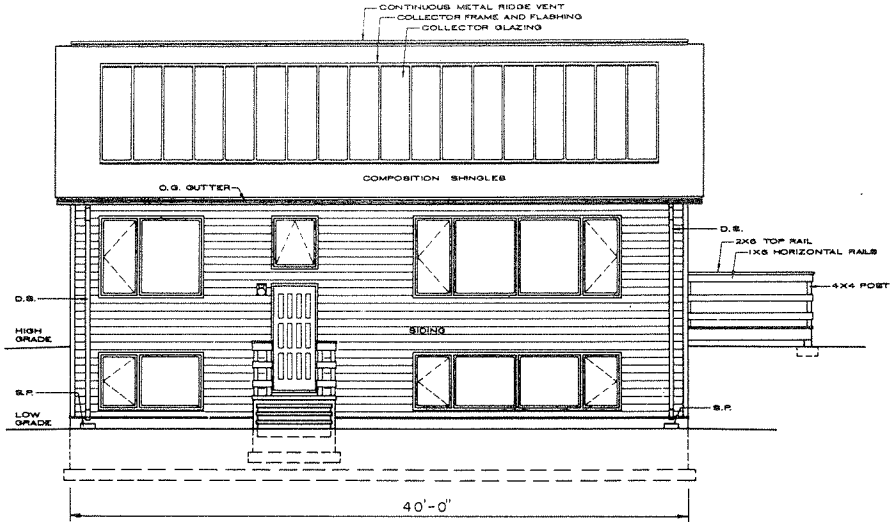
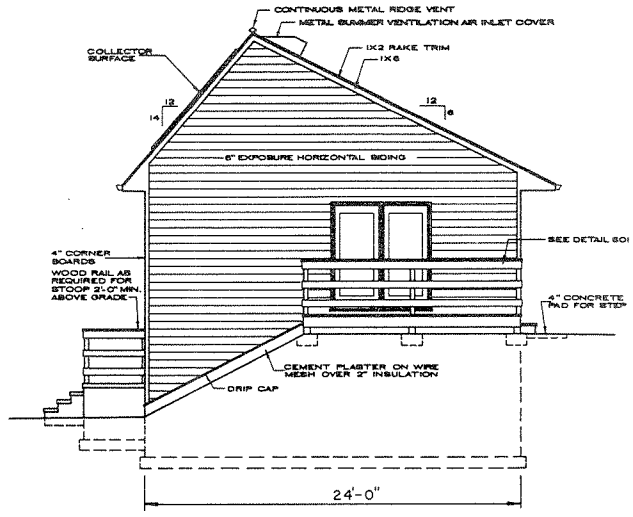
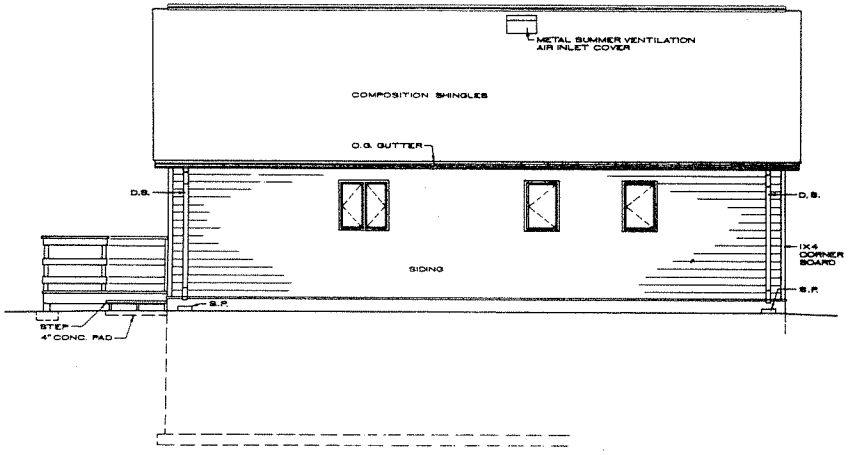


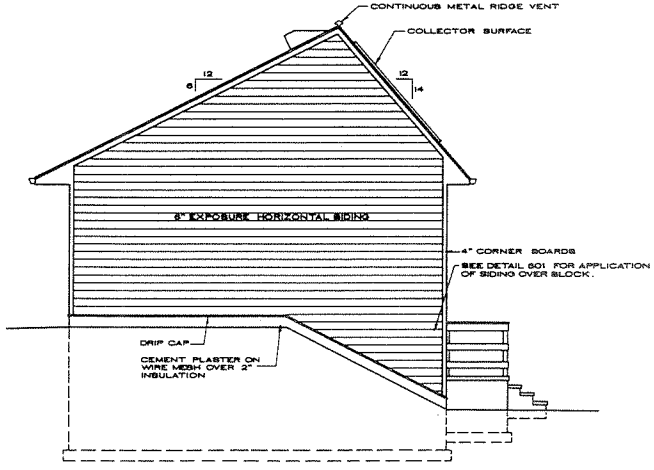
FRONT ELEVATION (SOUTH)



EAST ELEVATION



REAR ELEVATION (NORTH)



