PIPEWORK AND ASSOCIATED EQUIPMENT

- BALL VALVE
- BUTTERFLY VALVE
- NON-RETURN VALVE
- SAFETY VALVE
- FLOW MEASURING ORIFICE
- DRAIN COCK
- STRAINER
- TEST POINT
- UNION
- FLANGES
- AUTOMATIC AIR VENT
- CIRCULATION PUMP
- DIAPHRAGM TYPE EXPANSION TANK
- THERMAL INSULATION

PIPEWORK AND ASSOCIATED EQUIPMENT

- KILOWATTHOUR METER THREE PHASE
- ENERGY/HEAT METER
- FLOW METER
- DIFFERENTIAL PRESSURE SWITCH
- TEMPERATURE SENSOR
- PRESSURE GAUGE
- ELECTRIC ISOLATOR SINGLE PHASE
- ELECTRIC ISOLATOR THREE PHASE

MECHANICAL SERVICES ABRREVIATION

AAV	AUTOMATIC AIR VENT
DC	DRAIN COCK
PU	PRESSURISATION UNIT
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
VSD	VARIABLE SPEED DRIVE
150ø / 468	ORIFICE PLATE SIZE AND Kvs VALUE

PIPE LINE TYPES

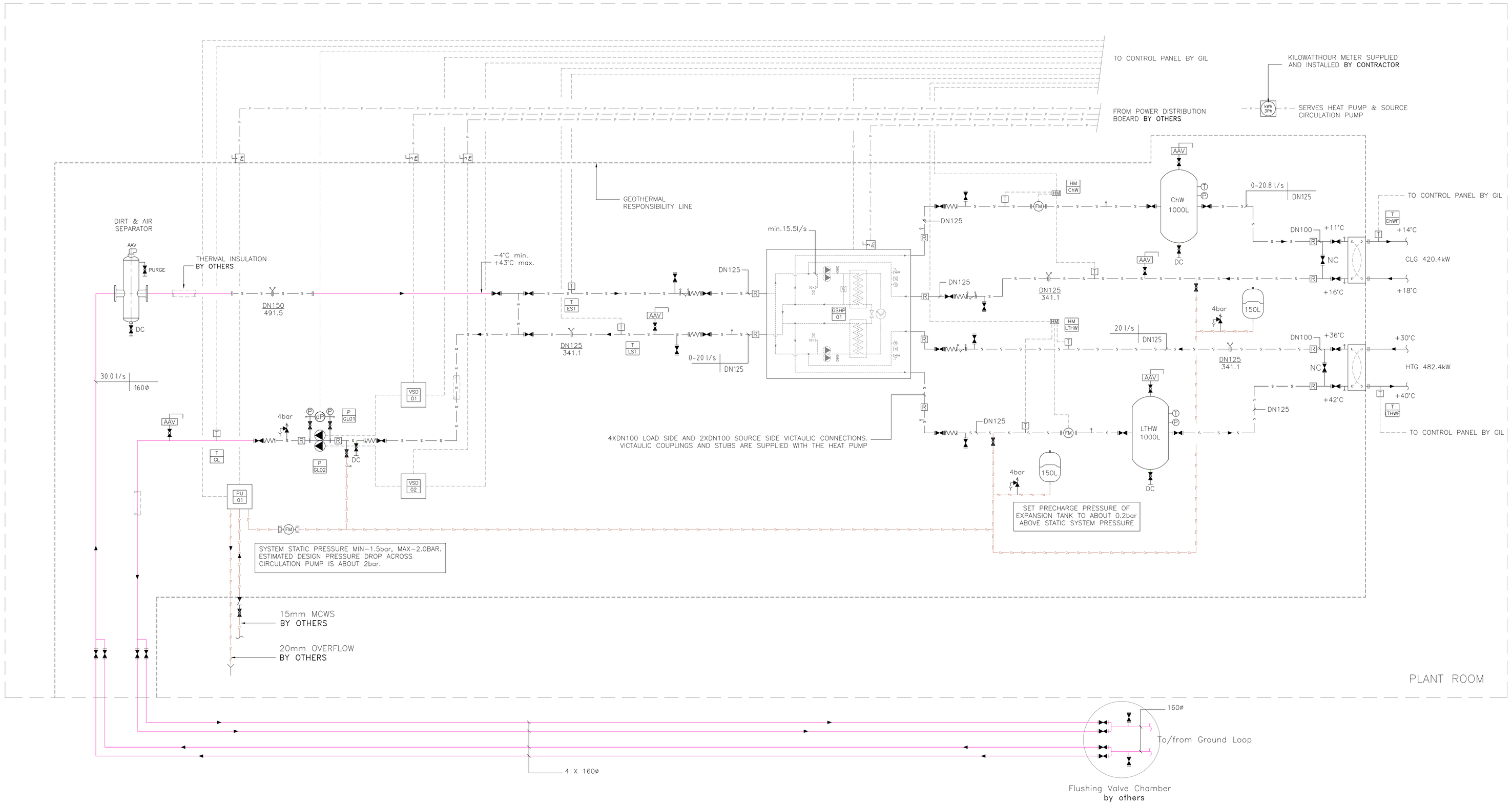
- 125ø PE100 PIPE
- 160ø PE100 PIPE
- STEEL PIPE
- COPPER PIPE

