REVERSING COMBINATION STARTER
RVAS	REDUCED VOLTAGE AUTO–TRANSFORMER COMBINATION STARTER
DSS	DUAL SPEED STARTER
MCB	MOULDED CASE BREAKER
MCP	MOTOR CIRCUIT PROTECTOR
CMU	CENTRAL MONITORING UNIT
MMS	MICROPROCESSOR MOTOR STARTER
ACM	ADVANTAGE CONTROL MODULE
W	W PONI
I	I PONI
R	END OF LINE RESISTOR

GENERAL NOTES:

1. THIS DRAWING SHALL BE REFERENCED WITH "NEW GROUND LEVEL" DRAWING E–7.
2. MCC "2" C/W 800A HORIZONTAL BUS AND 400A VERTICAL BUS. UNLESS OTHERWISE NOTED.
3. CONCRETE PAD: 35Mpa CONCRETE PAD C/W WIREMESH FOR CEMENT POUR. (TYPICAL FOR ALL MCC's.)
4. ALL NEW STARTERS ARE COMBINATION TYPE C/W MOTOR CIRCUIT PROTECTORS (MCP) AS PER SINGLE LINE DIAGRAM ON DRAWING E–12.
5. ALL NEW FEEDERS TO BE TOP ENTRY.



TYPICAL SINGLE–LINE DIAGRAM
MCC IMPACC COMMUNICATIONS SYSTEM
SCALE: N.T.S.



MCC "2" – GROUND FLOOR
SCALE: 1:10

Public Works Government Services Canada / Travaux publics Services Gouvernementaux Canada

National Capital
Capitale nationale

Property and Facilities Management
Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S.
Directrice S.O.S.

Stantec
Stantec Consulting Ltd.
400 – 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER
M. RIVARD
Feb. 18, 2000
PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS
CENTRAL HEATING PLANT
OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