WEST ELEVATION

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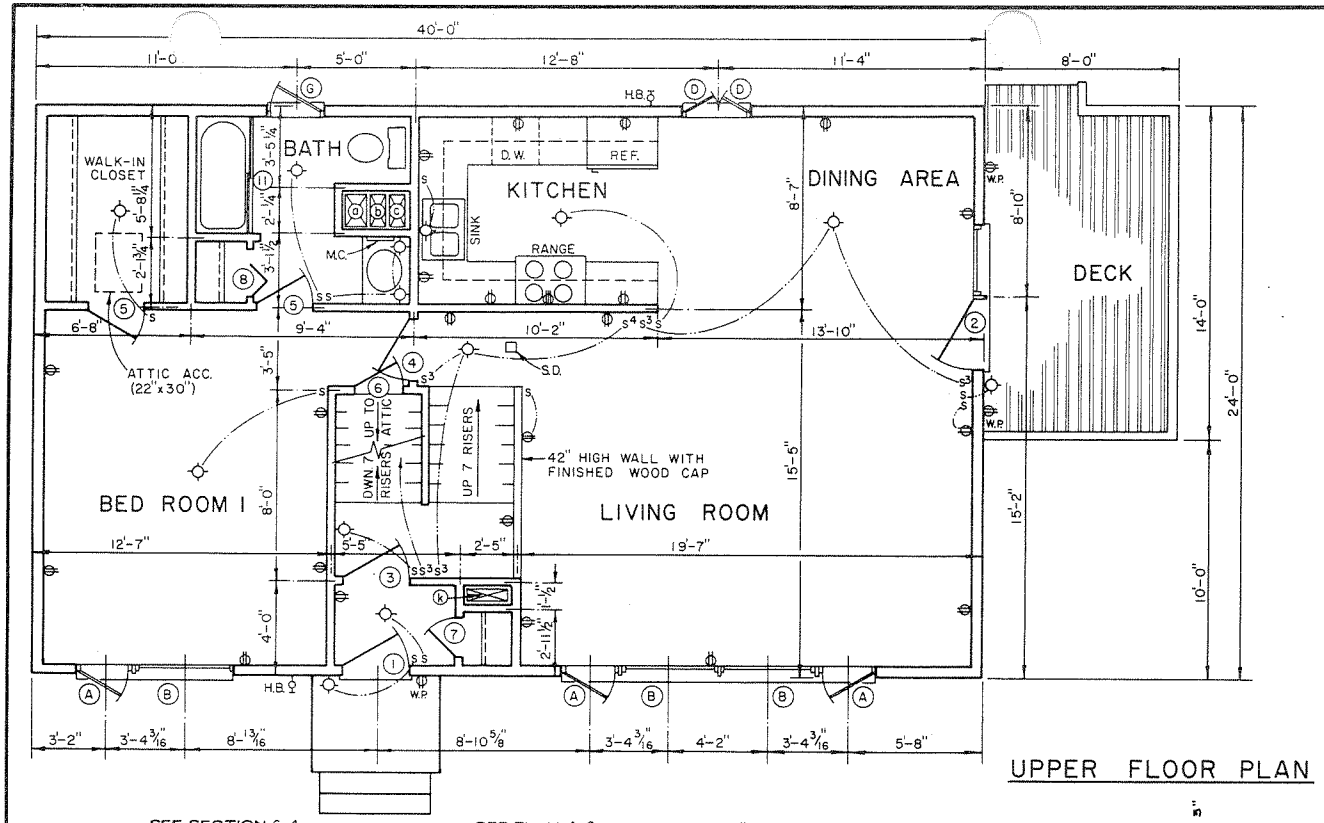
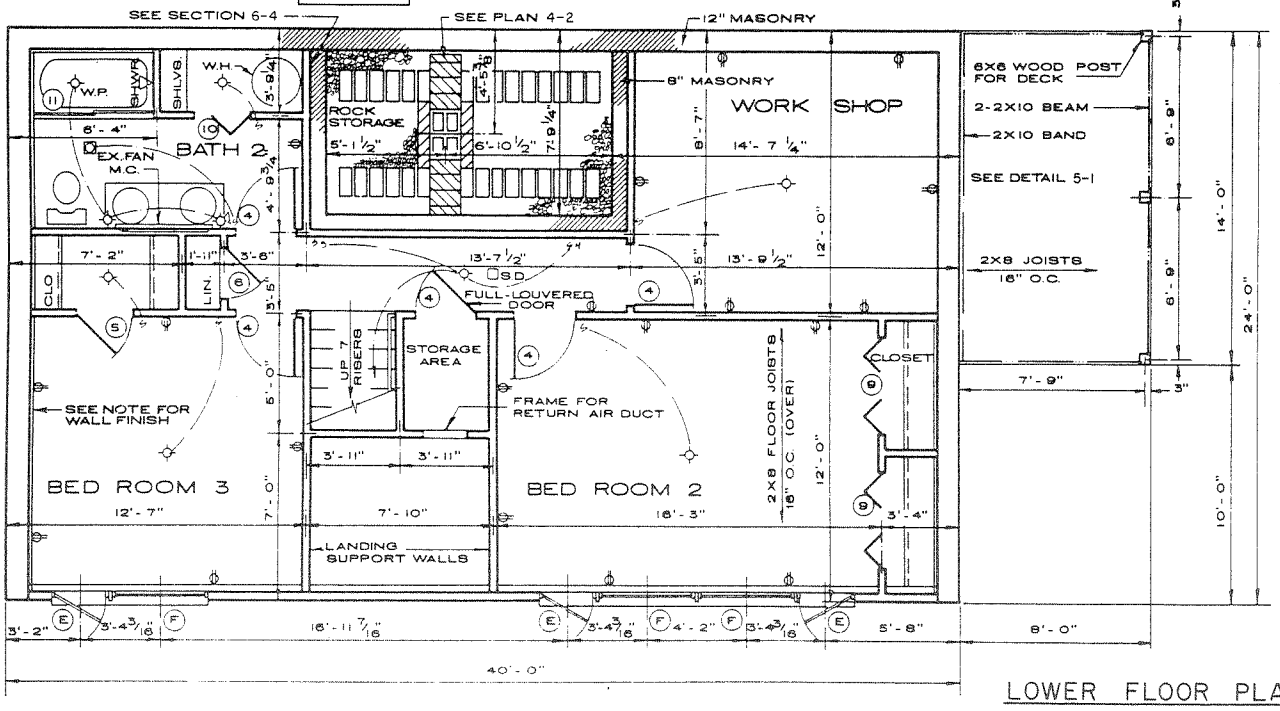


UPPER FLOOR PLAN



LOWER FLOOR PLAN

DOOR SCHEDULE			
1	2⁸ x 6⁸ x 1 3/4" EXTERIOR	8	2⁰ x 6⁸ x 1 3/8" INT. BIFOLD
2	6⁰ x 6⁸ PATIO SWINGSET *	9	4⁰ x 6⁸ x 1 3/8" " "
3	2⁸ x 6⁸ x 1 3/8" INTERIOR	10	2⁴ x 6⁸ x 1 3/8" " "
4	2⁸ x 6⁸ x 1 3/8" "	11	TEMP. GLASS SHWR. DOOR
5	2⁴ x 6⁸ x 1 3/8" "	12	
6	2⁰ x 6⁸ x 1 3/8" "	13	
7	1⁸ x 6⁸ x 1 3/8" "	14	

*MORGAN

* WINDOW SCHEDULE		
A	2'-4 3/8" X 4'-11 7/8"	CX15 CASEMENT
B	4'-0" X 4'-11 7/8"	CP25 FIXED
C	2'-11 15/16" X 3'-4 3/4"	AX31 AWNING
D	1'-5" X 2'-11 15/16"	CR13 CASEMENT
E	2'-4 3/8" X 3'-4 3/16"	CX135 CASEMENT
F	4'-0" X 3'-4 13/16"	CP25 FIXED
G	2'-0 1/8" X 2'-11 15/16"	C13 CASEMENT

*ANDERSEN WINDOWS

ABBREVIATIONS AND SYMBOLS	
ACC.	= ACCESS
AL.	= ALUMINUM
CAB.	= CABINET
C.O.	= CASED OPENING
C.J.	= CEILING JOIST
COL.	= COLUMN
COMP.	= COMPOSITION
CONC.	= CONCRETE
CONST	= CONSTRUCTION
DET.	= DETAIL
DIA.	= DIAMETER
D.W.	= DISHWASHER
D.H.	= DOUBLE HUNG
D.J.	= DOUBLE JOIST
D.S.	= DOWN SPOUT
DN.	= DOWN
ELEV.	= ELEVATION
EXT.	= EXTERIOR
FIN.	= FINISHED
FL.	= FLOOR
F.J.	= FLOOR JOIST
HT.	= HEIGHT
H.B.	= HOSE BIB
INSUL.	= INSULATION
INT.	= INTERIOR
M.O.	= MASONRY OPENING
MAX.	= MAXIMUM
M.C.	= MEDICINE CABINET
MIN.	= MINIMUM
O.C.	= ON CENTER
PLYWD.	= PLYWOOD
POLY.	= POLYETHYLENE
P.S.	= PULL SWITCH
REF.	= REFRIGERATOR
REINF.	= REINFORCED
S.D.	= SMOKE DETECTOR
SCR.	= SCREENED
SECT.	= SECTION
SHWR.	= SHOWER
SID.	= SIDING
S.P.	= SPLASH PAD
STL.	= STEEL
SUSP.	= SUSPENDED
THRU.	= THROUGH
W.H.	= WATER HEATER
W.P.	= WATER PROOF
WDW.	= WINDOW
W.W.M.	= WELDED WIRE MESH
	= LIGHT FIXTURE
	= CONVENIENCE OUTLET
	= SWITCH
	= 3-WAY SWITCH

NOTE:
DIMENSIONS ON PLANS ARE TO FACE OF STUD OR FACE OF MASONRY UNLESS OTHERWISE NOTED.

