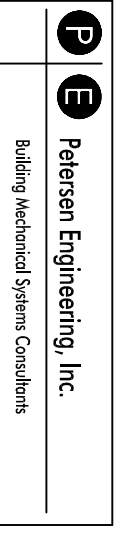


CONSULTANTS:

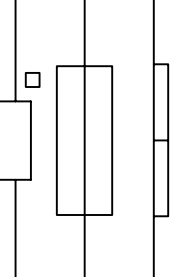
CONSTRUCTION MANAGER:
BRUSS CONSTRUCTION INC.
PO BOX 456
BRADFORD, NH 03221
T: 603 938 2069 F: 603 938 2621
ENVIRONMENTAL/LEED:
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T: 603 224 9945 F: 603 228 0423
TIMBERFRAME DESIGN:
PARADIGM BUILDERS
ED LEVINE, TERRACE
5 GARFIELD AVENUE
LEBANON, NH 03755
T: 603 443 2002
MECHANICAL:
PETERSEN ENGINEERING
PO BOX 4774
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T: 603 436 4233 F: 603 436 4294
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105 PO BOX 29
N. PORTSMOUTH, VT 05150
T: 802 886 2261 F: 802 886 2280
LIGHTING & DAYLIGHTING:
J&W ASSOCIATES
JIM STOCKMAN
100 BOX 659A 4 WOODLAWN DRIVE
KELLEYVILLE, VT 05747
T: 207 967 5223 F: 207 967 5469
WASTE MANAGEMENT:
CLAUS NEW ENGLAND
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WILVER, MA 01945
T: 978 794 9400 F: 978 794 9444



Bulldog Mechanical Systems Consultants
Peterson, NH 03802
603 436 4233 F
436 436 4294

REVISION	DATE	COMMENTS
1	8/31/06	ADDENDUM #1
2	9/28/06	ADDENDUM #2
3	12/1/06	ADDENDUM #3
4	04/06/07	WEISSMANN

KEY PLAN:



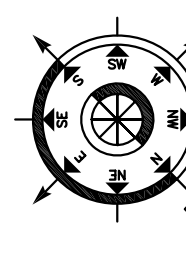
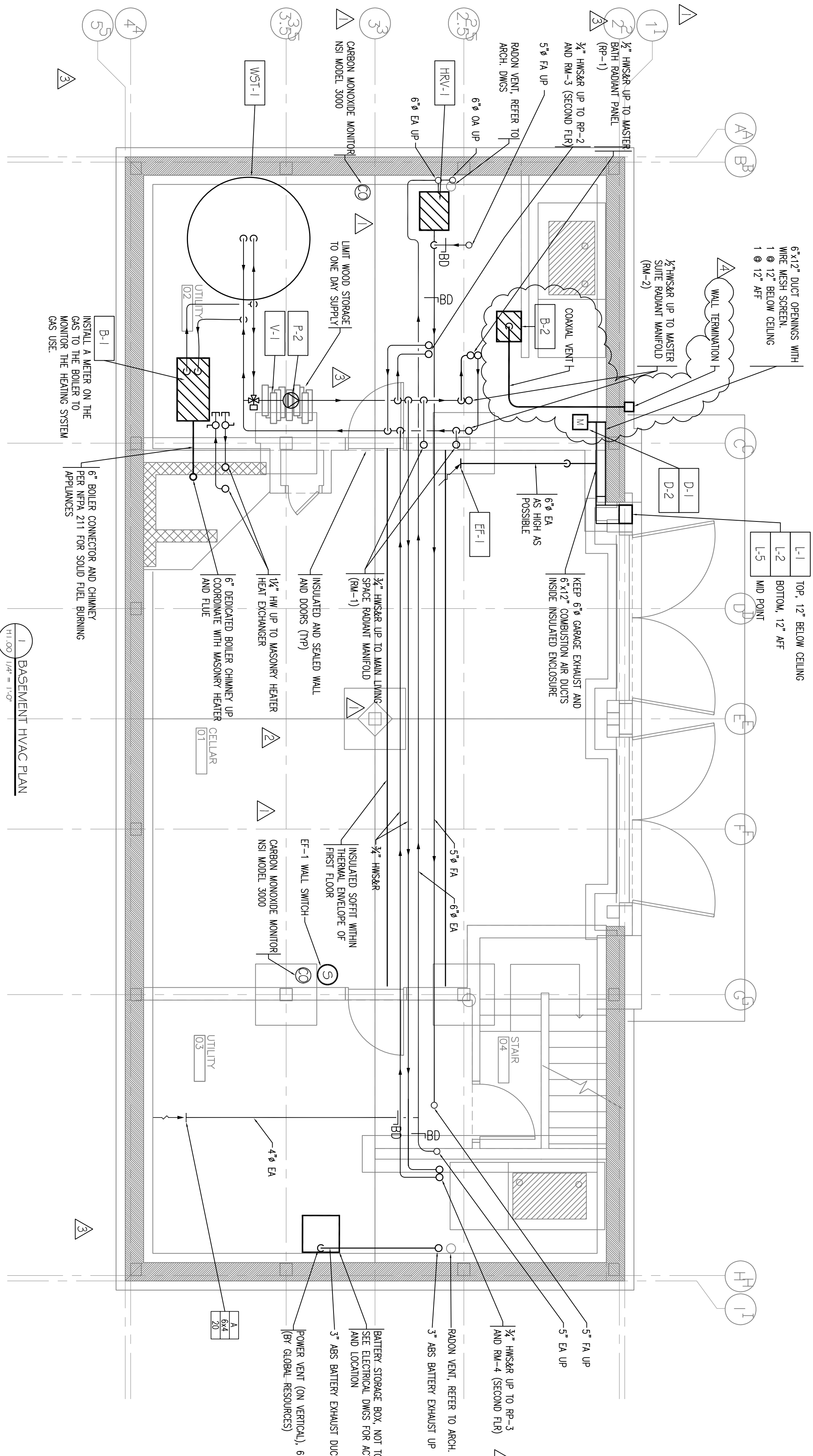
PROJECT:
GREEN WOODLANDS
BARN/HOUSE PROJECT

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
BASEMENT
HVAC PLAN

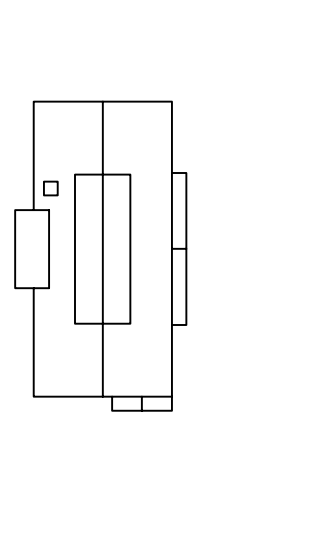
PROJECT NO.: 570 DATE: 07/31/06
SHEET NUMBER:

