SUPPLY AIR OUTLET SCHEDULE

DESIGNATION	S-1	S-2	S-3	S-4	S-5	S-6
Flow Characteristic:						
Mounting:	Side / Wall	Ceiling, T-Bar	Ceiling, T-Bar	Ceiling, T-Bar	Ceiling - Dry Wall	Side / Duct
Outlet Type:	Grille	Diffuser	Diffuser	Diffuser	Linear Diffuser	Grille
Nominal Face Size (mm)	200 x 200	600 x 600	600 x 600	600 x 600	1200 long - 2 slot	450 x 250
Connection Size (mm)		150	200	250	150	
Airflow Range: L/s	47	94	180	235	50	315
Maximum Noise Criteria: dB(A)	NC 30	NC 30	NC 30	NC 30	NC 30	NC 30
Accessories:	Volume damper	Volume damper	Volume damper	Volume damper	Plenum	Volume damper
E. H. Price Model Ref:	520D	SCD	SCD	SCD	SDA 50	520D

RETURN AIR OUTLET SCHEDULE

DESIGNATION	R-1	R-2	R-3	R-4
Mounting:	Ceiling, T-Bar	Ceiling, T-Bar	Side-w all	Side-w all
Outlet Type:	Register	Register	Grille	Grille
Nominal Face Size:	300 x 300	600 x 300	800 x 300	200 x 100
Border Size:				
Airflow Range: (L/s)	236	472	566	50
Maximum Noise Criteria: dBA	NC 30	NC 30	NC 30	NC 30
Accessories:				
E. H. Price Model Reference:	Series 80	Series 80	530	530

EXHAUST AIR OUTLET SCHEDULE

DESIGNATION	E-1	E-2	E-3	E-4	E-5
Mounting:	Ceiling, T-Bar/Dryw all	Side/Duct	Side/Duct	Side/Duct	Side Wall (Low Level)
Outlet Type:	Register	Register	Register	Register	Register
Nominal Face Size:	300 x 300	500 x 250	350 x 200	150 x150	450 x350
Border Size:					
Airflow Range: (L/s)	330	305	200	50	50
Maximum Noise Criteria: dBA	NC 30	NC 30	NC 30	NC 30	NC 30
Accessories:	Volume damper	Volume damper	Volume damper	Volume damper	Volume damper
E. H. Price Model Reference:	80 DAL	530 D	530 D	530 D	95D/A/B12

EXPANSION TANK SCHEDULE

	DESIGNATION	ET-1	ET-2	ET-3
	Location:	Mechanical Room	Mechanical Room	Mechanical Room
	Service:	Geothermal Loop	Boiler Hot Water Loop	Infloor Hot Water Loop
	Exchanger Tank Type:	Full Acceptance	Full Acceptance	Full Acceptance
	Fluid Type	Methanol Water	Water	Water
	Tank Volume: L	82	30	41
	Acceptance Volume: L	43	9	9
	Minimum Pressure: kPa	152	138	138
	Maximum Pressure: kPa	414	276	386
	Minimum Supply Temp: °C	-4	21	21
	Maximum Supply Temp: °C	43	54	54
	Model Reference:	AX-40V	AX-15V	AX-20V

HEAT EXCHANGER

	DESIGNATION	HX-1
	Location:	MECHANICAL ROOM
	Service:	HOT WATER/ METHANOL
	Heat Exchanger Type:	PLATE & FRAME
	Capacity: kW	71
HOT SIDE	Fluid:	HOT WATER
HOT SIDE	Fluid Flow l/s	1.53
HOT SIDE	Entering Fluid Temp (°C):	38
HOT SIDE	Leaving Fluid Temp (°C):	27
HOT SIDE	Fluid Press. Drop (KPa):	6
COLD SIDE	Fluid:	15% METHANOL
COLD SIDE	Fluid Flow (L/s):	3.20
COLD SIDE	Entering Fluid Temp (°C):	-2
COLD SIDE	Leaving Fluid Temp (°C):	3
COLD SIDE	Fluid Press. Drop (kPa):	27
	Operating Weight: (kg)	115
	Model Reference:	ITT GPX P-07