12" 0 1' 2' 4'

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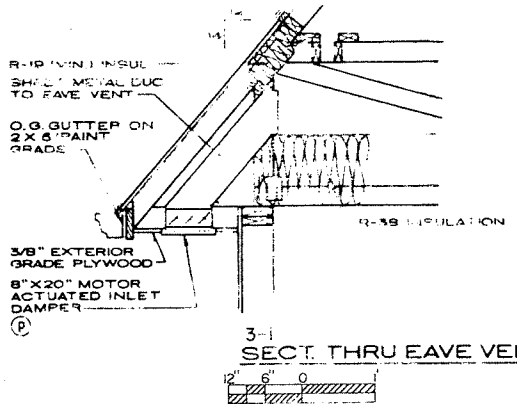
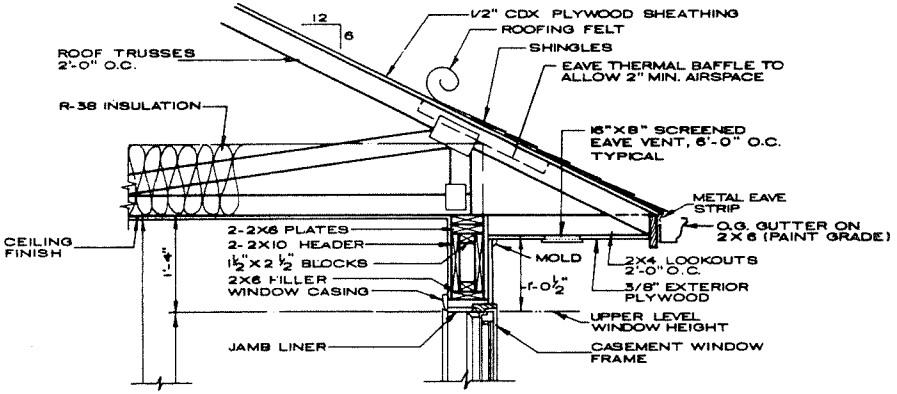
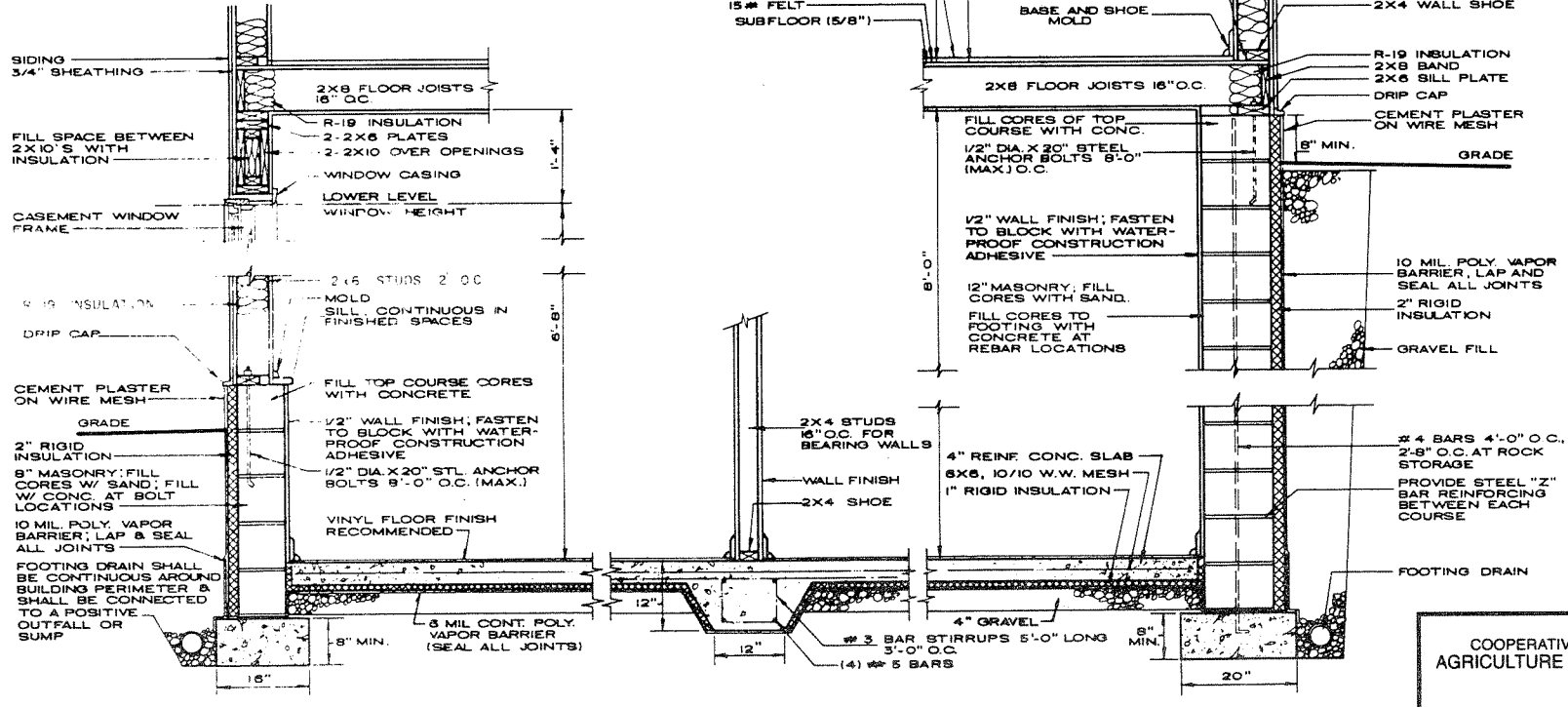
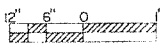