CABLE LINE TYPES

- POWER CONNECTION **BY OTHERS**
- CONTROL CONNECTIONS **BY OTHERS**
- CONNECTION BY GIL

EQUIPMENT SCHEDULE

DESCRIPTION	REFERENCE	QTY.	MANUFACTURER	MODEL	ELECTRICAL SUPPLY	FULL LOAD CURRENT (A)	MAX. INRUSH CURRENT (A)	MAX POWER INPUT (kWe)	HYDR. CONN. SIZE	LOAD FLOW (L/S)	SOURCE FLOW (L/S)	DIMENSIONS (mm) DEPTH	LENGTH	HEIGHT	UNIT GROSS WEIGHT (kg)	REFGRT.
HEAT PUMP	GSHP 01	1	Clivet	WSHF-XSC 180F	400/3/50	278.0	655.0	229.0	4"	21.00	17.40	954	4750	1886	2464	R410a
CIRCULATION PUMP	P GL01/GL02	2	Grundfoss	TPD 100-250/4	400/3/50	20.40	192.50	11.00	4"	-	30.00	1158	670	961	616	-
VARIABLE SPEED DRIVE	VSD 01/02	2	Grundfoss	CUE 96754723	400/3/50	24.00	-	11.00	-	-	-	260	242	480	23	-
DP SWITCH C.Pump	DP	3	ALCO Controls	FD113	230/1/50	3.00	-	-	1/4"	-	-	63	128	175	1	-
HEAT METER	LTHW & CHW	2	Actaris	CF51	Batteries				-	-	-	55	149	119	1	-
FLOW METER	CHW	1	Nubis	NWN Nubis	-	-	-	-	5"	21.00	-	-	250	377	5	-
FLOW METER	LTHW	1	Nubis	NWN Nubis	-	-	-	-	5"	21.00	-	-	250	377	5	-
PRESSURISATION UNIT	PU 01	1	Grundfos	MMP50802	230/1/50	1.5	-	0.025		0.02	-	300	200	55	9	-
BUFFER TANK, 1000 L	CHW & LTHW	2	McDonald's Eng.	1000L	-	-	-	-	5"	-	-	800	-	2000	120	-
HEAT EXCHANGER	Cooling, 420kW	1	Gantner	TL0500KGBL-1000	-	-	-	-	4"	25.16	21.00	550	1000	1745	875	-
HEAT EXCHANGER	Heating, 482kW	1	Gantner	TL0250KGBL-750	-	-	-	-	4"	11.50	20.00	550	750	1265	553	-
EXPANSION VESSEL	150L	2	Boss	Boss Heating 150	-	-	-	-	1"	-	-	484 dia	`	1024	28	-
DIRT & AIR SEPARATOR	DAS 01	1	Spirovent	SV2-150-F	-	-	-	-	5"	-	30.00	324 dia	635	1045	86	-



geothermal international

Notes:

1. To be read with all other project drawings and specifications.
2. Report any errors, omissions or changes to/in this drawing to Geothermal International.
3. All builders work in connection with Geothermal Installation by others.
4. Air vents shall be installed at high points of the system.
5. Drain cocks shall be installed at low points of the system.
6. All load side pipe work and ancillaries designed, supplied and installed **by others.**
7. Thermal Insulation of source side pipe work **by others.**
8. Suitably sized Isolators/breakers to be located within 1m of electrical equipment. Isolators/ breakers shall be supplied and installed **by others.**
9. Wall mounted pressurization unit to exclude expansion vessel.
10. Controls supplied & installed by GI
    Control wiring by GI
    Electrical supply & Power distribution **by others.**
    Electrical wiring **by others.**
    Control Panels by GI
    Power Distribution panels **by others.**
    Final electrical connections by GIL.
    BMS interface **by others.**
    BMS **by others.**
11. Mains cold water service (MCWS) supplied to pressurization unit should be regulated to 4bar max, 1.5bar min. and should be fitted with a device achieving category 4 backflow prevention **by others.**
12. 45 No. 40ø pipe Boreholes to an effective geothermal depth of 150 m to serve 1No. WSHF-XSC 180F Clivet Heat Pump.

FOR CONSTRUCTION

Rev	By	Chkd	Apprvd	Date	Description
C0	MP	RM	RM	20-Oct-11	Issued For Construction
C	MP			04-Aug-11	Issued For Approval
B	MP	RM	RM	13-Jul-11	Issued For Approval
A	MP	AJH		18-Apr-11	Work In Progress / Issued For Comments

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Project

South Camden Community School

Drawing

Geothermal Plant Room Schematic

Drawn by:	MP	Date:	13-Apr-11
Checked by:		Date:	
Approved by:		Date:	
Drawing No.	SCCS-GIL-0003	Revision	C0

Drawing Scale: NTS