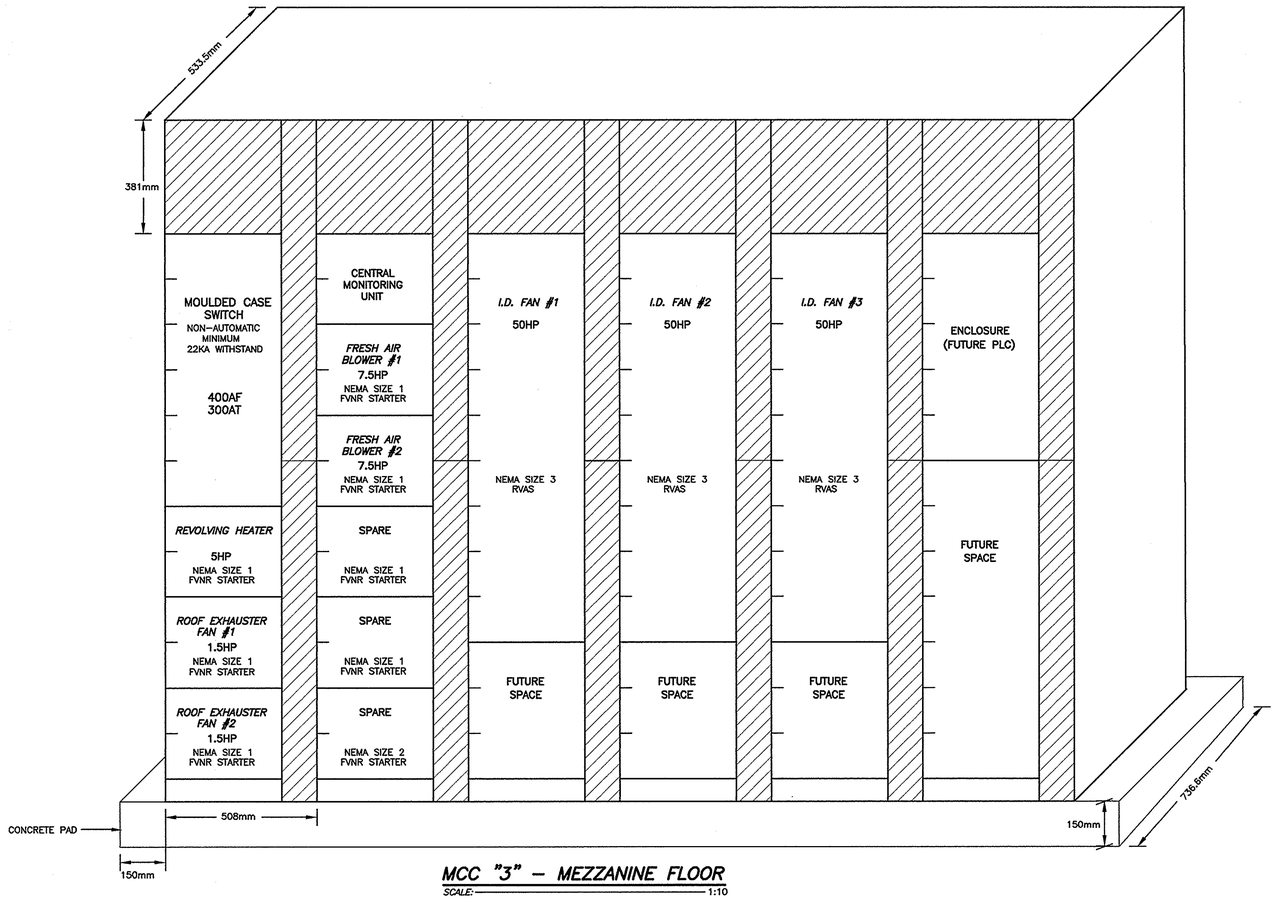
NEW MCC "2" DETAIL

scale	AS NOTED / echelle
designed by / concu par	S. WALKER
drawn by / dessine par	J. DUBEAU
reviewed by / examine par	M. RIVARD
approved by / approuve par	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E–10 of 14

LEGEND	
SYMBOL	DESCRIPTION
FVNR	FULL VOLTAGE NON–REVERSING STARTER
RVAS	REDUCED VOLTAGE AUTO–TRANSFORMER STARTER
MCB	MOULDED CASE BREAKER

GENERAL NOTES:

1. THIS DRAWING SHALL BE REFERENCED WITH "NEW MEZZANINE LEVEL" DRAWING E–8.
2. MCC "3" C/W 600A HORIZONTAL BUS AND 400A VERTICAL BUS. UNLESS OTHERWISE NOTED.
3. CONCRETE PAD: 35Mpa CONCRETE PAD C/W WIREMESH FOR CEMENT POUR. (TYPICAL FOR ALL MCC's.)
4. ALL NEW STARTERS ARE COMBINATION TYPE C/W MOTOR CIRCUIT PROTECTORS (MCP) AS PER SINGLE LINE DIAGRAM ON DRAWING E–12.
5. ALL NEW FEEDERS TO BE TOP ENTRY.



MCC "3" – MEZZANINE FLOOR

SCALE: 1:10

Public Works Government Services Canada / Travaux publics Services Gouvernementaux Canada

National Capital
Capitale nationale

Property and Facilities Management
Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S.
Directrice S.O.S.

Stantec

Stantec Consulting Ltd.
400 – 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER
M. RIVARD
Feb. 18, 2000
PROVINCE OF ONTARIO

revisions		date
1	ISSUED FOR TENDER	FEB/00

project title / titre du projet

CONFEDERATION HEIGHTS
CENTRAL HEATING PLANT
OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

NEW MCC "3" DETAIL

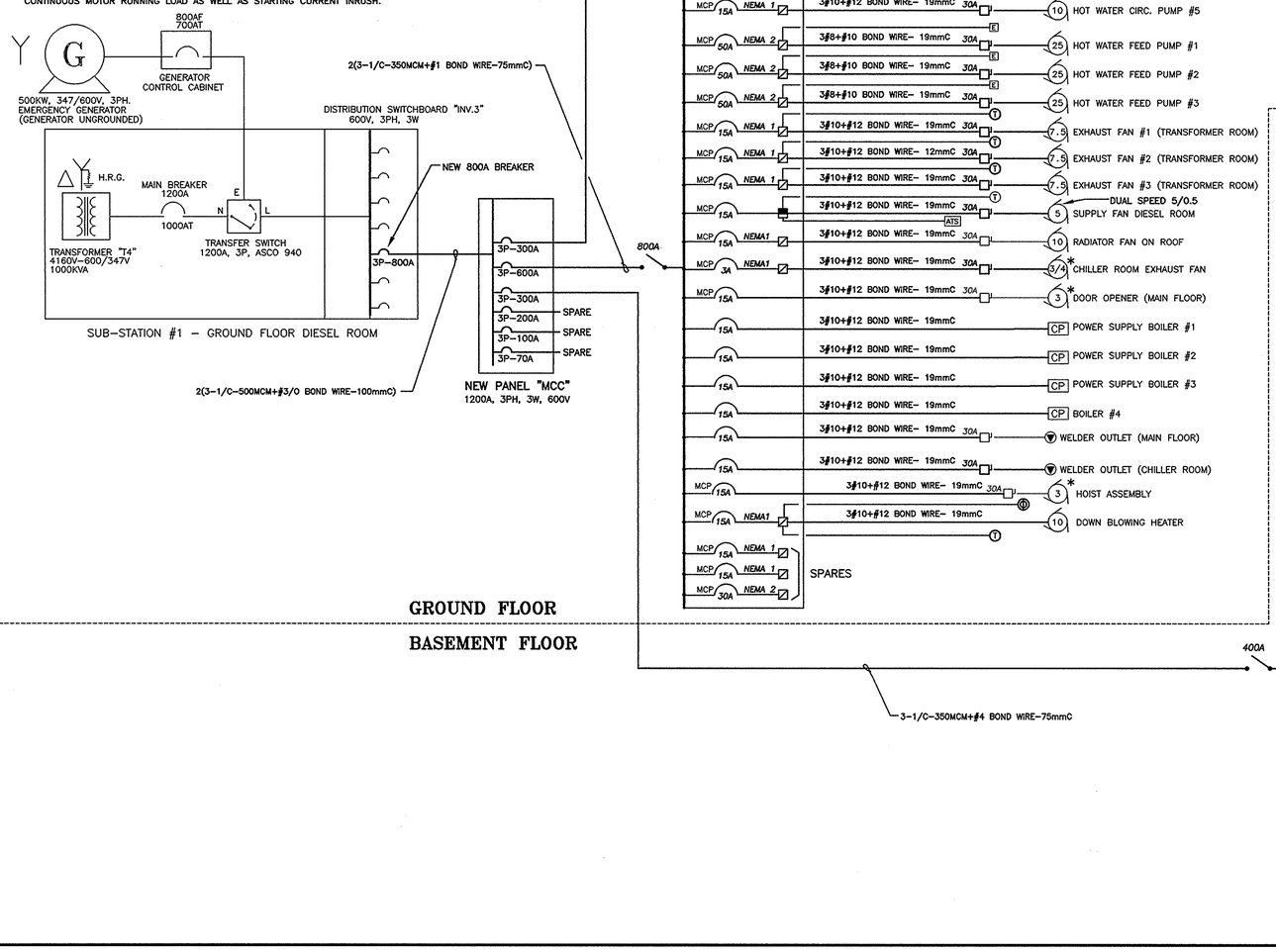
scale	AS NOTED
designed by / concu par	S. WALKER
drawn by / dessine par	J. DUBEAU
reviewed by / examine par	M. RIVARD
approved by / approuve par	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E–11 of 14