3-1
SECT. THRU EAVE VENT





3-2
TYPICAL CROSS SECTION



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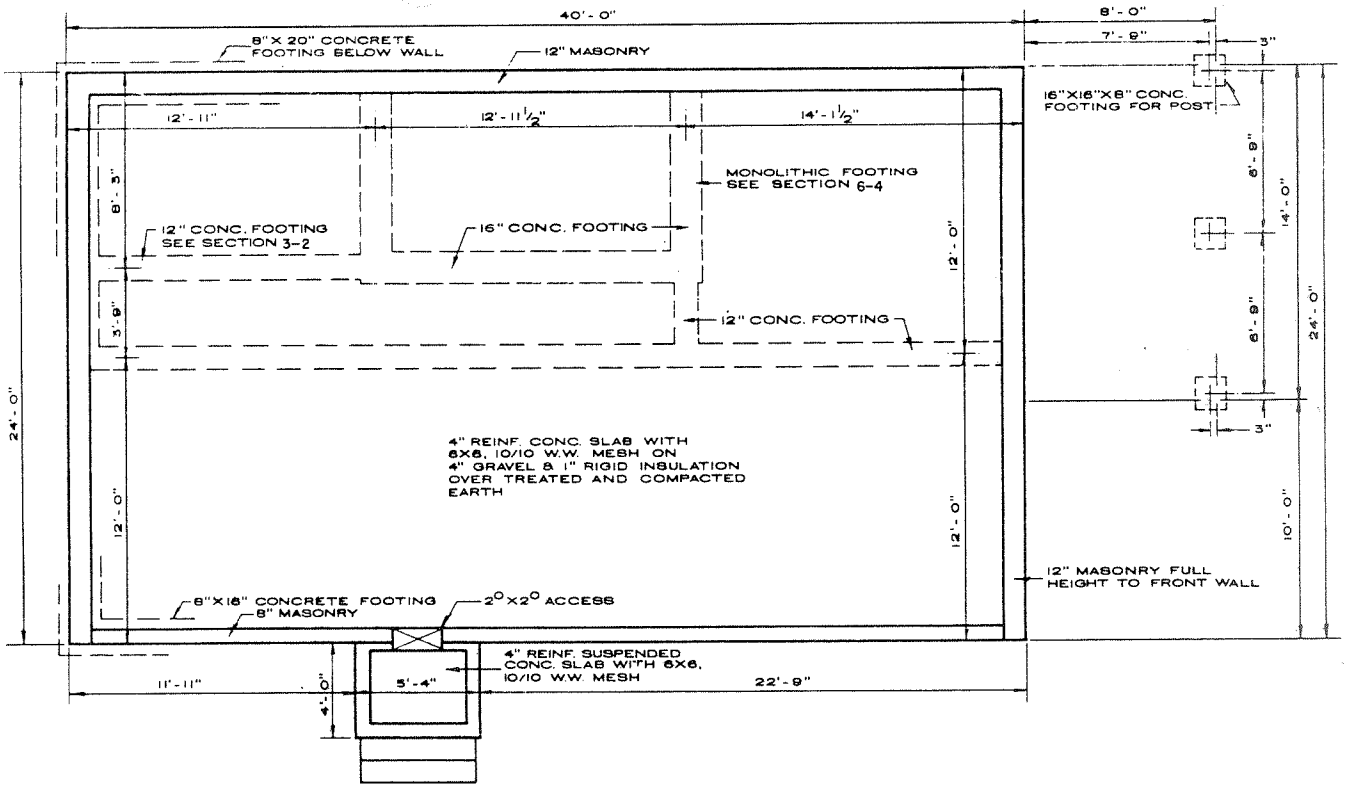
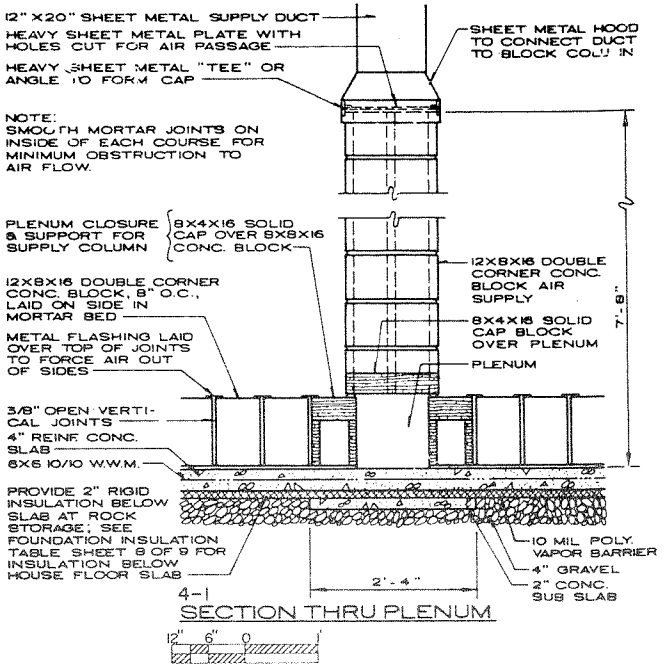
CONSTRUCTION CHECK LIST

1. CHECK LOCAL BUILDING CODE & LOAN COMPANY CRITERIA.
2. ADEQUATELY NAIL & ANCHOR JOINTS.
3. DOUBLE JOISTS UNDER TUBS & OTHER HEAVY LOADS.
4. SHEATH WITH 3/4" PLYWOOD OR HIGH DENSITY FIBER-BOARD OR USE DIAGONAL BRACING IN CORNERS.
5. USE EXTERIOR GLUED PLYWOOD WHEREVER IT MAY BE WETTED DURING OR AFTER CONSTRUCTION.
6. PRESSURE TREAT ALL WOOD WITH GROUND CONTACT AND PROVIDE OTHER NEEDED TERMITE CONTROL.
7. R VALUES DEPEND ON LOCAL CLIMATE AND FUEL COST.
8. PROVIDE 1 SQ FT OF ATTIC VENT OPENINGS FOR EACH 150 SQ FT OF CEILING.
9. WEATHERIZE ALL OPENINGS AND JOINTS.

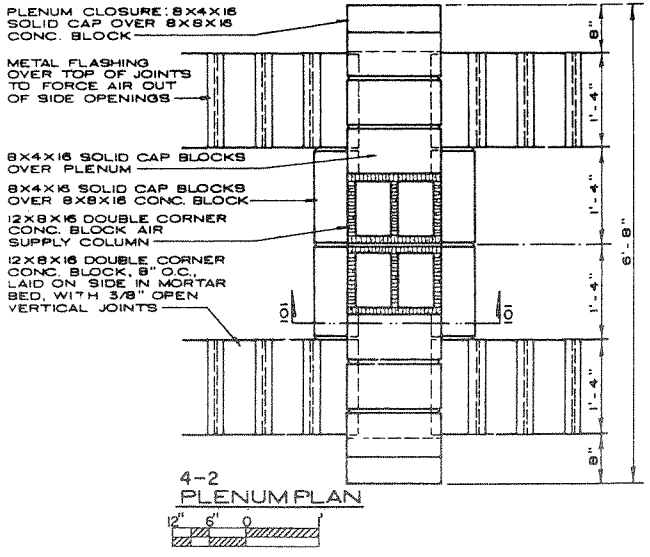




4-1 SECTION THRU PLENUM

FOUNDATION PLAN

12" 0 1' 2' 4'



4-2 PLENUM PLAN

12" 6" 0 1'

NOTE: ANY WALL FINISHES ATTACHED DIRECTLY TO EX EXTERIOR MASONRY WALLS SHALL BE ATTACHED WITH APPROVED ADHESIVE. DO NOT USE FURRING STRIPS.