H1.00



1.1 BASEMENT HVAC PLAN

REVISION	DATE	COMMENTS
1	8/31/06	ADDENDUM #1
2	9/28/06	ADDENDUM #2
3	12/1/06	ADDENDUM #3



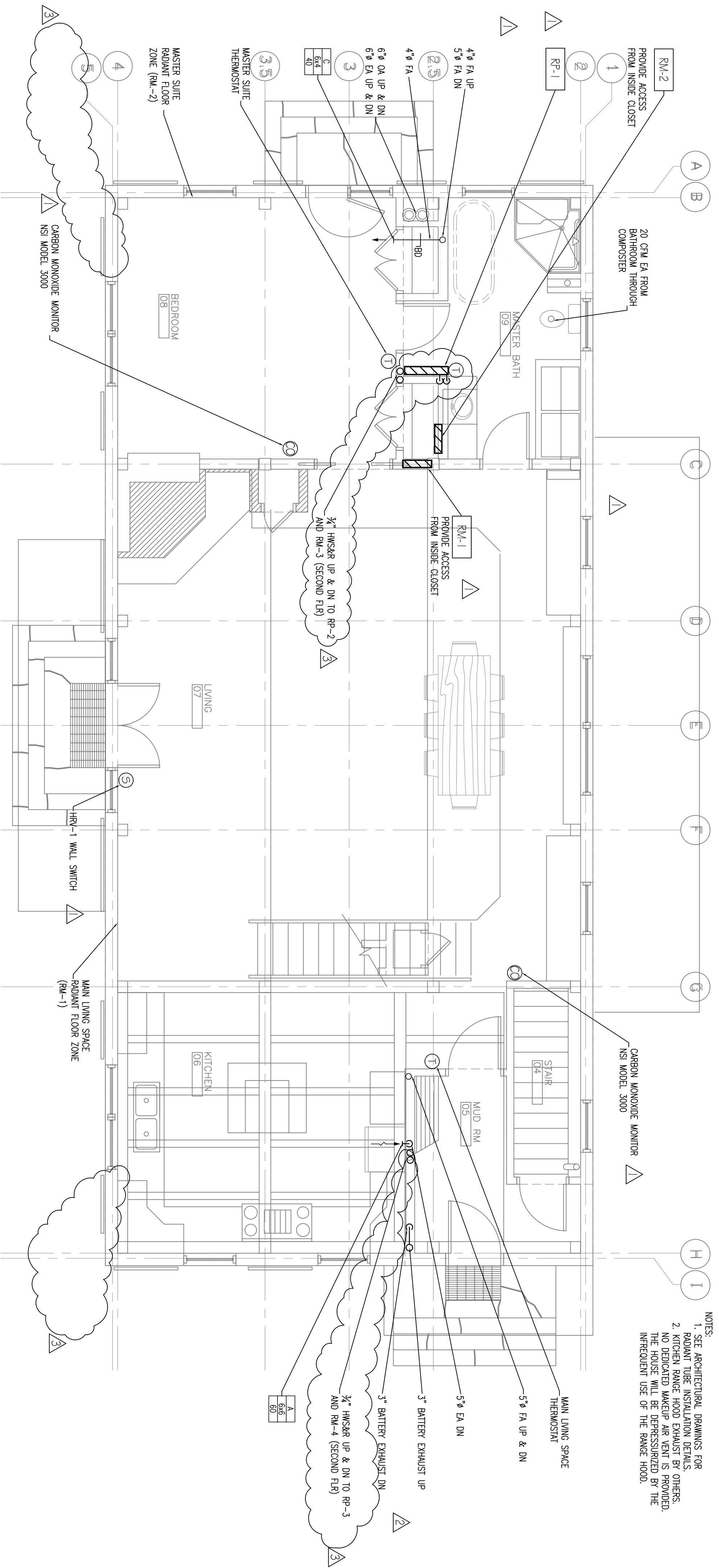
PROJECT:
GREEN WOODLANDS
BARN/HOUSE PROJECT

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
FIRST FLOOR
HVAC PLAN

PROJECT NO.: 570 DATE: 07/31/06
SHEET NUMBER:

H1.01

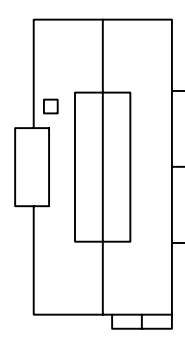


111.01 FIRST FLOOR HVAC PLAN
111.02 111.03

- NOTES:
1. SEE ARCHITECTURAL DRAWINGS FOR
RADIANT TUBE INSTALLATION DETAILS.
2. KITCHEN RANGE HOOD EXHAUST IS PROVIDED.
NO DEDICATED MAKEUP AIR VENT IS PROVIDED.
THE HOUSE WILL BE DEPRESSURIZED BY THE
INDEPENDENT USE OF THE RANGE HOOD.

REVISION	DATE	COMMENTS
1	8/31/06	ADDENDUM #1
2	12/1/06	ADDENDUM #3

KEY PLAN:



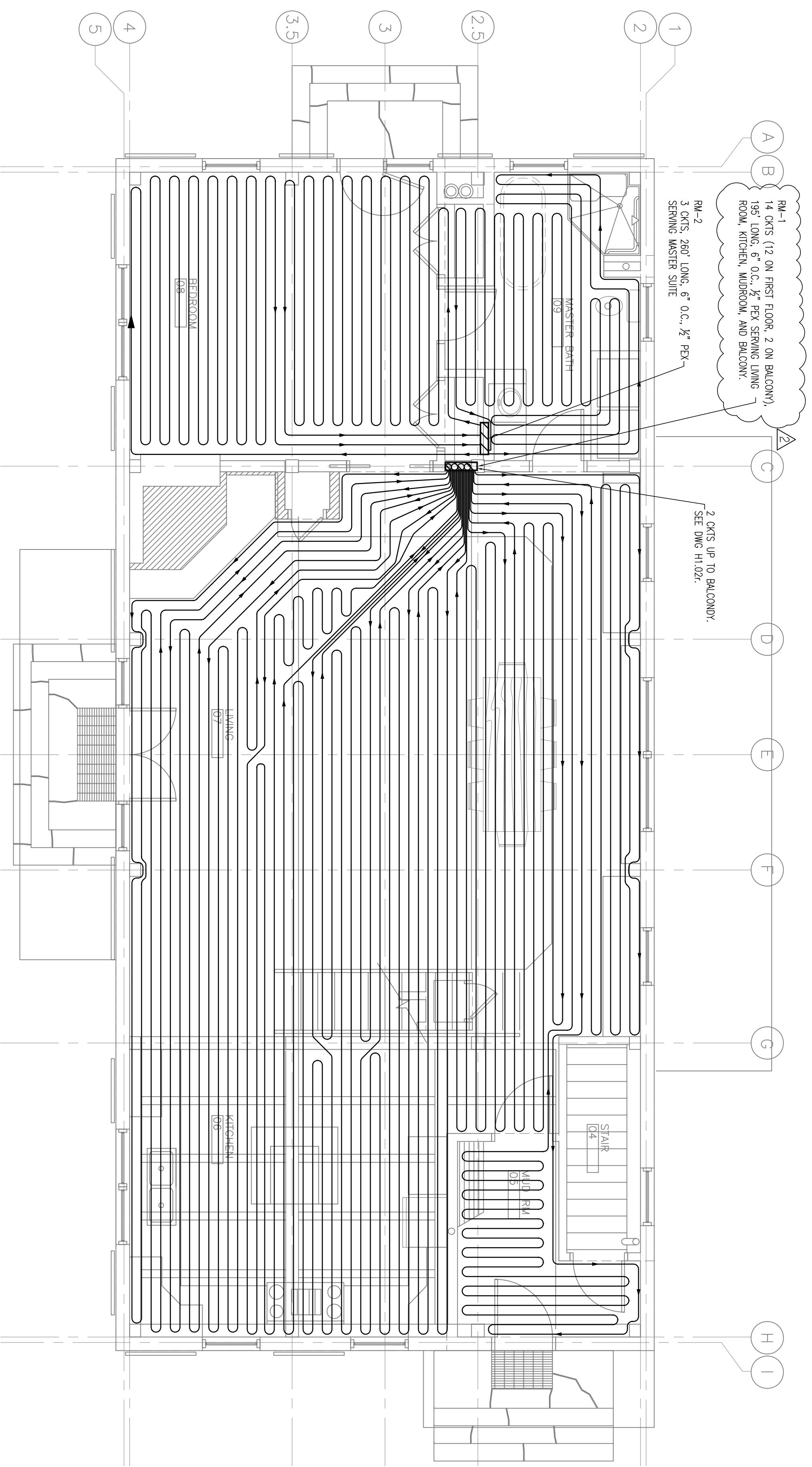

PROJECT:
GREEN WOODLANDS
BARN/HOUSE PROJECT

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
FIRST FLOOR
RADIANT PLAN

PROJECT NO. 570 DATE: 07/31/06
SHEET NUMBER:

H1.01r



1 FIRST FLOOR RADIANT PLAN
11.038 / 1/4" = 1'-0"

REVISION	DATE	COMMENTS
1	8/31/06	ADDENDUM #1
2	9/28/06	ADDENDUM #2
3	12/1/06	ADDENDUM #3

KEY PLAN:

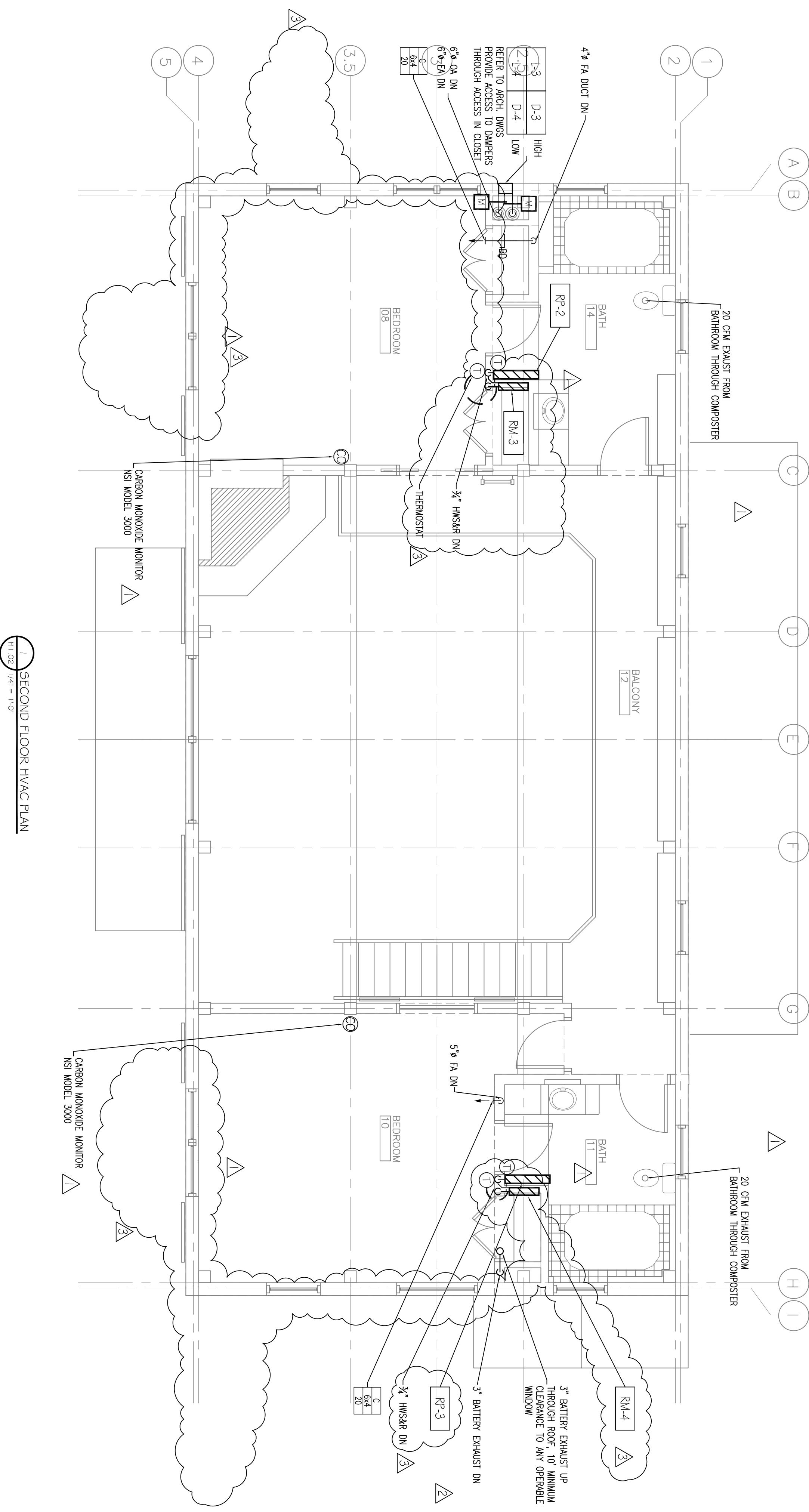
PROJECT:
GREEN WOODLANDS
BARN/HOUSE PROJECT

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
SECOND FLOOR
HVAC PLAN

PROJECT NOS: 570 DATE: 07/31/06

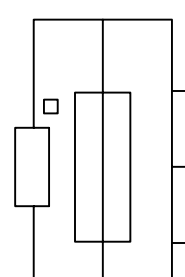
SHEET NUMBER:



11.02 SECOND FLOOR HVAC PLAN
1/4" = 1'-0"

REVISION	DATE	COMMENTS

KEY PLAN:

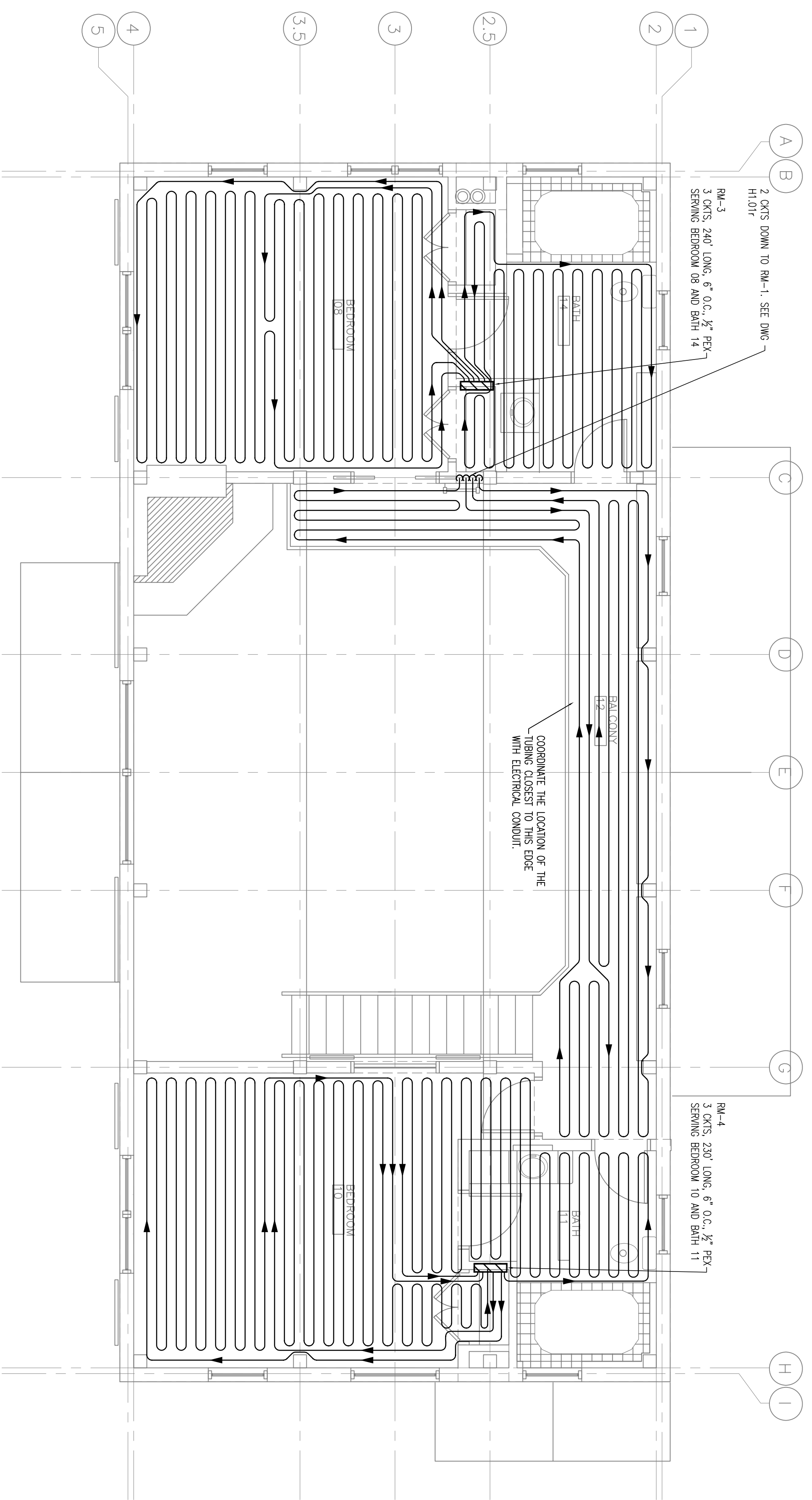


PROJECT:
GREEN WOODLANDS
BARN/HOUSE PROJECT

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
SECOND FLOOR
RADIANT PLAN

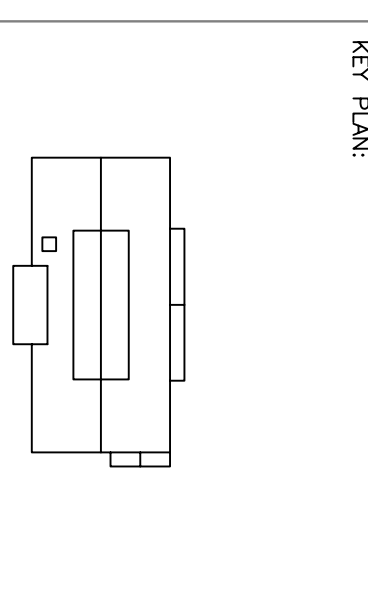
PROJECT NO.: 570 DATE: 12/1/06
SHEET NUMBER:
H1.02r



1 SECOND FLOOR RADIANT PLAN
1/16" = 1'-0"

P E **Peterson Engineering, Inc.**
Building Mechanical Design Consultants
Peterson, NH 03202
T: 603 438 2222 F: 603 438 4242

REVISION	DATE	COMMENTS
1	8/31/06	ADDENDUM #1
2	9/28/06	ADDENDUM #2
3	12/1/06	ADDENDUM #3
4	04/06/07	VISSMANN



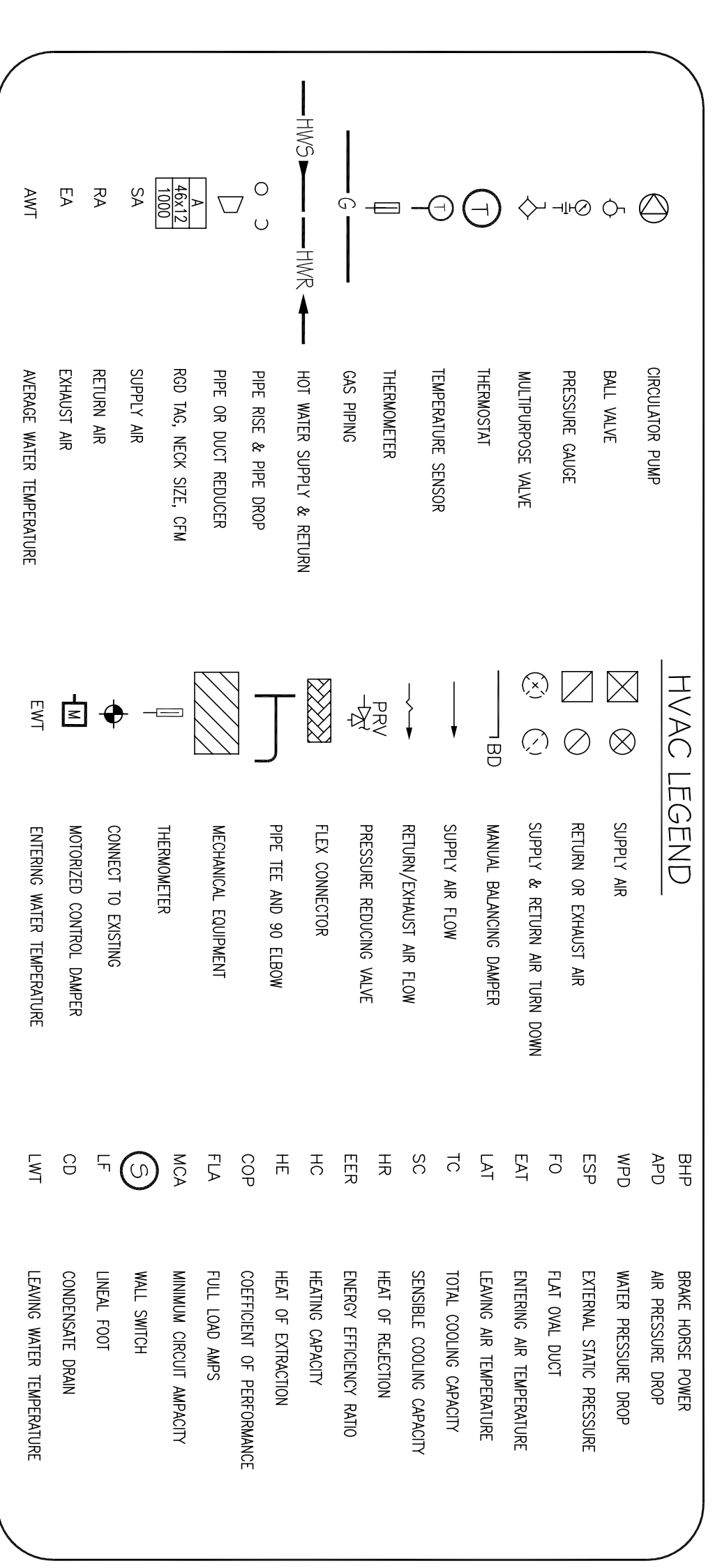
WE COULD NOT FIND A SIMPLE EFFICIENT AND EFFECTIVE WAY TO INCORPORATE THE BOILER DHW COIL INTO THE DHW SYSTEM INTO THE SPACE HEATING SYSTEM. THE TEMPERATURE OF THE WATER IN THE COIL WAS NEVER BE HIGHER THAN THE TEMPERATURE IN THE STORAGE TANK UNDER CERTAIN CONDITIONS WHEN THE BOILER IS NOT FIRING IT WOULD ACT AS A HEAT SINK.