LEGEND

SYMBOL	DESCRIPTION
HP	EXISTING 3PH MOTOR TO REMAIN
	COMBINATION STARTER
	NEW FULL VOLTAGE NON-REVERSING STARTER (FVNR) SIZED AS INDICATED
	NEW REDUCED VOLTAGE AUTO-TRANSFORMER STARTER (RVAS)
	NEW TWO SPEED STARTER
	DISCONNECT. SIZED AS INDICATED
	NEW 15A MOULDED CASE BREAKER. UNLESS OTHERWISE INDICATED
MCP	NEW MOTOR CIRCUIT PROTECTORS. SIZED AS INDICATED
	NEW MOULDED CASE SWITCH. SIZED AS INDICATED
P	EXISTING PULL BOX TO REMAIN
T	NEW THERMOSTAT
	EXISTING WELDER OUTLET TO REMAIN
	EXISTING FEEDER TO REMAIN
	NEW FEEDER
	NEW 120V "ON/OFF" CONTROL SELECTOR SWITCH C/W PILOT LIGHT LOCATED IN CONTROL BOOTH (GROUND FLOOR)
	NEW 120V "OFF" CONTROL PUSH-BUTTON LOCATED IN CONTROL BOOTH (GROUND FLOOR)
R	EXISTING RELAY TO REMAIN
PB	NEW "ON/OFF" PUSH-BUTTON (LOCATED NEAR MOTOR)
CP	EXISTING CONTROL PANEL TO REMAIN
A/S	EXISTING DUAL COMBINATION STARTER / ALTERNATOR TO REMAIN
	NEW 120V "ON/OFF" SELECTOR SWITCH
	NEW SIZE 2 CONTACTOR
	INDICATES SOLID GROUND
	INDICATES HIGH RESISTANCE GROUND
*	DENOTES - CONTRACTOR SHALL VERIFY SIZE (HP) PRIOR TO CONNECTIONS

GENERAL NOTES:

1. EXCEPT AS NOTED OTHERWISE, ALL NEW EQUIPMENT IS SHOWN IN THICK SOLID LINES.
2. EXCEPT AS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO REMAIN IS SHOWN IN THIN SOLID LINES.
3. ALL WIRING WITHIN MCC'S SHALL BE AS PER MANUFACTURERS REQUIREMENTS
4. ALL CONTROL WIRING SHALL BE AS PER MANUFACTURERS REQUIREMENTS. CONTRACTOR SHALL USE SEPARATE CONDUITS FOR CONTROL WIRING.
5. ALL MOTOR CONTROL PROTECTORS (MCP) SHALL HAVE ADJUSTABLE FIELD SELECTABLE SETTINGS FOR CONTINUOUS MOTOR RUNNING LOAD AS WELL AS STARTING CURRENT INRUSH.



Public Works Government Services Canada / Travaux publics Services Gouvernementaux Canada

National Capital Capitale nationale

Property and Facilities Management Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S. Directrice S.O.S.