FAN COIL UNIT SCHEDULE

	DESCRIPTION	FC-1	FC-2	FC-3	FC-4	FC-5	FC-6	FC-7
	Max. Airflow : (l/s)	150	283	118	333	333	283	300
	Ext. Static Press.: (Pa)	50	50	50	50	50	149	0
	Sound Press Level (Low-Mid-Hi) (dBA)	22-24-28	30-34-37	22-24-28	30-35-40	30-35-40	28-32-35	28-32
HEAT	Total Capacity: (kW)	2.64	5.86	1.96	7.91	7.91	5.86	5.86
HEAT	Entering Air Temp.: (+C)	21.1	21.1	21.1	21.1	21.1	21.1	21.1
HEAT	Leaving Air Temp.: (°C)	35.7	38.3	34.9	40.8	40.8	38.3	37.3
COOL	Total Capacity: (kW)	2.17	4.92	1.46	6.56	6.56	4.92	4.92
COOL	Sensible Capacity: (kW)	1.87	3.98	1.46	5.07	5.07	3.98	3.98
COOL	Entering Air Temp.: (+C)	23.9	23.9	23.9	23.9	23.9	23.9	23.9
COOL	Leaving Air Temp.: (°C)	13.5	12.2	13.6	11.3	11.3	12.2	12.9
ELEC.	Power: (kW)	0.060	0.090	0.050	0.120	0.120	0.110	0.050
ELEC.	Voltage: (V/Ph/Hz)	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60
	Drive Type:	Direct	Direct	Direct	Direct	Direct	Direct	Direct
	Liquid/Gas lines (mm)	6/12	6/12	6/12	9/16	9/16	6/12	6/12
		C/W DRAIN PUMP KIT AND FILTER BOX	C/W DRAIN PUMP KIT AND FILTER BOX	C/W DRAIN PUMP KIT AND FILTER BOX	C/W DRAIN PUMP KIT AND FILTER BOX	C/W DRAIN PUMP KIT AND FILTER BOX	C/W DRAIN PUMP KIT AND FILTER BOX	C/W DRAIN PUMP KIT AND FILTER BOX
	Model Reference: (Mitsubishi)	PEFY-P08NMSU	PEFY-P18NMSU	PEFY-P06NMSU	PEFY-P24NMSU	PEFY-P24NMSU	PEFY-P18NMAUE	PLFY-P18NBMU-E
NOTES	1. Cooling conditions based on Indoor: 23.9C (75F) DBT &17.2C (63F) WBT							
NOTES	2. Heating conditions based on Indoor: 21.1C (70F) DBT & 12.2C (54F) WBT							
NOTES	3. Features: 25%-100% capacity control, condensate pump, electronic expansion valve, R410A refrigerant, 30% (minimum) Efficiency filters							
NOTES	4. Models indicated are based on Mitsubishi City Multi System.							

MAKE UP UNIT

	DESCRIPTION	MUA-1
SUPPLY FAN	Airflow : l/s	1,652
SUPPLY FAN	External Static Press.: Pa	149
SUPPLY FAN	Fan Speed: RPM	1,800
SUPPLY FAN	Fan/Wheel type	VFD
SUPPLY FAN	Motor Size: kW	4
SUPPLY FAN	Electrical Characteristics: V/Ph/Hz	208/3/60
PRE	Efficiency to ASHRAE 52	30%
PRE	Average Face Velocity: m/m	137
FINAL	Efficiency to ASHRAE 52	60%
FINAL	Average Face Velocity: m/m	137
EXH	Efficiency to ASHRAE 52	60%
EXH	Average Face Velocity: m/m	137
PREHEAT COIL	Airflow : l/s	1,652
PREHEAT COIL	Entering Air Temperature: °C	-33
PREHEAT COIL	Leaving Air Temperature: °C	21
PREHEAT COIL	Capacity (kW)	132
PREHEAT COIL	Maximum face velocity: m/m	137
PREHEAT COIL	Air Pressure Drop: Pa	
PREHEAT COIL	Heat Transfer Fluid:	Natural Gas
PREHEAT COIL	Manufacturer	Engineered Air

DUCT HEATER SCHEDULE

DESCRIPTION	DH-1
Airflow : L/s	283
Air Velocity (m/min)	171.12
Input Power (kW)	12.00
Electrical Characteristics: V/Ph/Hz	208/3/60
Duct Diameter: (mm)	300 x 250
Signal	Modulating
Model: (Neptronic)	DF C00H