PROJECT: GREEN WOODLANDS BARN/HOUSE PROJECT

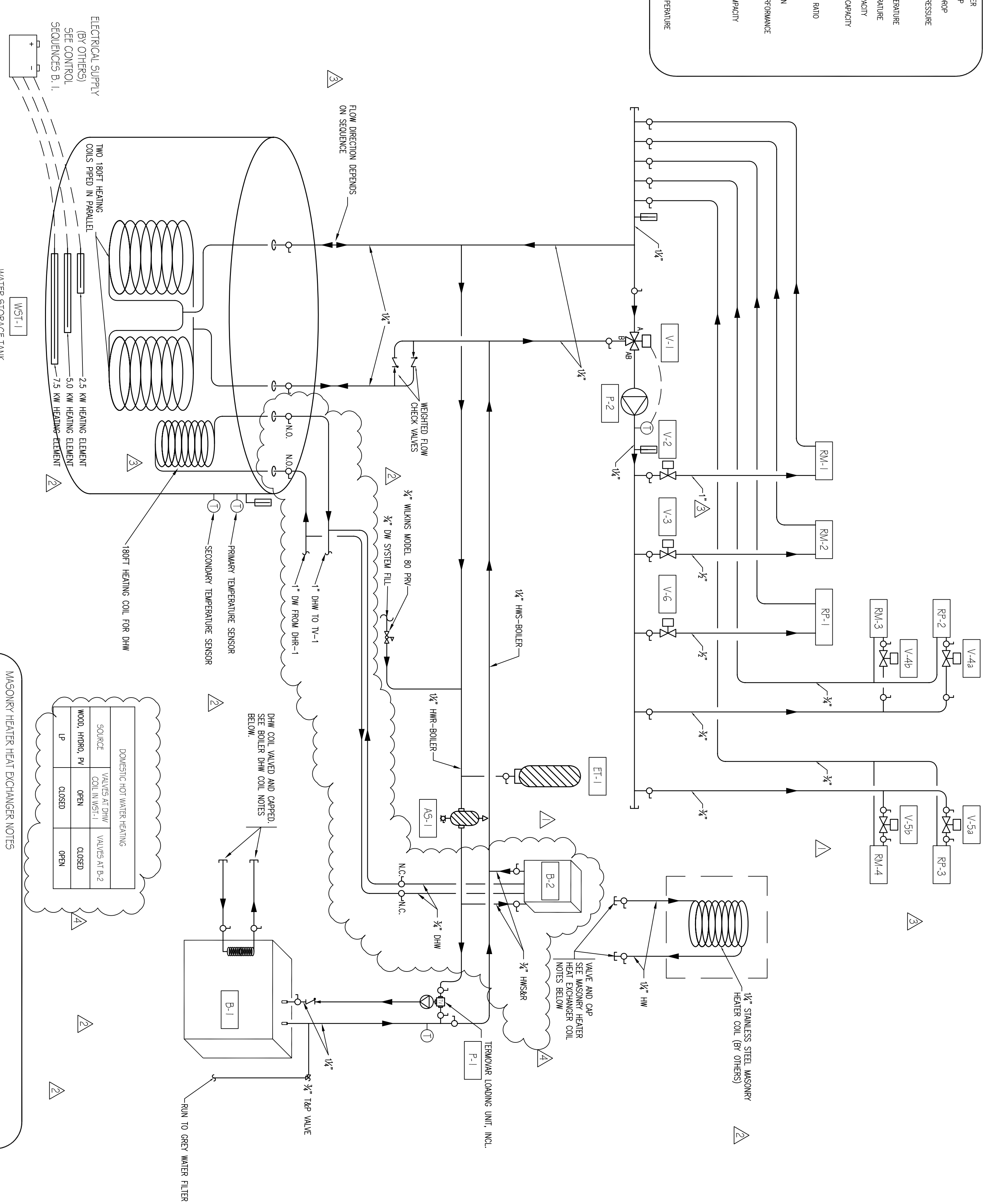
ISSUES:
CONSTRUCTION DOCUMENTS

DRAWING TITLE: HVAC FLOW SCHEMATIC, SPECIFICATIONS, CONTROL SEQUENCES, & LEGEND

PROJECT NO: 570 DATE: 07/31/06 SHEET NUMBER:



GENERAL SPECIFICATION:
1. SUMMARY OF WORK
THESE DRAWINGS DEPICT THE INSTALLATION OF HVAC SYSTEMS TO SERVE THE GREEN WOODLANDS HOUSE/BARN PROJECT. IT IS THE INTENT OF THESE DRAWINGS THAT ALL NECESSARY COMPONENTS BE INCLUDED FOR COMPLETE HVAC SYSTEMS AS SHOWN.
2. COMPLETE SYSTEMS
IT IS NOT THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT EVERY ITEM NECESSARY FOR COMPLETE SYSTEMS BE SHOWN. THE CONTRACTOR'S WORK SHALL INCLUDE LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR A HIGH QUALITY, COMPLETE INSTALLATION. OFFSETS AND/OR CHANGES IN ELEVATION OF PIPES AND DUCTS DUE TO UNFORESEEN INTERFERENCES SHALL BE PROVIDED AT NO ADDITIONAL COST.
3. SHOP DRAWINGS
SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL FOR ALL EQUIPMENT AND MATERIALS.
4. PERMITS, FEES AND REGULATIONS
THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND CERTIFICATES.
5. OPERATION AND MAINTENANCE MANUALS AND INSTRUCTIONS
PRIOR TO SUBSTANTIAL COMPLETION, THE CONTRACTOR SHALL PROVIDE THREE (3) BOUND COPIES OF PRINTED OPERATIONS INSTRUCTIONS AND MAINTENANCE INFORMATION FOR EQUIPMENT AND SYSTEMS PROVIDED UNDER THIS CONTRACT, INCLUDING PREVENTIVE MAINTENANCE PROCEDURES.
6. DRAWINGS
THE DRAWINGS SHOW APPROXIMATE LOCATION OF EQUIPMENT, DUCTS AND PIPES. THE EXACT LOCATION SHALL BE DETERMINED BASED ON FIELD CONDITIONS. EQUIPMENT, DUCT WORK AND PIPING SHALL FIT INTO THE SPACES SHOWN ON THE DRAWINGS ALLOWING FOR ACCEPTABLE CLEARANCES FOR INSTALLATION, REPLACEMENT AND MAINTENANCE. IT IS NOT INTENDED THAT THE DRAWINGS SHOW IN DETAIL EVERY FITTING, DEVICE, ETC. ALL MATERIAL NECESSARY TO SATISFY REGULATIONS, THE BEST PRACTICES OF THE TRADE AND TO THE COMPLETE SATISFACTION OF THE ENGINEER SHALL BE FURNISHED WITHOUT ADDITIONAL COMPENSATION.
7. STORAGE OF MATERIALS
THE CONTRACTOR SHALL COORDINATE STORAGE OF HIS MATERIALS AND EQUIPMENT WITH THE GENERAL CONTRACTOR AND SHALL BE RESPONSIBLE FOR ALL LOSS AND DAMAGE.
8. GUARANTEE
THE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE (1) YEAR AFTER SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL REPAIR OR CORRECT THE WORK WITHIN (10) DAYS OF WRITTEN NOTIFICATION. IF THE CONTRACTOR DOES NOT COMPLY, THE OWNER MAY HAVE THE WORK CORRECTED AND CHARGE ALL SUCH TO THE CONTRACTOR.
9. REFERENCE STANDARDS AND INDUSTRY SPECIFICATIONS
ANY MATERIAL OR OPERATION SPECIFIED BY REFERENCE TO PUBLISHED SPECIFICATIONS OF A MANUFACTURER, SOCIETY, ASSOCIATION, CODE OR OTHER PUBLISHED STANDARD SHALL COMPLY WITH REQUIREMENTS OF THE LISTED DOCUMENT. ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF STATE, LOCAL AND OTHER CODES WHICH APPLY.
10. INTERNATIONAL MECHANICAL CODE (IMC)
2000 INTERNATIONAL MECHANICAL CODE (IMC)
2002 NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS.
11. WORKMANSHIP
ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER, BY EXPERIENCED MECHANICS OF THE TRADE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS AND THE MOST MODERN TRADE PRACTICE AND SHALL PRESENT A NEAT APPEARANCE.
12. INSPECTION
BEFORE BEGINNING WORK, THE CONTRACTOR SHALL INSPECT THE SITE AND SURVEY THE CONDITIONS TO BE ENCOUNTERED IN THE PERFORMANCE OF THE WORK. FAILURE TO FAMILIARIZE HIMSELF WITH THE CONDITIONS SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR FULL COMPLETION OF THE WORK IN ACCORDANCE WITH THESE DOCUMENTS.
13. COORDINATION
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR WORK WITH ALL OTHER TRADES SUCH THAT ALL BUILDING SYSTEMS AND COMPONENTS CAN BE ASSEMBLED WITHOUT CONFLICT AND IN CONFORMANCE WITH ALL CONSTRUCTION DOCUMENTATION, INCLUDING THOSE OF OTHER TRADES.
14. DISCREPANCIES AND CLARIFICATIONS
IN THE EVENT OF A DISCOVERED DISCREPANCY OR AMBIGUITY, IT SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION IN WRITING AND IN A TIMELY FASHION. THE CONTRACTOR SHALL NOT PROCEED WITH RELATED WORK WITHOUT A WRITTEN RESOLUTION CLARIFICATION FROM THE ARCHITECT.
15. ON-SITE SUPERVISION
THE CONTRACTOR SHALL MAINTAIN ON-SITE SUPERVISION OF HIS OWN WORK FORCE AND HIS SUB-SUBCONTRACTORS.
16. HVAC
DUCTWORK SHALL BE G-90 GALVANIZED SHEETMETAL INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS. DUCT CONSTRUCTION SHALL BE 2" PRESSURE CLASS WITH CLASS C SEAMING (TRANSVERSE JOINTS) REINFORCED DUCT (INSULATED FOR SUPPLY DUCTS) SHALL BE LIMITED TO THREE (3) FEET MAXIMUM. INSTALLED STRAIGHT ALL CHANGES IN DIRECTION SHALL BE MADE WITH LOW RESISTANCE ELBOWS. COPPER WITH ASTM B 32 LEAD-FREE-ALLOY SOLDER JOINTS OR PEX TUBING WITH AN OXYGEN BARRIER ASTM F 876 AND F 877. THE L, DRINKIN LEMER COPPER WITH ASTM B 32 LEAD-FREE-ALLOY SOLDER JOINTS OR PEX TUBING WITH AN OXYGEN BARRIER ASTM F 876 AND F 877. ALL EXPOSED PIPES TO BE LABELED USING SETON STAINLESS PRECOLORED MARKERS OR SIMILAR. ALL EXPOSED DUCTS TO BE LABELED USING SETON OPTI-CODE CDS-2A SELF ADHESIVE LABELS.
17. INSULATION
DUCTWORK AND EXHAUST AIR RETURN & DUCTS FROM THE LOADERS TO HRV-1 SHALL BE INSULATED WITH 1-1/2" FIBERGLASS BATTING OR BOARD WITH 5K JACKET. HEATING HOT WATER PIPING SHALL BE INSULATED WITH 1-1/2" TYPE I PREFOAMED FIBERGLASS INSULATION WITH ALUMINUM JACKET. HOT WATER DUCTS DO NOT REQUIRE INSULATION. INSULATION SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS AS TESTED IN ACCORDANCE WITH ASTM E 84.
18. CONTROL
THE BUILDING CONTROLS SHALL BE DIRECT DIGITAL CONTROLS (DDC) WITH GRAPHIC FLOOR PLANS, LOAD SOFTWARE ONTO THE OWNER'S COMPUTER. THE CONTROL SYSTEM MUST BE FULLY ACCESSIBLE THROUGH THE INTERNET (PASSWORD PROTECTED) AND ALARMS MUST BE SENT TO A LIST OF EMAIL ADDRESSES SINCE THE BUILDING WILL REFER TO THE SEQUENCES OF OPERATION FOR ADDITIONAL INFORMATION.
19. BALANCING
BALANCE AIR AND WATER SYSTEMS TO QUANTITIES SHOWN ON THE DRAWINGS. PROVIDE SIX (6) BALANCE REPORTS ON CONTRACTOR'S STANDARD FORMS.
20. EQUIPMENT
SCHEDULED EQUIPMENT IS BASIS OF DESIGN. ALTERNATE MANUFACTURERS WILL BE CONSIDERED, BUT MUST BE EQUAL (AS DETERMINED BY PETERSEN ENGINEERING).



CONTROL SEQUENCES:
1. SPACE HEATING AND DOMESTIC WATER HEATING SHALL BE PROVIDED BY RENEWABLE ENERGY SOURCES TO THE GREATEST EXTENT POSSIBLE.
A. THE TEMPERATURE OF THE WATER STORAGE TANK (WST-1) SHALL BE MAINTAINED BETWEEN A MINIMUM TEMPERATURE OF 112°F AND A MAXIMUM TEMPERATURE OF 112°F AND A MAXIMUM TEMPERATURE OF 85°F.
I. IF PROBABLY TANK TEMPERATURE SENSOR REACHES 112°F, STOP ENERGIZING THE TANK.
II. IF 50% STOP ENERGIZING THE TANK.
III. ACTIVATE PUMP P-2.
IV. OPEN VALVE V-1-B-4B TO PULL HEAT FROM WST-1.
V. GENERATE AN ALARM.
B. TANK HEATING SOURCES:
I. IF THERE IS EXCESS RENEWABLE ELECTRICAL ENERGY AVAILABLE AND WST-1 IS BELOW ITS MAXIMUM TEMPERATURE, PROVIDE POWER TO THE TANK'S ELECTRICAL HEATERS (ELECTRICAL SYSTEM TO DETERMINE APPROPRIATE ELEMENT(S)).
II. IF THE WOOD BOILER (B-1) IS OPERATING, ENERGIZE ITS PUMP (P-1) AND DIRECT THE HEAT TO THE TANK.
III. WHEN B-1 IS OPERATING, DAMPERS D-1 & D-2 SHALL BE OPEN WHEN B-1 IS NOT OPERATING, DAMPERS D-1 & D-2 SHALL BE CLOSED.
IV. WHEN B-1 IS OPERATING, DAMPERS D-1 & D-2 SHALL BE OPEN WHEN B-1 IS NOT OPERATING, DAMPERS D-1 & D-2 SHALL BE CLOSED.
V. WHEN THE TANK TEMPERATURE REACHES 112°F, STOP ENERGIZING THE TANK.
VI. WHEN THE TANK TEMPERATURE HAS REACHED 112°F ABOVE THE MINIMUM TEMPERATURE.
C. HEAT RECOVERY VENTILATOR (HRV-1) SHALL BE OPERATED BY A MANUAL WALL SWITCH AND SHALL RUN WHEN THE HOUSE IS OCCUPIED.
D. ANY ZONES NEEDING HEAT SHALL HAVE THEIR ASSOCIATED VALVE POWERED OPEN. ZONES NOT NEEDING HEAT SHALL HAVE THEIR VALVES REMAIN CLOSED (UNPOWERED).
E. THE HEAT RECOVERY VENTILATOR (HRV-1) SHALL BE OPERATED BY A MANUAL WALL SWITCH AND SHALL RUN WHEN THE HOUSE IS OCCUPIED.
F. WHEN HRV-1 IS OPERATING, DAMPERS D-3 & D-4 SHALL BE OPEN WHEN HRV-1 IS NOT OPERATING, DAMPERS D-3 & D-4 SHALL BE CLOSED.
G. IF ANY SPACE TEMPERATURE DROPS TO 42°F IN UNOCCUPIED WOLD, GENERATE AN ALARM.