Stantec

Stantec Consulting Ltd.
400 - 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER M. RIVARD Feb. 18, 2000 PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS CENTRAL HEATING PLANT OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

NEW SINGLE-LINE DIAGRAM

scale N.T.S. / echelle

designed by / concu par: S. WALKER

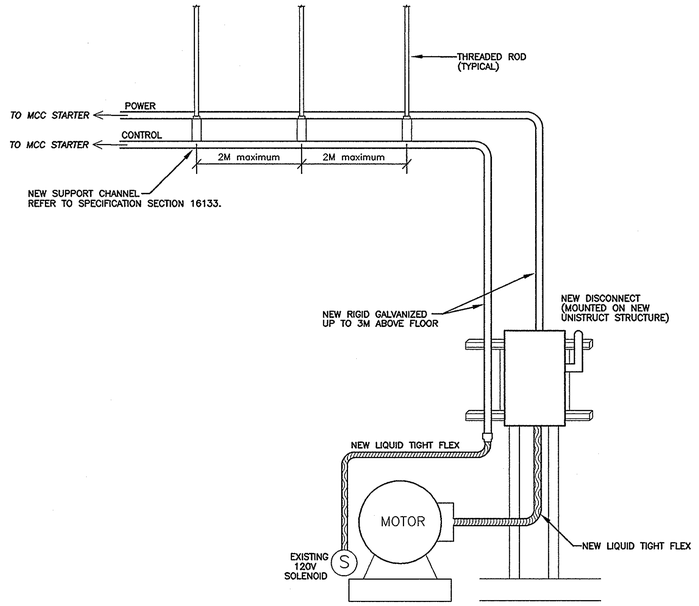
drawn by / dessine par: J. DUBEAU

reviewed by / examine par: M. RIVARD

approved by / approuve par: M. RIVARD

Job number / No du projet: 408388

Dwg no. / Dessin no.: E-12 of 14

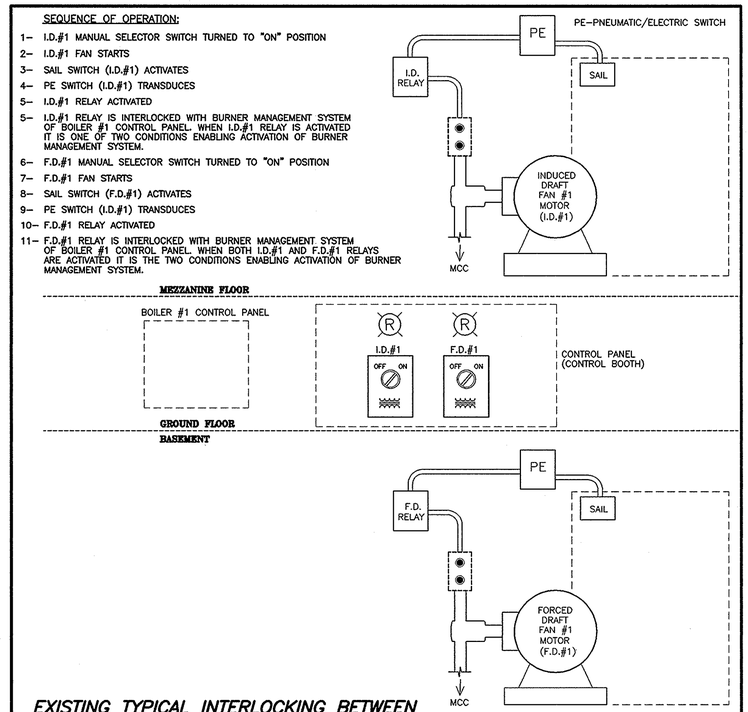


TYPICAL NEW CONNECTION TO MOTORS

SCALE: N.T.S.

SEQUENCE OF OPERATION:

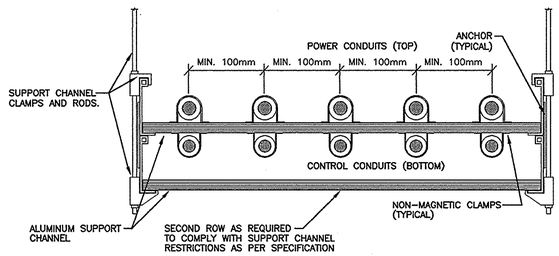
1– I.D.#1 MANUAL SELECTOR SWITCH TURNED TO "ON" POSITION
2– I.D.#1 FAN STARTS
3– SAIL SWITCH (I.D.#1) ACTIVATES
4– PE SWITCH (I.D.#1) TRANSDUCES
5– I.D.#1 RELAY ACTIVATED
5– I.D.#1 RELAY IS INTERLOCKED WITH BURNER MANAGEMENT SYSTEM OF BOILER #1 CONTROL PANEL. WHEN I.D.#1 RELAY IS ACTIVATED IT IS ONE OF TWO CONDITIONS ENABLING ACTIVATION OF BURNER MANAGEMENT SYSTEM.
6– F.D.#1 MANUAL SELECTOR SWITCH TURNED TO "ON" POSITION
7– F.D.#1 FAN STARTS
8– SAIL SWITCH (F.D.#1) ACTIVATES
9– PE SWITCH (I.D.#1) TRANSDUCES
10– F.D.#1 RELAY ACTIVATED
11– F.D.#1 RELAY IS INTERLOCKED WITH BURNER MANAGEMENT SYSTEM OF BOILER #1 CONTROL PANEL. WHEN BOTH I.D.#1 AND F.D.#1 RELAYS ARE ACTIVATED IT IS THE TWO CONDITIONS ENABLING ACTIVATION OF BURNER MANAGEMENT SYSTEM.