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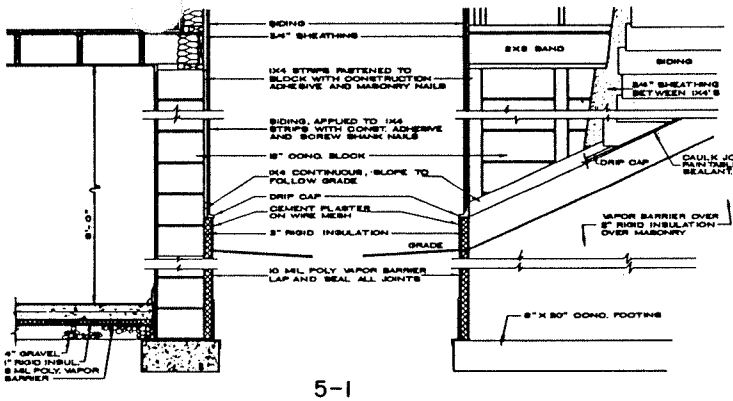
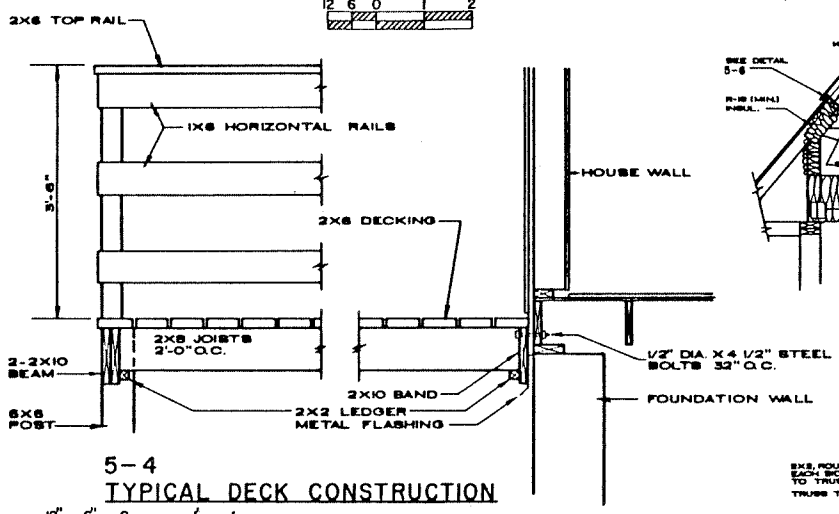


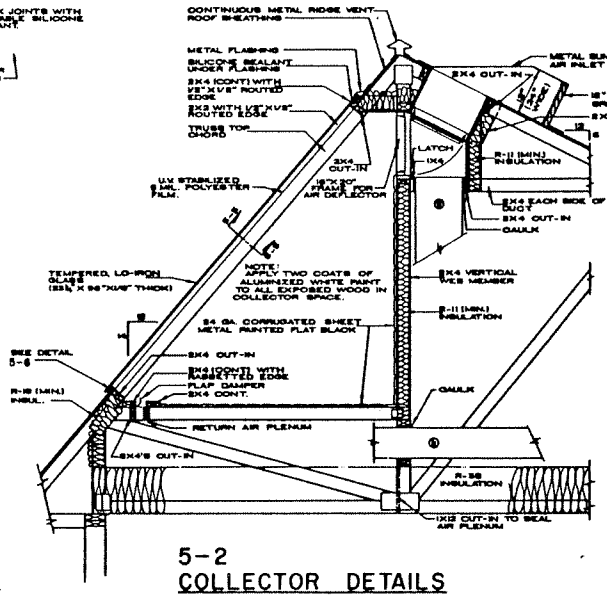
5-1
SIDE WALL DETAILS

12" 6" 0 1' 2'



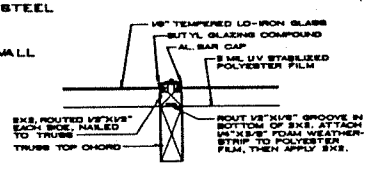
5-4
TYPICAL DECK CONSTRUCTION

12" 6" 0 1'



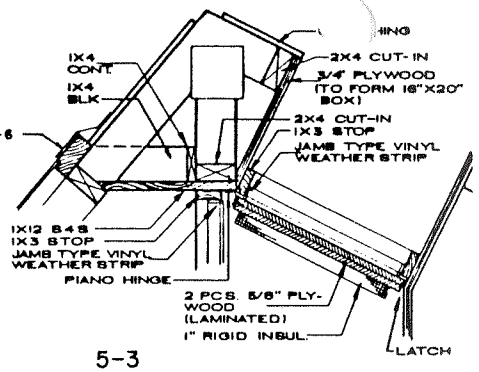
5-2
COLLECTOR DETAILS

12" 6" 0 1' 2'



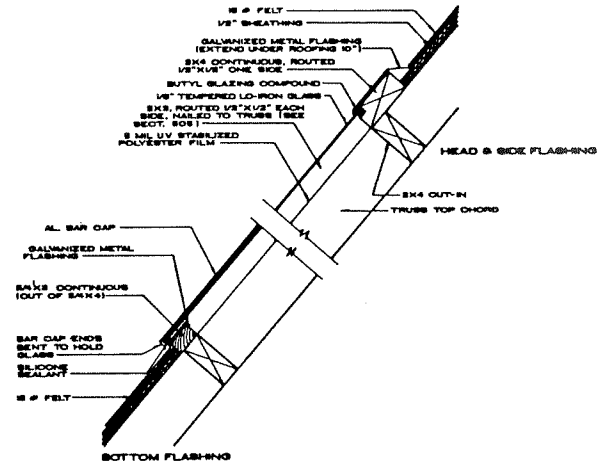
5-5
SECTION

6" 0 1'



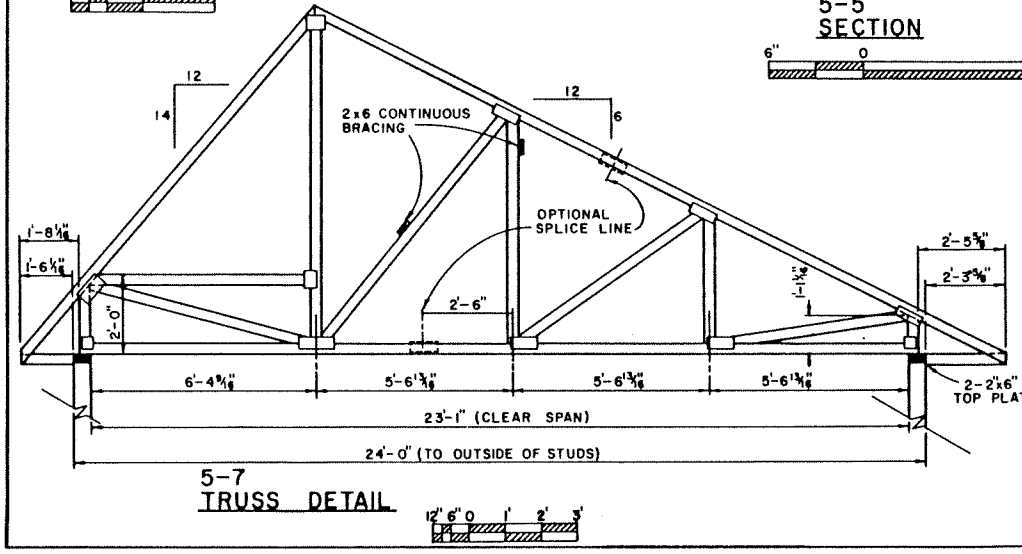
5-3
AIR DEFLECTOR

12" 9" 6" 3" 0 1'



5-6
COLLECTOR FLASHING DETAIL

6" 0 1'



