

File Name: P:\Projects\2011\11-0107-02\Doc\Control\ToBeIssued\DWG\11-0107-02_P2-E05-Rev 1.dwg - Tab: P2-E05 Plotted By: DDeroche 13/03/15 [Fri 10:00am]

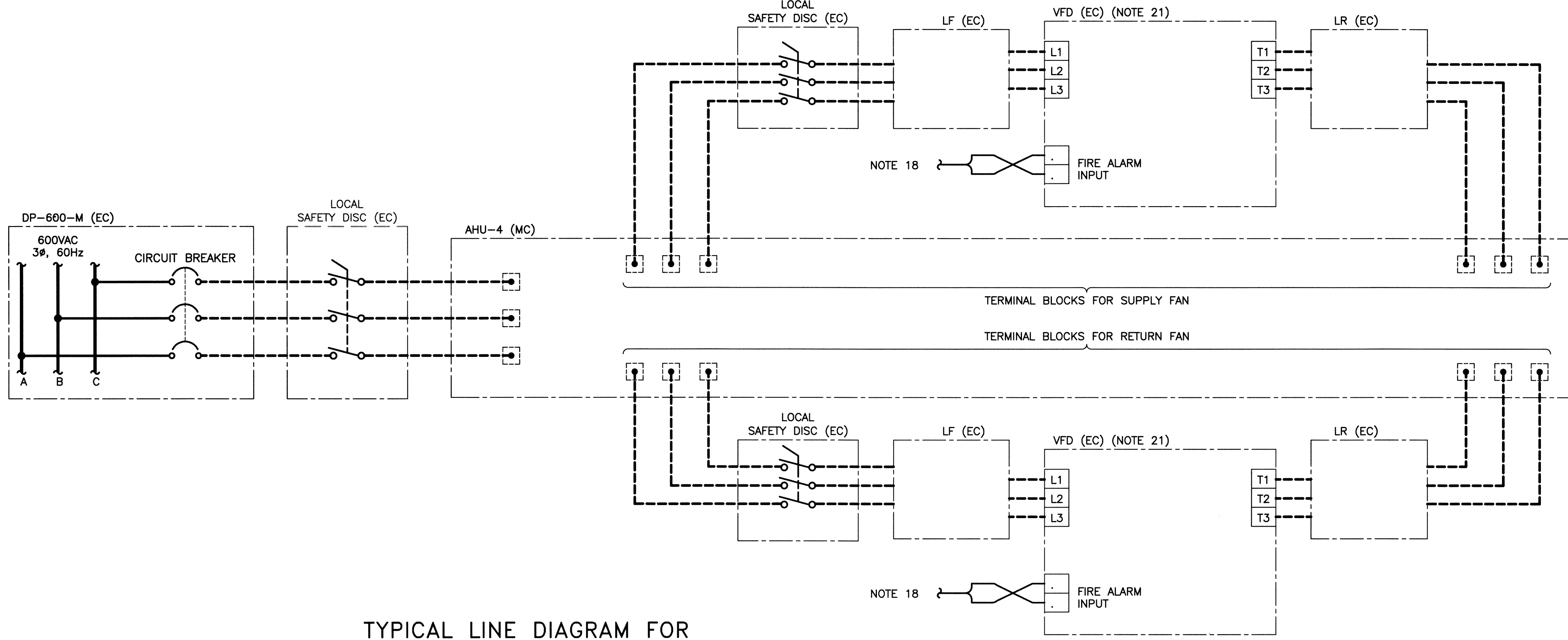
EQUIPMENT SCHEDULE																																		
EQUIPMENT TAG	SUPPLIED	INSTALLED	CONNECTED	DESCRIPTION	LOCATION	POWER REQUIREMENTS				SUPPLY PANEL				CABLE			STARTER		LOCAL DISC.		CONTROL		NOTES											
						HP	KW	MCA	VOLTAGE	PHASE	PANEL NAME	BREAKER	DISCONNECT SWITCH	TIME-DELAY FUSE	POLES	NUMBER OF RUNS	NUMBER OF WIRES	WIRE SIZE (AWG) (COPPER)	CONDUIT SIZE	SIZE	TYPE	SUPPLIED		INSTALLED	CONNECTED	TYPE (NOTE 15)	SUPPLIED	INSTALLED	CONNECTED					
																														OCP				
B-1	M	M	E	Boiler	Mech. Room				120	1	EXIST	15	.	.	1	1	2	12	16mm	.	.	.	3R	E	E	E	DDC	M	M	M	8;4			
B-2	M	M	E	Boiler	Mech. Room				120	1	EXIST	15	.	.	1	1	2	12	16mm	.	.	.	3R	E	E	E	DDC	M	M	M	8;4			
PU-1	M	M	E	Pump	Mech. Room	3			575	3	DP-600-M	15	.	.	3	1	3	12	16mm	1	VFD	E	E	E	3R	E	E	E	DDC	M	M	M	11;8;4;3;10	
PU-2	M	M	E	Pump (Standby)	Mech. Room	3			575	3	DP-600-M	15	.	.	3	1	3	12	16mm	1	VFD	E	E	E	3R	E	E	E	DDC	M	M	M	11;8;4;3;10	
GP-1	M	M	E	Glycol Pressure Package	Mech. Room				120	1	EXIST	15	.	.	1	.	.	.	16mm	.	.	.	.	E	E	E	DDC	M	M	M	8;4			
AHU-3	M	M	E	Air Handling Unit	Mezzanine			17	575	3	DP-600-M	25	.	.	3	1	3	10	21mm	.	.	.	WP	E	E	E	DDC	M	M	M				
SF-3	M	M	E	Air Handling Unit 3 Supply Fan	Mezzanine	7.5			575	3	AHU-3	.	.	.	3	1	3	10	21mm	.	VFD	E	E	E	3R	E	E	E	DDC	.	.	.	3;8	
RF-3	M	M	E	Air Handling Unit 3 Return Fan	Mezzanine	5			575	3	AHU-3	.	.	.	3	1	3	12	16mm	.	VFD	E	E	E	3R	E	E	E	DDC	.	.	.	3;8	
CU-3	M	M	E	Remote Condensing Unit (for AHU-3)	Roof				575	3	DP-600-M	60	.	.	3	1	3	6	27mm	.	.	.	WP	E	E	E	DDC	.	.	.	4;8			
AHU-4	M	M	E	Air Handling Unit	Roof			43	575	3	DP-600-M	50	.	.	3	1	3	6	27mm	.	.	.	WP	E	E	E	DDC	M	M	M				