BOILER DHW COIL NOTES
WE COULD NOT FIND A SIMPLE EFFICIENT AND EFFECTIVE WAY TO INCORPORATE THE BOILER DHW COIL INTO THE DHW SYSTEM INTO THE SPACE HEATING SYSTEM. THE TEMPERATURE OF THE WATER IN THE COIL WAS NEVER BE HIGHER THAN THE TEMPERATURE IN THE STORAGE TANK UNDER CERTAIN CONDITIONS WHEN THE BOILER IS NOT FIRING IT WOULD ACT AS A HEAT SINK.

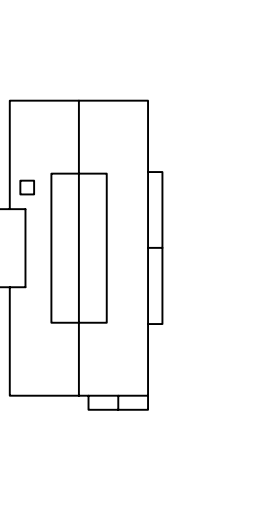
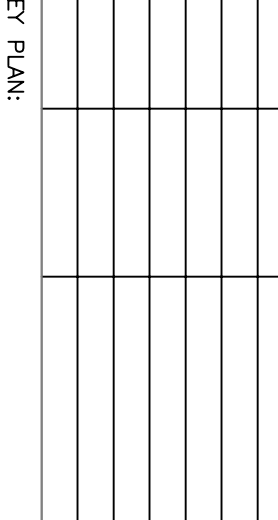
MASONRY HEATER HEAT EXCHANGER NOTES
WE COULD NOT FIND A SIMPLE EFFICIENT AND EFFECTIVE WAY TO INCORPORATE THE MASONRY HEATER HEAT EXCHANGER COIL INTO THE SPACE HEATING SYSTEM. THE TEMPERATURE OF THE WATER IN THE COIL WAS NEVER BE HIGHER THAN THE TEMPERATURE IN THE STORAGE TANK UNDER CERTAIN CONDITIONS WHEN THE BOILER IS NOT FIRING IT WOULD ACT AS A HEAT SINK.

DOMESTIC HOT WATER HEATING
SOURCE VALVES AT DHW COILS IN WST-1
WST-1 VALVES AT B-2
UP CLOSED OPEN
DOWN CLOSED OPEN

DOMESTIC HOT WATER HEATING
SOURCE VALVES AT DHW COILS IN WST-1
WST-1 VALVES AT B-2
UP CLOSED OPEN
DOWN CLOSED OPEN

DOMESTIC HOT WATER HEATING
SOURCE VALVES AT DHW COILS IN WST-1
WST-1 VALVES AT B-2
UP CLOSED OPEN
DOWN CLOSED OPEN

REVISION	DATE	COMMENTS
1	8/31/06	ADDENDUM #1
2	9/28/06	ADDENDUM #2
3	12/1/06	ADDENDUM #3
4	04/06/07	VISSMANN



PROJECT:
GREEN WOODLANDS
BARN/HOUSE PROJECT

ISSUED:
CONSTRUCTION DOCUMENTS

DRAWING TITLE:
HVAC SCHEDULES

PROJECT NO: 570 DATE: 07/31/06
SHEET NUMBER

H2.01

PUMP SCHEDULE

TAG	MAKE	MODEL	TYPE	SYSTEM	FLUID	FLOW (GPM)	HEAD (FT.)	CALC. HEAD (FT.)	PUMP HEAD (FT.)	SUCTION (IN.)	DISCHARGE (IN.)	WATTS	MOTOR HP	VOLTAGE	NOTES
P-1	TERMOVAR	48633	CARRIAGE CIRCULATOR	B-1	WATER	10.0	-	8	1 1/4"	1 1/4"	0.5	110	1/12	230/1/60	①
P-2	GRUNDOS	UPS15-59FC	CIRCULATOR	HEATING	WATER	7.8	11.9	12.5	1 1/4"	1 1/4"	0.75	87	1/25	115/1/60	②
① INCLUDES GRUNDOS UPS 25-60 3 SPEED PUMP															
② HIGH SPEED															

EXPANSION TANK SCHEDULE

TAG	MAKE	MODEL	SYSTEM	TANK VOL (GAL.)	CALCULATED ACCEPTANCE VOL (GAL.)	PRECHARGE (PSIG)	DIMENSIONS (IN.)	RELIEF VALVE SETTING (PSIG)	NOTES
ET-1	B&G	D-40V	HEATING	21.7	11	12	16" x 30"	30	

AIR SEPARATOR SCHEDULE

TAG	MAKE	MODEL	SYSTEM	FLOW (GPM)	SIZE (IN.)	PRESSURE DROP (FT)	STRAINER	NOTES
AS-1	B&G	ESB-1-1/4IR	HEATING	10.0	1-1/4"	0.1	-	

VALVE SCHEDULE

TAG	MAKE	MODEL	TYPE	STYLE	SERVICE	SIZE	GPM	Cv	P.D. (FT)	NORMAL POSITION	POWER RETURN	SPRING	NOTES
V-1	BELIMO	B329 LR24-SRUS	3-WAY	PROPORTIONAL	HEATING	1 1/4"	7.8	10	1.4	-	-	NO	①
V-2	BELIMO	ZONE25-80	2-WAY	2-POSITION	HEATING	RM-1	1"	4.7	8.0	0.8	CLOSED	6.5	②
V-3	BELIMO	ZONE15-35	2-WAY	2-POSITION	RM-2	1/2"	0.6	3.5	0.1	CLOSED	6.5	②	
V-4	BELIMO	ZONE15-35	2-WAY	2-POSITION	RP-2	1/2"	0.4	3.5	0.1	CLOSED	6.5	②	
V-4b	BELIMO	ZONE15-35	2-WAY	2-POSITION	RM-3	1/2"	0.7	3.5	0.1	CLOSED	6.5	②	
V-5	BELIMO	ZONE15-35	2-WAY	2-POSITION	RP-3	1/2"	0.4	3.5	0.1	CLOSED	6.5	②	
V-5b	BELIMO	ZONE15-35	2-WAY	2-POSITION	RM-4	1/2"	0.6	3.5	0.1	CLOSED	6.5	②	
V-6	BELIMO	ZONE15-35	2-WAY	2-POSITION	RP-1	1/2"	0.4	3.5	0.1	CLOSED	6.5	②	
① MIXING VALVE													
② POWER TO OPEN													