EXISTING TYPICAL INTERLOCKING BETWEEN INDUCED DRAFT, FORCED DRAFT AND BURNER MANAGEMENT SYSTEM

SCALE: N.T.S.

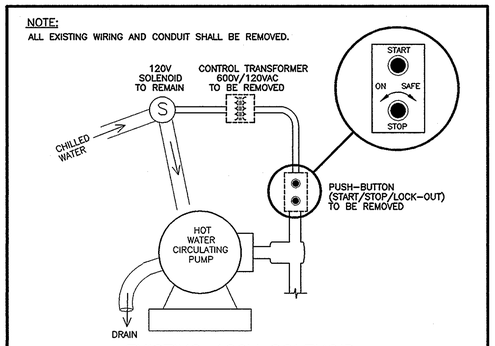
NOTE:
REFER TO SPECIFICATION SECTION 16133 FOR SUPPORT CHANNEL DETAILS



TYPICAL NEW SUPPORT CHANNEL DETAIL

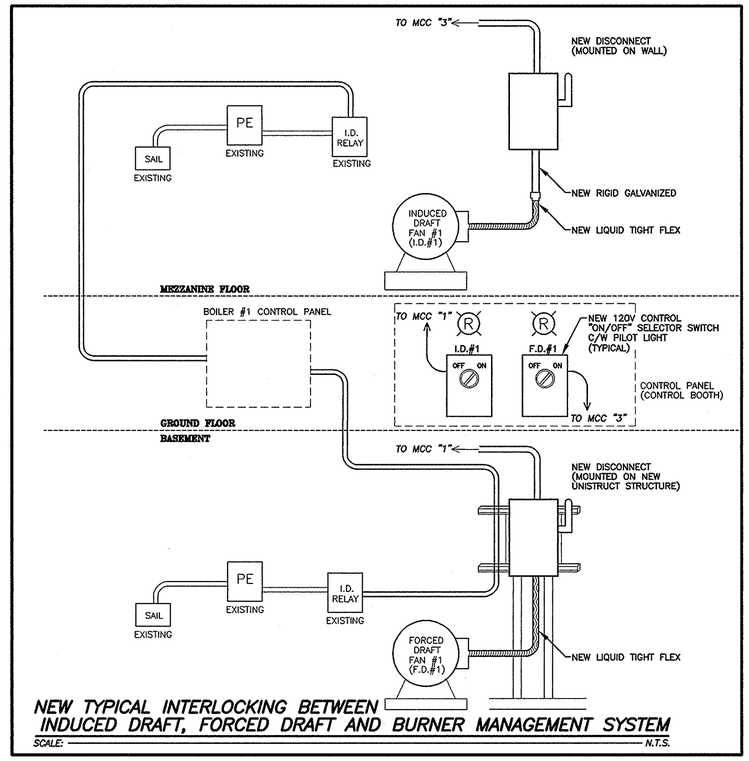
SCALE: N.T.S.

NOTE:
ALL EXISTING WIRING AND CONDUIT SHALL BE REMOVED.



EXISTING 120V SOLENOID TYPICAL HOT WATER CIRCULATING PUMP

SCALE: N.T.S.



NEW TYPICAL INTERLOCKING BETWEEN INDUCED DRAFT, FORCED DRAFT AND BURNER MANAGEMENT SYSTEM

SCALE: N.T.S.

Public Works Government Services Canada / Travaux publics Services Gouvernementaux Canada

National Capital
Capitale nationale

Property and Facilities Management
Gestion des immeubles et des instalations

M. Fyfe-Fortin

Director O.S.S.
Directrice S.O.S.

Stantec

Stantec Consulting Ltd.
400 – 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER
M. RIVARD
Feb. 18, 2020
PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS
CENTRAL HEATING PLANT
OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

DETAILS

scale	N.T.S. / echelle
designed by / concu par	S. WALKER
drawn by / dessine par	J. DUBEAU
reviewed by / examine par	M. RIVARD
approved by / approuve par	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E–13 of 14

LEGEND

SYMBOL	DESCRIPTION
FVNR	FULL VOLTAGE NON-REVERSING STARTER
RVAS	REDUCED VOLTAGE AUTO-TRANSFORMER STARTER
DSS	DUAL SPEED STARTER
ATS	AUTOMATIC TRANSFER SWITCH

GENERAL NOTES:

1. ALL CONTROL / COMMUNICATIONS WIRING SHALL BE IN SEPERATE CONDUITS.
   ALL CONTROL / COMMUNICATIONS WIRING SHALL BE SIZED AS PER MANUFACTURERS REQUIREMENTS.
2. EVERY STARTER SHALL HAVE AN ADVANTAGE CONTROL MODULE C/W "HAND/OFF/AUTO" AS WELL AS "START/STOP" PUSH BUTTON CONTROL. SEE SPECIFICATION FOR DETAILS.