SF-4	M	M	E	Air Handling Unit 4 Supply Fan	Roof	7.5			575	3	AHU-4	.	.	.	3	1	3	10	21mm	.	VFD	E	E	E	WP	E	E	E	DDC	.	.	.	3;8;12;18	
RF-4	M	M	E	Air Handling Unit 4 Return Fan	Roof	5			575	3	AHU-4	.	.	.	3	1	3	12	16mm	.	VFD	E	E	E	WP	E	E	E	DDC	.	.	.	3;8;12	
CU-4	M	M	E	Condensing Unit for AHU-4	Roof				575	3	AHU-4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	12;20		
CUH-1	M	M	E	Cabinet Unit Heater	SW Vestibule	frac.			120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
CUH-2	M	M	E	Cabinet Unit Heater	Stairwell	frac.			120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
CUH-3	M	M	E	Cabinet Unit Heater	Arena Ent	frac.			120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
CUH-4	M	M	E	Cabinet Unit Heater	Arena Ent-DressRm	frac.			120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
CUH-5	M	M	E	Cabinet Unit Heater	North Vestibule	frac.			120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
CUH-6	M	M	E	Cabinet Unit Heater	MainFlr-Mens	frac.			120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
CUH-7	M	M	E	Cabinet Unit Heater	2nd Flr Mens	frac.			120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
CUH-8	M	M	E	Cabinet Unit Heater	2nd Flr Womens	frac.			120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
CHU-9	M	M	E	Cabinet Unit Heater	2nd Flr Storage	frac.			120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
CUH-10	M	M	E	Cabinet Unit Heater	Front Vestibule	frac.			120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
CHU-11	M	M	E	Cabinet Unit Heater	Washroom	frac.			120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
UH-1	M	M	E	Unit Heater	Mechanical room				120	1	EXIST	15	.	.	1	.	2	12	16mm	.	.	.	M	E	E	LS	E	E	E	DDC	M	M	M	8;12;13;17
VV (TP)	M	M	E	VAV Box	Various				DDC	.	.	.	.	.	1	.	.	.	16mm	.	.	.	.	.	.	.	.	.	.	.	.	8;4;16		
DDC	M	M	E	DDC System	See Mechanical				120	1	EXIST	.	.	.	1	.	2	12	16mm	.	.	.	.	.	.	.	.	.	.	.	.	7;5;8;4		