WATER STORAGE TANK SCHEDULE

TAG	MAKE	MODEL	TYPE	TOT. STORAGE (GAL.)	BOILER WATER FLOW RATE (GPM)	BOILER WATER FLOW (GPM)	ELEC. EWT (KW)	VOLTAGE	MIN. STORAGE TEMP. (°F)	MAX STORAGE TEMP. (°F)	SERVES	NOTES
WS-1	OPES-1	H822HST	STORAGE	822	10	180	5/8	240/1/60	110	180	41	① ②
① PROVIDE THREE 180 FT HEAT EXCHANGE COILS												
② PROVIDE THREE ELECTRICAL ELEMENTS: 2.9 KW, 5.0 KW, AND 7.5 KW												

WOOD BOILER SCHEDULE

TAG	MAKE	MODEL	TYPE	FLUID	FUEL	WOOD QUP (MBH)	GPM	EMT (F)	LWT (F)	COMBUSTION EFFICIENCY	VENT (IN.)	WATER CONTENT (GAL.)	NOTES
B-1	HS-TAM	PLUS 30	WOOD	WOOD	WOOD	100	10	160	180	85.6%	6	41	①
① OPTIONS: ENHANCED ASHTRAY, TERMOVAR LOADING UNIT, DOMESTIC WATER COIL													

RADIANT PANEL SCHEDULE

TAG	MAKE	MODEL	# OF TUBES	HEIGHT (IN.)	LENGTH (IN.)	EAT (°F)	AWT (°F)	BTU/PANEL (GPH)	CONSTRUCTION	COLOR	NOTES
RP-1	RUNTAL	OMNIPANEL	-	61	30	70	105	1480	0.4	STEEL	BY ARCHITECT ①
RP-2	RUNTAL	OMNIPANEL	-	61	30	70	105	1480	0.4	STEEL	BY ARCHITECT ①
RP-3	RUNTAL	OMNIPANEL	-	61	30	70	105	1480	0.4	STEEL	BY ARCHITECT ①
① ACCESSORIES: THERMOSTATIC CONTROL VALVE											

RADIANT MANIFOLD SCHEDULE

TAG	TUBING	CONFIGURATION	CIRCUITS	SPACING (IN)	GPM	HEAD LOSS (TD/100)	EMT (FT)	LWT (FT)	CIRCUIT LENGTH (GPH)	AREA (SQ FT)	RADIANT LOAD (BTU/H)	SERVES	NOTES
RM-1	1/2"	THIN SLAB CONCRETE	14	6	4.7	1.2	112	102	195	1090	23,730	LIVING/KITCHEN/ HUBROOM	①
RM-2	1/2"	THIN SLAB CONCRETE	3	6	0.6	3.0	112	97	260	385	4,220	MASTER BEDROOM/ BATH	①
RM-3	1/2"	THIN SLAB CONCRETE	3	6	0.7	1.6	112	97	240	355	5,300	BEDROOM 08 BATH 14	①
RM-4	1/2"	THIN SLAB CONCRETE	3	6	0.6	0.6	112	97	230	340	4,650	BEDROOM 10 BATH 11	①
① BASED ON VEGA PEXTRON													

FAN SCHEDULE

TAG	MAKE	MODEL	TYPE	CFM	ESP (IN.)	RPM	WATTS	AMP'S	VOLTAGE	CONSTRUCTION	LOCATION	FUNCTION	NOTES
EF-1	FANTECH	FR-140	INLINE	100	0.80	2850	61	0.53	115/1/60	THERMOPLASTIC	GARAGE	EXHAUST	①
① ACCESSORIES: INTAKE GUARD													

DAWPPER SCHEDULE

TAG	MAKE	MODEL	SIZE (MM)	TYPE	BLADES	AQUATOR RETURN POSITION	SPRING RETURN POSITION	FUNCTION	VOLTAGE	CONSTRUCTION	NOTES
BD	GREENHECK	MBDR-50	SEE PLANS	MANUAL BURNING	-	-	-	-	-	GALVANIZED STEEL	
BD	GREENHECK	MBD-10	SEE PLANS	BURNING	-	-	-	-	-	GALVANIZED STEEL	
D-1	GREENHECK	ICD-45	6" x 12"	CONTROL	PARALLEL	ELECTRIC	YES	CLOSED	CONSTRUCTION AIR	ALUMINUM	①
D-2	GREENHECK	ICD-45	6" x 12"	CONTROL	PARALLEL	ELECTRIC	YES	CLOSED	CONSTRUCTION AIR	ALUMINUM	①
D-3	GREENHECK	ICD-45	6" x 12"	CONTROL	PARALLEL	ELECTRIC	YES	CLOSED	CONSTRUCTION AIR	ALUMINUM	①
D-4	GREENHECK	ICD-45	6" x 12"	CONTROL	PARALLEL	ELECTRIC	YES	CLOSED	CONSTRUCTION AIR	ALUMINUM	①
① LOW LEAKAGE BLADE AND JAMB SEALS, INSULATED & THERMALLY BROKEN FRAME AND BLADES											

LOUVER SCHEDULE

TAG	MAKE	MODEL	SIZE (MM)	CFM	FREE AREA (SQ FT)	CONSTRUCTION	FINISH	FUNCTION	NOTES
L-1	GREENHECK	ESD-403	12" x 18"	-	0.44	ALUMINUM	MILL	COMBUSTION	①
L-2	GREENHECK	ESD-403	12" x 18"	-	0.44	ALUMINUM	MILL	COMBUSTION	①
L-3	GREENHECK	ESD-403	12" x 12"	80	0.31	ALUMINUM	MILL	HRV-1 INTAKE	①
L-4	GREENHECK	ESD-403	12" x 12"	80	0.31	ALUMINUM	MILL	HRV-1 EXHAUST	①
L-5	GREENHECK	ESD-403	12" x 12"	100	0.31	ALUMINUM	MILL	EF-1 EXHAUST	①
① ACCESSORIES: 3/4" BRUSHGREEN									

HEAT RECOVERY VENTILATOR SCHEDULE

TAG	MAKE	MODEL	5A CFM	5A ESP	EA CFM	EA ESP	EFFICIENCY	WATTS	AMP'S	VOLTAGE	FILTER LOCATION	SERVES	NOTES
HRV-1	ULTIMATEAIR	RECOUPERATOR 2500A	80	0.7	80	0.7	95%	75	5	115/1/60	12	UTILITY 02 HOUSE	

REGISTER, GRILLE & DIFFUSER SCHEDULE

TAG	MAKE	MODEL	TYPE	CONSTRUCTION	FUNCTION	NOTES
A	METAL-ARE	RH	GRILLE	ALUMINUM	EXHAUST/RETURN	①
B	METAL-ARE	5500-6	DIFFUSER	ALUMINUM	SUPPLY	①
C	METAL-ARE	VHD	REGISTER	ALUMINUM	SUPPLY	①
① ACCESSORIES: OPPOSED BLADE DAMPER						

CONDENSING GAS BOILER SCHEDULE

TAG	MAKE	MODEL	TYPE	FLUID	FUEL	INPUT (MBH)	OUTPUT (MBH)	GPM	A.F.U.E.	VENT (IN.)	WATER CONTENT (US GAL.)	NOTES
B-2	VISSMANN	WS2 8-24C	CONDENSING COMB	WATER	LP	25-81	22-73	4.6	95.2	3 1/4" / 5"	1.1	①
① INTERNAL PUMP, INSTANTANEOUS DHW (0.9-2.1 GPM)												