REFRIGERANT HEAT EXCHANGER SCHEDULE

DESCRIPTION	AU-1	AU-2
COOLING CAPACITY, KW	21	11
POWER INPUT, KW	0.015	0.015
HEATING CAPACITY, KW	23	12
POWER INPUT, KW	0.015	0.015
NET WEIGHT, KGs	38	35
CIRCULATING WATER RANGE L/s	0.33 - 1.2	0.33 - 1.2
ENTERING WATER TEMPERATURE, °C	26.7	26.7
LEAVING WATER TEMPERATURE, °C	37.8	37.8
SOUND PRESSURE LEVEL (dBa)	29.0	29.0
DIMENSIONS: (mm) H X W X D	800 x 450 x 300	800 x 450 x 300
ELECTRICAL: V/PH/HZ	208/1/60	208/1/60
REFRIGERANT TYPE:	R410A	R410A
MODEL REFERENCE (MITSUBISHI)	PWFY-P72NMU-E-AU	PWFY-P36NMU-E-AU
NOTES 1. Models indicated are based on Mitsubishi City Multi System with R410A refrogerant.		
NOTES 2. To be supplied with PAR-21 WMA controllers		

PUMP SCHEDULE

DESCRIPTION	P-1	P-2	P-3	P-4
Service:	GROUND WATER-GEOTHERMAL LOOP	GROUND WATER-GEOTHERMAL LOOP	BOILER LOOP	IN-FLOOR HEATING
Fluid:	40% GLYCOL	40% GLYCOL	WATER	WATER
Fluid Flow rate: (l/s)	3.20	3.20	1.51	0.69
Head: (kPa)	194	194	122	149
Pump Speed: (RPM)	1,750	1,750	1,750	1,750
Motor Size: (kW)	2.250	2.250	0.750	0.375
Electrical Characteristics: (V/Ph/Hz)	208/3/60	208/3/60	208/3/60	208/3/60
Pump Type:	Inline	Inline	Inline	Inline
Arrangement:	Duty	Standby		
Controls:	Constant Speed	Constant Speed	Constant Speed	Constant Speed
Model Reference:	ITT SERIES 80	ITT SERIES 80	ITT SERIES 90	ITT SSV-2SVB
Size:	1.5X1.5X9.5	1.5X1.5X9.5	1-1/2A	

ENERGY RECOVERY

	DESCRIPTION	ER-MUA-1
SUPPLY Summer	Max. Airflow : (L/s)	283
SUPPLY Summer	Entering Air Temp. (DBT): (°C)	30.6
SUPPLY Summer	Entering Air Temp. (WBT): (°C)	20.0
SUPPLY Summer	Leaving Air Temp. (DBT): (°C)	21.0
SUPPLY Summer	Leaving Air Temp. (WBT): (°C)	7.5
SUPPLY Summer	External Static Press: (Pa)	199
SUPPLY Summer	Enthalpy Recovery (%)	62
SUPPLY Summer	Heat Recovery: (kW)	3
SUPPLY Winter	Max. Airflow : (L/s)	283
SUPPLY Winter	Entering Air Temp. (DBT): (°C)	0.0
SUPPLY Winter	Entering Air Temp. (WBT): (°C)	-6.7
SUPPLY Winter	Leaving Air Temp. (DBT): (°C)	14.6
SUPPLY Winter	Leaving Air Temp. (WBT): (°C)	6.4
SUPPLY Winter	External Static Press: (Pa)	199
SUPPLY Winter	Enthalpy Recovery (%)	44
SUPPLY Winter	Heat Recovery: (kW)	17
EXHAUST Summer	Max. Airflow : (L/s)	283
EXHAUST Summer	Entering Air Temp. (DBT): (°C)	23.9
EXHAUST Summer	Entering Air Temp. (WBT): (°C)	18.3
EXHAUST Summer	External Static Press: (Pa)	199
EXHAUST Winter	Max. Airflow : (L/s)	283
EXHAUST Winter	Entering Air Temp. (DBT): (°C)	21.1
EXHAUST Winter	Entering Air Temp. (WBT): (°C)	14.4
EXHAUST Winter	External Static Press: (Pa)	199
ELEC	Power: (W)	596
ELEC	Voltage: (V/Ph/Hz)	208/1/60
	Model: Lossnay	LGH-F600RX3-E