5-7
TRUSS DETAIL

12" 6" 0 1' 2' 3'

TRUSS GENERAL NOTES

1. ALL TRUSSES SHALL BE FACTORY BUILT TO MEET THE REQUIREMENTS OF LOCAL CODES, CLIMATIC CONDITIONS, AND AGENCIES INVOLVED.
2. LUMBER: ALL LUMBER SHALL BE STRESS GRADED AND SO MARKED, OF A DIMENSION TO CARRY ALL DESIGN LOADS SAFELY ACCORDING TO SOUND ENGINEERING PRACTICE.
3. CONNECTIONS: SAFE WORKING LOAD SHALL BE DETERMINED BY TRUSS MANUFACTURER.
4. DESIGN: MANUFACTURER SHALL PROVIDE A TRUSS IN WHICH THE ALLOWABLE WORKING STRESSES HAVE BEEN INCREASED 33⅓% FOR SHORT TERM LOADING CONDITIONS.
5. CONNECTION PLATES: SHALL BE 20 GA. (MIN.) GALVANIZED STEEL, OF SUCH DESIGN AND SIZE AS TO PROVIDE A POSITIVE JOINT CONNECTION BETWEEN TWO OR MORE TRUSS MEMBERS AND TO SAFELY CARRY ANY COMBINED LOADS IMPOSED ON SAID JOINT. TRUSS PLATES SHALL BE APPLIED ON BOTH SIDES OF JOINT.
6. FABRICATION: ALL JOINTS SHALL BE ACCURATELY CUT FOR TRUE, FULL BEARING AND HELD FIRMLY IN PLACE UNTIL CONNECTION PLATE TEETH ARE IMBEDDED IN WOOD. (WOOD WITH KNOTS THAT WOULD REDUCE DESIGN CAPACITY WILL NOT BE USED FOR W/EB MEMBERS.) TOP AND BOTTOM CHORD SHALL BE STRAIGHT AND TRUE TO LINE WITH A MINIMUM OF TWIST OR WARP. TOP AND BOTTOM CHORD SPLICES, WHEN REQUIRED, SHALL BE DESIGNED TO CARRY ALL LOADS IMPOSED AT SPLICE. TOP CHORD AND BOTTOM CHORD SPLICES SHALL NOT OCCUR IN THE SAME PANEL.
7. NAILS: WHEN USED SHALL BE 1½" X 11 GA. "SCOTCH" NAILS OR EQUAL.

NOTE: DOUBLED TRUSSES EACH SIDE OF FURNACE SPACE TO PROVIDE SUPPORT FOR PLATFORM, BLOWER & FURNACE.

LOADS:

TOP CHORD DEAD LOAD + LIVE LOAD = 45 PS.F.
BOTTOM CHORD DEAD LOAD = 20 PS.F.
TOTAL LOAD = 65 PS.F.

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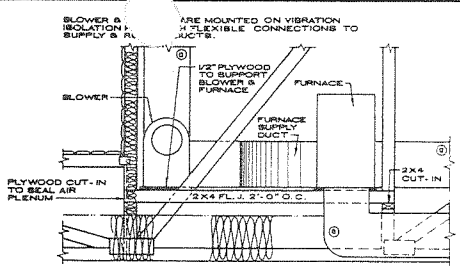
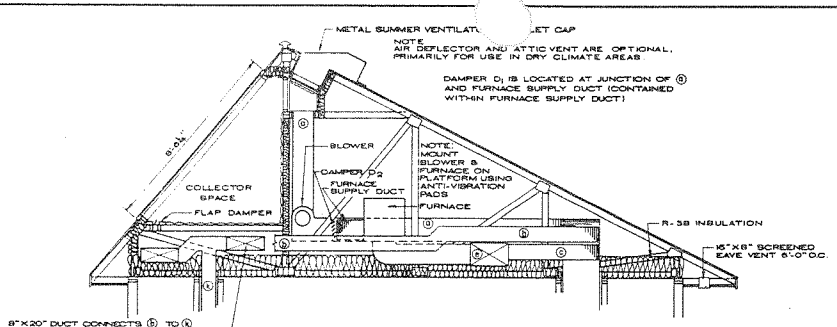


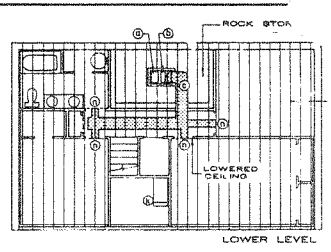
6-1
FURNACE PLATFORM DETAIL

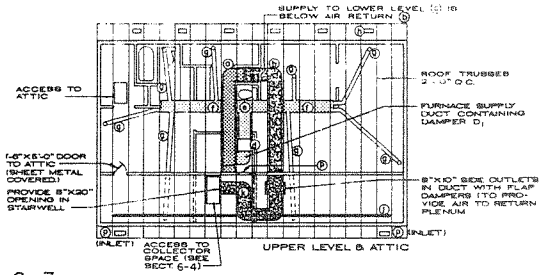
12" 6" 0 1' 2'



6-2
SECT. THRU MECH. SPACE

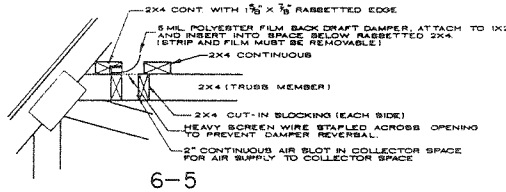
12" 0 1' 2' 4'





6-3
MECHANICAL PLANS

1/20" 1'