CLASS I, TYPE B
NEMA 12 ENCLOSURE

400A MAIN INCOMING
MOULDED CASE SWITCH

* MOTOR CONTROL CENTRE No. 1 (MCC"1")

600A HORIZONTAL BUS
400A VERTICAL BUS

600V, 3PH, 3W

MOTOR I.D.	LOAD DESCRIPTION	VOLT	PHASE	HERTZ	HP	POWER WIRING/CONDUIT	ELECTRICAL INTERLOCK	AUTOMATIC REMOTE CONTROL		MANUAL REMOTE CONTROL		COMMUNICATION NETWORK VIA CENTRAL MONITOR SYSTEM	120V CONTROL TRANSFORMER	REMOTE 120V OPERATING VALVE		COMBINATION STARTER TYPE	MCP SIZE	LOCAL DISCONNECT @ MOTOR
							Y/N	Y/N	TYPE	Y/N	TYPE	Y/N	Y/N	Y/N	TYPE			Y/N
F.D.#1	FORCED DRAFT FAN #1	600	3	60	15	3#10+#12 BOND WIRE- 19mmC	YES	YES	RELAY	YES	SELECTOR SWITCH	YES	YES	NO		FVNR	30A	YES
F.D.#2	FORCED DRAFT FAN #2	600	3	60	15	3#10+#12 BOND WIRE- 19mmC	YES	YES	RELAY	YES	SELECTOR SWITCH	YES	YES	NO		FVNR	30A	YES
F.D.#3	FORCED DRAFT FAN #3	600	3	60	15	3#10+#12 BOND WIRE- 19mmC	YES	YES	RELAY	YES	SELECTOR SWITCH	YES	YES	NO		FVNR	30A	YES
–	COMPRESSOR #1	600	3	60	15	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		FVNR	30A	YES
–	COMPRESSOR #2	600	3	60	15	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		FVNR	30A	YES
–	COMPRESSOR #3	600	3	60	40	3#6+#8 BOND WIRE- 25mmC	NO	NO		NO		YES	YES	NO		–	70A	YES
–	COMPRESSOR #4	600	3	60	40	3#6+#8 BOND WIRE- 25mmC	NO	NO		NO		YES	YES	NO		–	70A	YES
–	OIL PUMP #1	600	3	60	20	3#10+#12 BOND WIRE- 19mmC	YES	NO		YES	PUSH BUTTON	YES	YES	NO		FVNR	30A	YES
–	OIL PUMP #2	600	3	60	20	3#10+#12 BOND WIRE- 19mmC	YES	NO		YES	PUSH BUTTON	YES	YES	NO		FVNR	30A	YES
–	UNLOADING PUMP	600	3	60	20	3#10+#12 BOND WIRE- 19mmC	YES	NO		YES	PUSH BUTTON	YES	YES	NO		FVNR	30A	YES
–	EXHAUST FAN - TANK ROOM #1	600	3	60	10	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		–	15A	YES
–	EXHAUST FAN - TANK ROOM #2	600	3	60	10	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		–	15A	YES
–	CIRCULATING PUMP	600	3	60	30	3#6+#8 BOND WIRE- 25mmC	NO	NO		NO		YES	YES	NO		–	50A	YES
–	SUMP PUMPS 1 & 2	600	3	60	3/4	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		–	3A	YES
–	SEWAGE PUMPS	600	3	60	1	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		–	3A	YES
–	WEST SUMP PUMPS 32	600	3	60	3	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		–	15A	YES
–	WEST SUMP PUMPS 33	600	3	60	3	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		–	15A	YES
–	SONITEC FILTERS	600	3	60	5	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		–	15A	YES
–	MOTORIZED VALVE	600	3	60	1	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		FVNR	3A	YES
–	A/C CONFERENCE ROOM	600	3	60	–	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	NO	NO		–	3A	YES
–	15KW BASIN HEATER	600	3	60	–	3#10+#12 BOND WIRE- 19mmC	NO	YES	COOLING TOWER & CONTROL PANEL	NO		YES	YES	NO		SIZE 2 CONTACTOR	–	YES
–	WELDER OUTLET	600	3	60	–	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	NO	NO		–	–	YES
–	PBX BUILDING	600	3	60	–	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	NO	NO		–	–	YES
–	TO TUNNEL	600	3	60	–	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	NO	NO		–	–	YES

* MCC C/W CENTRAL MONITORING UNIT AND THREE SPARE STARTERS. SEE DRAWING E-9.