EQUIPMENT SCHEDULE LEGEND:

O	CITY
E	ELECTRICAL CONTRACTOR
M	MECHANICAL CONTRACTOR
LS	LINE VOLTAGE SWITCH
HOA	HAND/OFF/AUTO SWITCH
VFD	VARIABLE FREQUENCY DRIVE
MAG	MAGNETIC STARTER
MAN	MANUAL STARTER
DDC	DIRECT DIGITAL CONTROL
FD	FUSED DISCONNECT
NFD	NON-FUSED DISCONNECT
ECP	EQUIPMENT CONTROL PANEL
FVNR	FULL VOLTAGE NON-REVERSING
FRA	FRACTIONAL HORSEPOWER MAGNETIC
FRAC	LESS THAN 1 HP

NOTES:

- 100% DUTY/STAND-BY OPERATION.
- 100% DUTY/STAND-BY OPERATION c/w INVERTER DUTY RATED MOTOR.
- TO BE CONTROLLED BY VFD.
- EQUIPMENT TO BE CONFIRMED ON SITE WITH MECHANICAL SUBCONTRACTOR AND FINAL SHOP DRAWINGS.
- REQUIRES A 120V RECEPTACLE.
- 120V CIRCUIT REQUIRED FOR BOILER CONTROL PANEL. PANEL TO BE LOCATED ON WALL ADJACENT TO BOILERS, EXACT LOCATION OF PANEL TBD ON SITE.
- COORDINATE NUMBER AND LOCATION OF DDC PANELS AND OPERATOR WORK STATIONS WITH CONTROLS SUBCONTRACTOR.
- REFER TO KGS MECHANICAL DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT.
- PROVIDE MANUAL WALL SWITCH C/W LABELLING.
- MOTOR DISCONNECT SWITCH TO BE C/W PRE-BREAK (AUXILIARY) CONTROL CONTRACTORS. THE WIRES FOR THIS CONTROL CONTACT SHALL BE RUN IN THE SAME RACEWAY AS THE POWER CONDUCTORS.
- STARTER TO BE C/W HAND/OFF/AUTO SWITCH.
- AHU-4 ALSO REQUIRES COORDINATION TO DETERMINE POWER FEED REQUIREMENTS FOR INTEGRAL CONDENSING UNIT.
- CIRCUITING SHALL BE BY CONTRACTOR. PROVIDE A 120V 15A SINGLE POLE CONNECTION. EXTEND 1/2" CONDUIT c/w #12 AWG RW90 FROM EQUIPMENT TO NEAREST PANEL. CONTRACTOR IS PERMITTED TO GROUP CIRCUITS WHERE APPROPRIATE.
- EXISTING PIECE OF EQUIPMENT. PROVIDE NEW STARTER AND LOCAL DISCONNECT.
- ALL CONTROL WIRING IS BY THE CONTROLS SUBCONTRACTOR. THE CONTRACTOR SHALL COORDINATE ALL STARTERS, VFD'S AND DISCONNECTS SHOP DRAWINGS WITH THE CONTROLS SUBCONTRACTOR PRIOR TO PURCHASING AND INSTALLATION. ELECTRICAL TO COORDINATE AND SUPPLY 120V POWER AS REQUIRED.
- ALL VAV BOXES TO BE POWERED BY THE CONTROLS SUBCONTRACTOR. CONTRACTOR TO COORDINATE AND PROVIDE ALL 120V POWER CIRCUITS FOR ALL CONTROL SYSTEMS POWER SUPPLIES.