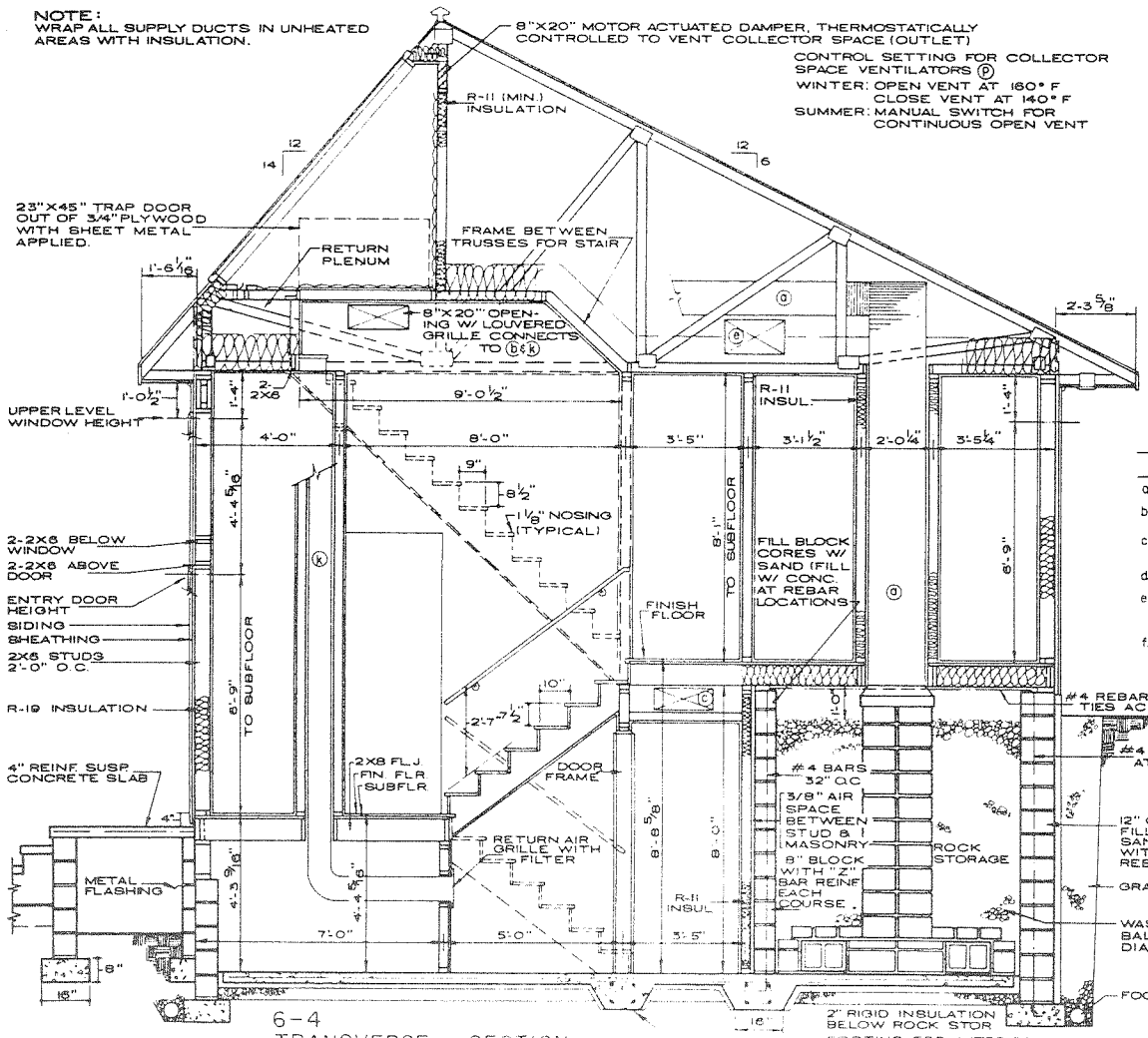
6-5
FLAP DAMPER

12" 9" 6" 3" 0 1'

NOTE:
WRAP ALL SUPPLY DUCTS IN UNHEATED AREAS WITH INSULATION.

8"X20" MOTOR ACTUATED DAMPER, THERMOSTATICALLY CONTROLLED TO VENT COLLECTOR SPACE (OUTLET)

CONTROL SETTING FOR COLLECTOR SPACE VENTILATORS (P)
WINTER: OPEN VENT AT 160° F
CLOSE VENT AT 140° F
SUMMER: MANUAL SWITCH FOR CONTINUOUS OPEN VENT



6-4
TRANSVERSE SECTION

12" 0 1' 2' 4'

SCHEDULE

a/12" X 20" SUPPLY DUCT (TO ROCK STORAGE)

b/8" X 20" RETURN DUCT (FROM ROCK STORAGE)

c/8" X 20" SUPPLY DUCT FOR HEAT DISTRIBUTION TO LOWER LEVEL

d/FURNACE

e/12" X 20" SUPPLY DUCT FROM FURNACE TO LOWER LEVEL SUPPLY AND DISTRIBUTION FROM ATTIC, TO UPPER LEVEL

f/8" X 20" SUPPLY DUCT FOR ATTIC DISTRIBUTION TO UPPER LEVEL

g/BRANCH SUPPLY TO CEILING OUTLETS

h/16"X8" SCREENED EAVE VENT, 6'-0" O.C. TYPICAL

j/2" CONTINUOUS AIR SLOT IN COLLECTOR SPACE (AIR SUPPLY TO COLLECTOR SPACE)

k/8"X 20" RETURN AIR DUCT (FROM HOUSE TO COLLECTOR SPACE)

n/4"X 12" SUPPLY FOR WALL OUTLET

p/8"X 20" THERMOSTATICALLY CONTROLLED COLLECTOR SPACE VENTS OR EAVE VENTS WITH MOTOR ACTUATED DAMPER (SPRING OPEN. POWER CLOSE)

NOTE: DOUBLED TRUSSES EACH SIDE OF FURNACE SPACE TO PROVIDE SUPPORT FOR PLATFORM, BLOWER & FURNACE.

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SYMBOLS AND SPECIFICATIONS

T_1 & T_2 : 24 V HEATING AND COOLING THERMOSTATS, HEAT- OFF- COOL SELECTION.

HONEYWELL - T87F AND Q539A SUBBASE
DAYTON- 2E096 AND 2E151 SUBBASE
PENN. CONTROLS - T-51ACG-1 AND Y-51CG-1 SUBBASE
WHITE ROGERS - IF 36-910 AND S20-1 SUBBASE

T_3 : TWO- SPEED BLOWER THERMOSTAT, SPDT LINE VOLTAGE, RATED 1/2 HP. SET FOR 100° F. 2° TO 7° DIFFERENTIAL. AMBIENT TEMPERATURE RANGE, 0° TO 150° F.

PENN. CONTROLS - A19BAC-1
DAYTON - 2 E208
HONEYWELL - T631C1103A

T_4 : FAN AND LIMIT CONTROL SUPPLIED WITH FURNACE. USE FURNACE MANFACTURER'S SUGGESTED SETTINGS.

DM-1 : SPRING RETURN DAMPER MOTOR, TWO POSITION, OPEN- CLOSE.
DM-2 POWER OPEN, SPRING RETURN. 115 V CONTROL VOLTAGE.
DM-3
DM-4 BARBER COLMAN - MA-405
DM-5 HONEYWELL - M436A1116
PENN. CONTROLS - M811ACB-1 AND 24 V TRANSFORMER

D_1 : DAMPERS (SEE AIR FLOW DIAGRAMS) LOW LEAK QUALITY
D_2 SPECIFY END AND BLADE SEALS, FULL OPEN AND FULL CLOSED USE.
D_3
D_4 AMERICAN WARMING AND VENTILATING - DAA-P-10
D_5 LOUVERS AND DAMPERS, INC. - CD-500
DOBRIN ENGINEERING CORPORATION
SOLAR CONTROL CORPORATION
HONEYWELL
JOHNSON SERVICE CO. - D-1300

SDT-1 : DIFFERENTIAL THERMOSTAT AND SENSORS FOR WINTER SOLAR
S_1 HEATING. SPECIFY 15 ± 1°F TURN-ON DIFFERENTIAL AND 5 ± 1°F
S_2 TURN - OFF DIFFERENTIAL, RATED 1/2 HP 115 V.

SOLAR CONTROL CORPORATION
RHO SIGMA
HELIO & ROPE GENERAL
DEKO LABS
SOLAR ENERGY RESEARCH CORPORATION

SDT-2 : DIFFERENTIAL THERMOSTAT AND SENSORS FOR SUMMER NOCTURNAL
S_3 COOLING OF ROCK STORAGE. SPECIFY 5 ± 1°F TURN- ON
S_4 DIFFERENTIAL AND 3 ± 1°F TURN- OFF DIFFERENTIAL, RATED 1/2 HP 115 V. (OPTIONAL, PRIMARILY FOR DRY CLIMATE AREAS.)