CLASS I, TYPE B
NEMA 12 ENCLOSURE

800A MAIN INCOMING
MOULDED CASE SWITCH

* MOTOR CONTROL CENTRE No. 2 (MCC"2")

800A HORIZONTAL BUS
400A VERTICAL BUS

600V, 3PH, 3W

MOTOR I.D.	LOAD DESCRIPTION	VOLT	PHASE	HERTZ	HP	POWER WIRING/CONDUIT	ELECTRICAL INTERLOCK	AUTOMATIC REMOTE CONTROL		MANUAL REMOTE CONTROL		COMMUNICATION NETWORK VIA CENTRAL MONITOR SYSTEM	120V CONTROL TRANSFORMER	REMOTE 120V OPERATING VALVE		COMBINATION STARTER TYPE	MCP SIZE	LOCAL DISCONNECT @ MOTOR
							Y/N	Y/N	TYPE	Y/N	TYPE	Y/N	Y/N	Y/N	TYPE			Y/N
–	CHILLED WATER PUMP #1	600	3	60	60	3#4+#8 BOND WIRE- 25mmC	NO	NO		NO		YES	YES	NO		RVAS	100A	YES
–	CHILLED WATER PUMP #2	600	3	60	60	3#4+#8 BOND WIRE- 25mmC	NO	NO		NO		YES	YES	NO		RVAS	100A	YES
–	CHILLED WATER PUMP #3	600	3	60	150	3#2/0+#4 BOND WIRE- 50mmC	NO	NO		NO		YES	YES	NO		RVAS	250A	YES
–	CHILLED WATER PUMP #4	600	3	60	150	3#2/0+#4 BOND WIRE- 50mmC	NO	NO		NO		YES	YES	NO		RVAS	250A	YES
–	CHILLED WATER FEED PUMP #1	600	3	60	20	3#10+#12 BOND WIRE- 19mmC	YES	YES	END SWITCH	NO		YES	YES	NO		FVNR	30A	YES
–	CHILLED WATER FEED PUMP #2	600	3	60	20	3#10+#12 BOND WIRE- 19mmC	YES	YES	END SWITCH	NO		YES	YES	NO		FVNR	30A0A	YES
–	HOT WATER CIRCULATING PUMP #1	600	3	60	25	3#8+#10 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	YES	CHILLED WATER SOLENOID	FVNR	50A	YES
–	HOT WATER CIRCULATING PUMP #2	600	3	60	40	3#6+#8 BOND WIRE- 25mmC	NO	NO		NO		YES	YES	YES	CHILLED WATER SOLENOID	RVAS	70A	YES
–	HOT WATER CIRCULATING PUMP #3	600	3	60	40	3#6+#8 BOND WIRE- 25mmC	NO	NO		NO		YES	YES	YES	CHILLED WATER SOLENOID	RVAS	70A	YES
–	HOT WATER CIRCULATING PUMP #4	600	3	60	20	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	YES	CHILLED WATER SOLENOID	FVNR	30A	YES
–	HOT WATER CIRCULATING PUMP #5	600	3	60	10	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	YES	CHILLED WATER SOLENOID	FVNR	15A	YES
–	HOT WATER FEED PUMP #1	600	3	60	25	3#8+#10 BOND WIRE- 19mmC	YES	YES	END SWITCH	NO		YES	YES	NO		FVNR	50A	YES
–	HOT WATER FEED PUMP #2	600	3	60	25	3#8+#10 BOND WIRE- 19mmC	YES	YES	END SWITCH	NO		YES	YES	NO		FVNR	50A	YES
–	HOT WATER FEED PUMP #3	600	3	60	25	3#8+#10 BOND WIRE- 19mmC	YES	YES	END SWITCH	NO		YES	YES	NO		FVNR	50A	YES
–	EXHAUST FAN #1 (TRANSFORMER ROOM)	600	3	60	7.5	3#10+#12 BOND WIRE- 19mmC	YES	YES	THERMOSTAT	NO		YES	YES	NO		FVNR	15A	YES
–	EXHAUST FAN #2 (TRANSFORMER ROOM)	600	3	60	7.5	3#10+#12 BOND WIRE- 19mmC	YES	YES	THERMOSTAT	NO		YES	YES	NO		FVNR	15A	YES
–	EXHAUST FAN #3 (TRANSFORMER ROOM)	600	3	60	7.5	3#10+#12 BOND WIRE- 19mmC	YES	YES	THERMOSTAT	NO		YES	YES	NO		FVNR	15A	YES
–	SUPPLY FAN - DIESEL ROOM	600	3	60	5/0.5	3#10+#12 BOND WIRE- 19mmC	YES	YES	THERMOSTAT / ATS	NO		YES	YES	NO		DSS	15A/3A	YES
–	RADIATOR FAN - ROOF	600	3	60	10	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		FVNR	15A	YES
–	EXHAUST FAN - CHILLER ROOM	600	3	60	3/4	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		FVNR	3A	YES
–	DOOR OPENER - MAIN FLOOR	600	3	60	3	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	YES	NO		–	15A	YES
–	POWER SUPPLY - BOILER #1	600	3	60	–	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	YES	NO		–	–	YES
–	POWER SUPPLY - BOILER #2	600	3	60	–	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	YES	NO		–	–	YES
–	POWER SUPPLY - BOILER #3	600	3	60	–	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	YES	NO		–	–	YES
–	BOILER #4 CONTROLS	600	3	60	–	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	YES	NO		–	–	–
–	WELDER OUTLET - MAIN FLOOR	600	3	60	–	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	NO	NO		–	–	YES
–	WELDER OUTLET - CHILLER ROOM	600	3	60	–	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	NO	NO		–	–	YES
–	HOIST - MAIN FLOOR	600	3	60	3	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		NO	NO	NO		–	15A	YES
–	DOWN BLOWING HEATER	600	3	60	10	3#10+#12 BOND WIRE- 19mmC	NO	YES	THERMOSTAT	YES	SELECTOR SWITCH	YES	YES	NO		FVNR	15A	NO