- CUH PROVIDED WITH RELAY CONTROL. ELECTRICAL TO PROVIDE A LOCAL DISCONNECT MOUNTED IN CEILING SPACE OR INCONSPICUOUS LOCATION.
- PROVIDE A DUCT MOUNTED SMOKE DETECTOR ON THE SUPPLY AIR EXITING AHU-4 ALONG WITH A LOCAL CONTROL MODULE. SMOKE SHALL SHUT DOWN AHU-#4. PROVIDE A SHUT-DOWN OVERRIDE AT THE BUILDING ANNUNCIATOR. NEW DEVICES SHALL BE MOUNTED IN THE EXISTING CLASS 'A' ADDRESSABLE LOOP. NEW SECTIONS OF THE FIRE ALARM SHALL BE RE-VERIFIED. FIRE ALARM TO PROVIDE SHUTDOWN SIGNAL TO EACH VFD.
- ALL NEW ELECTRICAL EQUIPMENT SHALL BE SPRINKLER PROOF AS PER THE CURRENT CEC.
- CONDENSING UNIT IS SUPPLIED AND INSTALLED WITHIN THE AHU.
- VFD TO BE INSTALLED WITHIN THE BUILDING ON THE MEZZANINE LEVEL.
- THIS DRAWING IS DIAGRAMMATICAL ONLY AND SHOWS THE MINIMUM REQUIREMENTS. FINAL LINE DIAGRAM TO BE REVIEWED AND COORDINATED AT TIME OF SHOP DRAWING REVIEW. IT SHOULD BE NOTED THAT EACH AIR HANDLING UNIT IS COMPLETE WITH TWO (2) VFD'S AND (2) MOTORS (SUPPLY AND RETURN FAN). BOTH MOTORS SHALL BE INTERLOCKED TO SHUT DOWN.



1
TYPICAL LINE DIAGRAM FOR AHU-3 AND AHU-4 (NOTE 22)
SCALE: N.T.S.

LEGEND:

□	TERMINAL BLOCK
---	BY ELECTRICAL CONTRACTOR
---	BY EQUIPMENT VENDOR
EC	ELECTRICAL CONTRACTOR
MC	MECHANICAL CONTRACTOR



B.M.		
ELEV.		
DESIGNED BY	AP	
CHECKED BY	JLL	
DRAWN BY	GCN	
APPROVED BY	B	
1 RE-ISSUED FOR TENDER	13/03/08	AP
0 ISSUED FOR TENDER	12/04/11	AP
NO. REVISIONS	DATE	BY

KGS GROUP
CONSULTING ENGINEERS & PROJECT MANAGERS
WINNIPEG (204) 896-1209
THUNDER BAY (807) 345-2233

DESIGNED BY: AP
CHECKED BY: JLL
DRAWN BY: GCN
APPROVED BY: B

HOR. SCALE: AS SHOWN
VERTICAL: .
RELEASED FOR CONSTRUCTION: .
DATE: .

ENGINEER'S SEAL
ARND PANKEWICH
Member 23235
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT DRAWING NO. P2-E05

THE CITY OF WINNIPEG
PLANNING, PROPERTY AND DEVELOPMENT DEPARTMENT

PROJECT TITLE: FORT ROUGE LEISURE CENTRE HVAC UPGRADE - PHASE 2 BID OPPORTUNITY NO. 190-2013

SHEET 001 OF 001
COMPUTER FILE NAME: 11-0107-02_P2-E05
CITY DRAWING NUMBER

ELECTRICAL SCHEDULES