BOILER SCHEDULE

DESIGNATION	B-1
Location:	MECHANICAL ROOM
Service:	HOT WATER HEATING
Boiler Type:	CONDENSING BOILER
Max. Input (KW)	99
Max. Output (KW):	93
Min. Input (KW)	25
Min. Output (KW):	24
Thermal Efficiency (Gas) %	97.4
Fluid:	Water
Fluid Flow (L/s):	1.51
Entering Fluid Temp (°c):	32
Leaving Fluid Temp (°C):	43
Fluid Press. Drop (kPa):	1.4
Turndown / # of Stages:	5
Electrical - V/Ph/Hz:	120/1/60
Boiler Power Consumption (W)	125
Fan - SP (Pa):	119
Fan - speed (rpm):	1400-5100
Flue Connection Diameter (mm):	152
Accessories:	COMPLETE WITH NEUTRALIZING KIT
Operating Weight (kg):	115
Dimensions: L x W x H (mm)	1190 X 450 X 1200
Model Reference:	DEDIETRICH C230-80 ECO-A

CONDENSING UNIT SCHEDULE

	DESCRIPTION	CU-1	CU-2
	COOLING CAPACITY, KW	35	35
	POWER INPUT, KW	5.25	7.65
	HEATING CAPACITY, KW	28	28
	POWER INPUT, KW	5.44	7.52
	NET WEIGHT, KG	257	260
	COMMPRESSER TYPE	INVERTER SCROLL HERMETIC	INVERTER SCROLL HERMETIC
	COMPRESSOR STARTING METHOD	INVERTER	INVERTER
	COMPRESSOR MOTOR OUTPUT, KW	8.5	8.5
	SOUND PRESSURE LEVEL (dBa)	51.0	51.0
	DIMENSIONS: (MM) H X W X D	1100 x 880 x 550	1100 x 880 x 550
	ELECTRICAL: V/PH/HZ	208/3/60 - 3 WIRE	208/3/60 - 3 WIRE
	REFRIGERANT TYPE:	R410A	R410A
	MODEL REFERENCE: (MITSUBISHI)	PQRY-P120THMU-A	PQRY-P120THMU-A
NOTES	1. Cooling conditions based on Indoor: 23.9C (75F) DBT &17.2C (63F) WBT; Water: 38 C (100 F)		
NOTES	2. Heating conditions based on Indoor: 21.1C (70F) DBT & 12.2C (54F) WBT; Water: -1 C (30 F)		
NOTES	3. Models indicated are based on Mitsubishi City Multi System with R410A refrogerant.		
NOTES	4. To be connected with twinning kit		

MANIFOLD SCHEDULE

DESCRIPTION	MF-1	MF-2	MF-3	MF-4
NUMBER OF BRANCHES	3	4	4	4
TEMPERATURE RANGE, °C	20-70	20-70	20-70	20-70
ACCESSORIES	-PROVIDE WITH CONCEALED CABINET -EACH CIRCUIT TO BE PROVIDED WITH ACTUATOR, BALANCING VALVE AND ISOLATION VALVE	-PROVIDE WITH CONCEALED CABINET -EACH CIRCUIT TO BE PROVIDED WITH ACTUATOR, BALANCING VALVE AND ISOLATION VALVE	-PROVIDE WITH CONCEALED CABINET -EACH CIRCUIT TO BE PROVIDED WITH ACTUATOR, BALANCING VALVE AND ISOLATION VALVE	-PROVIDE WITH CONCEALED CABINET -EACH CIRCUIT TO BE PROVIDED WITH ACTUATOR, BALANCING VALVE AND ISOLATION VALVE
MODEL	REHAU- PROBALANCE	REHAU- PROBALANCE	REHAU- PROBALANCE	REHAU- PROBALANCE

EXHAUST FAN SCHEDULE

DESCRIPTION	EF-1A	EF-1B	EF-2	EF-3	EF-4	EF-5	EF-6	EF-7	EF-8
Service:	APPARATUS BAY TRUCK EXHAUST	APPARATUS BAY TRUCK EXHAUST	APPARATUS BAY EXHAUST	TURN OVER ROOM	MAINTENANCE SHOP	EXERCISE ROOM	MECHANICAL ROOM	KITCHEN EXHAUST	MAINTENANCE SHOP
Airflow rate: L/s	282.6	282.6	940	940	190	50	305		125
External Static Press: Pa	1200	1200	150	125	125	75	75		50
Fan Speed: RPM	3450	3450	1725	1725	1725	1725	1725		1555
Motor Size: kW	2.25	2.25	0.56	0.38	0.13	0.13	0.19		
Electrical Characteristics: (V/Ph/Hz)	208/3/60	208/3/60	208/3/60	208/1/60	120/1/60	120/1/60	120/1/60		120/1/60
Fan Type:	Centrifugal-Roof Exhaust	Centrifugal-Roof Exhaust	Centrifugal-Inline Exhaust	Centrifugal-Roof Exhaust	Centrifugal-Roof Exhaust	Centrifugal-Roof Exhaust	Centrifugal-Roof Exhaust		Dryer Booster Fan
Model Reference:	PLYMOVENT	PLYMOVENT	BSQ-130-7	GB-131-5	GB-081-6	GB-071-6	BSQ-90-4		Reversomatic PWS300L
Notes			VFD	2-SPEED				SEE MAU-2 SCHEDULE	Interlocked with Dryer