* MCC C/W CENTRAL MONITORING UNIT AND THREE SPARE STARTERS. SEE DRAWING E-10.

CLASS I, TYPE B
NEMA 12 ENCLOSURE

400A MAIN INCOMING
MOULDED CASE SWITCH

* MOTOR CONTROL CENTRE No. 3 (MCC"3")

600A HORIZONTAL BUS
400A VERTICAL BUS

600V, 3PH, 3W

MOTOR I.D.	LOAD DESCRIPTION	VOLT	PHASE	HERTZ	HP	POWER WIRING/CONDUIT	ELECTRICAL INTERLOCK	AUTOMATIC REMOTE CONTROL		MANUAL REMOTE CONTROL		COMMUNICATION NETWORK VIA CENTRAL MONITOR SYSTEM	120V CONTROL TRANSFORMER	REMOTE 120V OPERATING VALVE		COMBINATION STARTER TYPE	MCP SIZE	LOCAL DISCONNECT @ MOTOR
							Y/N	Y/N	TYPE	Y/N	TYPE	Y/N	Y/N	Y/N	TYPE			Y/N
I.D.#1	INDUCED DRAFT FAN #1	600	3	60	50	3#6+#8 BOND WIRE- 25mmC	YES	YES	RELAY	YES	SELECTOR SWITCH	YES	YES	NO		RVAS	100A	YES
I.D.#2	INDUCED DRAFT FAN #2	600	3	60	50	3#6+#8 BOND WIRE- 25mmC	YES	YES	RELAY	YES	SELECTOR SWITCH	YES	YES	NO		RVAS	100A	YES
I.D.#3	INDUCED DRAFT FAN #3	600	3	60	50	3#6+#8 BOND WIRE- 25mmC	YES	YES	RELAY	YES	SELECTOR SWITCH	YES	YES	NO		RVAS	100A	YES
–	ROOF EXHAUSTER FAN #1	600	3	60	1.5	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		FVNR	15A	NO
–	ROOF EXHAUSTER FAN #2	600	3	60	1.5	3#10+#12 BOND WIRE- 19mmC	NO	NO		NO		YES	YES	NO		FVNR	15A	NO
–	FRESH AIR BLOWER #1	600	3	60	7.5	3#10+#12 BOND WIRE- 19mmC	NO	NO		YES	SELECTOR SWITCH	YES	YES	NO		FVNR	15A	YES
–	FRESH AIR BLOWER #2	600	3	60	7.5	3#10+#12 BOND WIRE- 19mmC	NO	NO		YES	SELECTOR SWITCH	YES	YES	NO		FVNR	15A	YES
–	REVOLVING HEATER	600	3	60	5	3#10+#12 BOND WIRE- 19mmC	NO	NO		YES	SELECTOR SWITCH	YES	YES	NO		FVNR	15A	NO

* MCC C/W CENTRAL MONITORING UNIT AND THREE SPARE STARTERS. SEE DRAWING E-11.

Public Works Government Services Canada
Travaux publics Services Gouvernementaux Canada

National Capital
Capitale nationale

Property and Facilities Management
Gestion des immeubles
et des instalations

M. Fyfe-Fortin

Director O.S.S.
Directrice S.O.S.

Stantec

Stantec Consulting Ltd.
400 - 1505 Laperriere Ave.
Ottawa ON Canada
K1Z 7T1
Tel. 613.722.4420
Fax. 613.722.2799
www.stantec.com

LICENSED PROFESSIONAL ENGINEER
M. RIVARD
Feb 18, 2000
PROVINCE OF ONTARIO

1	ISSUED FOR TENDER	FEB/00
revisions		date

project title / titre du projet

CONFEDERATION HEIGHTS CENTRAL HEATING PLANT OTTAWA, ONTARIO

UPGRADE MCC'S

drawing title / titre du dessin

ELECTRICAL

NEW MCC SCHEDULE

scale	N.T.S. / echelle
designed by / concu par	S. WALKER
drawn by / dessine par	J. DUBEAU
reviewed by / examine par	M. RIVARD
approved by / approuve par	M. RIVARD
Job number / No du projet	408388
Dwg no. / Dessin no.	E-14 of 14