KITCHEN HOOD MAKE-UP UNIT AND FANS SCHEDULE

	DESCRIPTION	MAU-2
BURNER	Gas Input (kW)	20.22
BURNER	Gas Output (kW)	18.61
BURNER	Gas Type	Natural Gas
EXHAUST FAN- EF-7	Service:	KITCHEN EXHAUST HOOD
EXHAUST FAN- EF-7	Airflow rate: L/s	329.7
EXHAUST FAN- EF-7	External Static Press: Pa	1200
EXHAUST FAN- EF-7	Fan Speed: RPM	3450
EXHAUST FAN- EF-7	Motor Size: kW	0.25
EXHAUST FAN- EF-7	Electrical Characteristics: (V/Ph/Hz)	115/1/60
EXHAUST FAN- EF-7	Model Reference:	NRTPA-D76-DU33HFA
SUPPLY FAN	Airflow rate: L/s	296.73
SUPPLY FAN	External Static Press: Pa	95
SUPPLY FAN	Fan Speed: RPM	1260
SUPPLY FAN	Motor Size: kW	0.375
SUPPLY FAN	Electrical Characteristics: (V/Ph/Hz)	115/1/60
SUPPLY FAN	Model Reference:	NRTPA-D76-DU33HFA
FAN	Fan Accessories	Inlet Pressure Guage Grease Box Motorized Intake Damper Freezestat
HOOD	Hood Accessories	Complete with Fire Suppression Kit

BC CONTROLLER SCHEDULE

DESCRIPTION	BC-1
NUMBER OF BRANCHES	13
COOLING POWER INPUT, KW	0.178
HEATING POWER INPUT, KW	0.086
ELECTRICAL: V/PH/HZ	208/1/60
NET WEIGHT, KGs	67.0
ACCESSORIES	DRAIN CONNECTION WITH FLEXIBLE HOSE AND INSULATION
MODEL REFERENCE	MITSUBISHSI CMB-P1013NU-GA

INFRA-RED REHEAT TUBE SCHEDULE

DESCRIPTION	RT-1	RT-2
Area Served:	APPARATUS BAY	APPARATUS BAY
Total Heating Capacity: (KW)	37	37
Total Length (m)	9.15	9.15
Voltage: (V/Ph/Hz)	115/1/60	115/1/60
FLA	0.8	0.8
Net Weight (kg)	70	70
Model Reference:	Reznor VR-125-30	Reznor VR-125-30
Details		

ISSUES:

NO.	DATE	DESCRIPTION
1	MAY 14, 2010	ISSUED FOR CLIENT REVIEW
2	MAY 19, 2010	ISSUED FOR CLIENT REVIEW
3	SEPT. 24, 2010	ISSUED FOR BUILDING PERMIT
4	DEC. 10, 2010	ISSUED FOR TENDER

VRM
VANDERWESTEN RUTHERFORD MANTEGON INC.
CONSULTING STRUCTURAL/MECHANICAL/ELECTRICAL ENGINEERS
LONDON - HAMILTON - WINDSOR - OTTAWA
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PROJECT NAME:

NEW WINNIPEG STATION No. 27 PROJECT

SAGE CREEK, WINNIPEG, MANITOBA

DRAWING TITLE:

SCHEDULES

PROJECT NORTH:

STAMP: VRM #10-013

NOT VALID FOR CONSTRUCTION UNLESS SIGNED

SCALE: NTS

PROJECT NO.: 2261

DATE: DECEMBER 10, 2010

ISSUED: DECEMBER 10, 2010

FILE NAME:

DRAWN BY: MC

CHECKED BY: WAR

DRAWING NO.: M6.1