SOLAR ENERGY RESEARCH CORPORATION
RHO SIGMA
HELIO & ROPE GENERAL
DEKO LABS
SOLAR CONTROL CORPORATION

B-2 : COLLECTION BLOWER - 115 V 60 CYCLE MULTI- OR TWO- SPEED, PERMANENT SPLIT CAPACITOR TYPE. (THESE ARE 40% TO 50% MORE EFFICIENT THAN SHADED POLE MOTORS.) LOW SPEED BLOWER OUTPUT SHOULD BE 2 TO 3 CFM/FT.^{2} OF COLLECTOR SURFACE AT 3/8 INCHES WATER COLUMN & AT 110° F. AIR TEMPERATURE. HIGH SPEED BLOWER OUTPUT SHOULD BE 4 TO 5 CFM/FT.^{2} OF COLLECTOR SURFACE AT 3/8 INCHES WATER COLUMN & AT 110° F. AIR TEMPERATURE.

SIMILAR TO DAYTON 4 C058

B-1 : FURNACE BLOWER - 115 V 60 CYCLE, ONE CFM/FT.^{2} OF FLOOR AREA AT 1/2 INCHES WATER COLUMN AT 100° F AIR TEMPERATURE. SUGGEST PERMANENT SPLIT CAPACITOR MOTOR.

SW-1 : SWITCH SPST RATED 1/2 HP AT 115 V.
SW-2 : HEAT- COOL SWITCH, DPDT, RATED 1/2 HP AT 115 V.
SW-3 : SWITCH SPST 24 V FOR CONTROL CIRCUIT.
R-1 : SPDT RELAY, 24 V FOR CONTROL CIRCUIT.
TR-1 : 24 V TRANSFORMER.

NOTE : MENTION OF PROPRIETARY ITEMS DOES NOT IMPLY ANY GUARANTEE OR WARRANTY, AND IS NOT INTENDED TO EXCLUDE OTHER SUITABLE PRODUCTS.

OPERATIONS

A. TWO STANDARD HEAT- COOL THERMOSTATS LOCATED IN HALLWAY CONTROL ELECTRIC FURNACE OR HEAT PUMP.
1. T_1 - CONTROLS BLOWER B-1 AND IS SET AT 68° F WINTER AND 75° F SUMMER.
2. T_2 - CONTROLS AUXILIARY HEAT OR COOL AND IS SET AT 65° F WINTER AND 78° F SUMMER.

NOTE : AUXILIARY FURNACE OR HEAT PUMP SHOULD BE SIZED BY LOCAL SUPPLIER.

B. DAMPER OPERATION
1. DAMPER MOTOR DM-1 IS ENERGIZED WHEN BLOWER B-1 IS ON AND IS CONTROLLED BY THE DISTRIBUTION CONTROL SYSTEM HEATING OR COOLING THE HOUSE.
2. DAMPER MOTOR DM-2 IS ENERGIZED WHEN B-2 IS ENERGIZED AND IS CONTROLLED BY THE COLLECTION CONTROL SYSTEM.

C. TWO DIFFERENTIAL THERMOSTATS CONTROL COLLECTION BLOWER B-2.
1. SDT-1 CONTROLS BLOWER B-2 DURING SOLAR HEAT CYCLE.
   a. SENSOR S_1 IS LOCATED IN ATTIC NEAR RIDGE AND SHADED; SENSOR S_2 IS CENTERED IN ROCK, ONE FOOT IN ON COOL SIDE.
   b. WHEN S_1 IS 15° F HOTTER THAN S_2, BLOWER STARTS AT LOW SPEED.
   c. TWO SPEED BLOWER THERMOSTAT T_3 IS SET AT 100° F FOR HIGH SPEED BLOWER OPERATION WITH A 5° F ON DIFFERENTIAL.
2. SDT-2 CONTROLS BLOWER B-2 DURING COOLING.
   a. SENSOR S_3 IS LOCATED WITHIN ATTIC INTAKE VENT; SENSOR S_4 IS LOCATED NEAR S_3 IN ROCK.
   b. WHEN S_3 IS 7° F COOLER THAN S_4, COLLECTION BLOWER B-2 CIRCULATES COOL AIR THROUGH ROCK OR HOUSE.
3. BOTH DIFFERENTIAL THERMOSTATS SDT-1 AND SDT-2, HEAT- COOL SWITCHES SW-1 & SW-2 AND FURNACE ARE LOCATED IN OR EXPOSED TO THE COOLER ENVIROMENT OF THE ATTIC.

MANUAL CHANGE - OVER FROM SOLAR HEATING TO COOLING

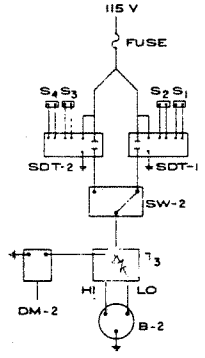
A. OPEN RIDGE VENT IN COLLECTOR SPACE.
B. OPEN ROOF VENT TO BLOWER B-2 AND CLOSE OFF ATTIC TO BLOWER.
C. POSITION HEAT- COOL SWITCH SW-1 & SW-2 TO COOL.
D. CHANGE BOTH HOUSE THERMOSTATS TO COOL.
E. OPEN ALL SOFFIT VENTS.

MANUAL CHANGE - OVER FROM SOLAR COOLING TO HEATING

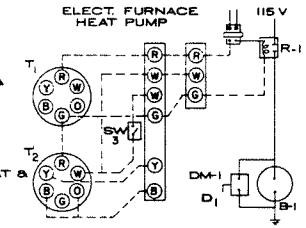
A. CLOSE ALL SOFFIT VENTS.
B. CHANGE BOTH HOUSE THERMOSTATS TO HEAT.
C. POSITION HEAT- COOL SWITCH SW-1 & SW-2 TO HEAT
D. CLOSE ROOF VENT TO BLOWER B-2 AND OPEN ATTIC TO BLOWER.
E. CLOSE RIDGE VENT IN COLLECTOR SPACE.

WIRING DIAGRAM

COLLECTION SYSTEM



DISTRIBUTION SYSTEM

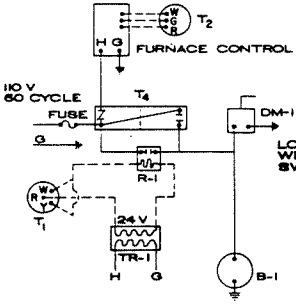


T_1 AND T_2 - 24 V SYSTEM SWITCH, HEAT-OFF-COOL, AUTOMATIC FAN IN BOTH HEATING AND COOLING MODES. HONEYWELL THERMOSTAT T87F OR EQUAL— SUBBASE Q 539 J OR EQUAL.

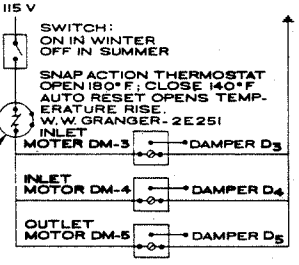
SW-3 - ON-OFF MANUAL SWITCH FOR AUXILIARY STRIPS FOR HEAT PUMP. STRIPS ACTIVATE AUTOMATICALLY FOR DEFROST CYCLE OF HEAT PUMP.

DM-1 AND DM-2 - DAMPER VOLTAGE TO BE THE SAME AS BLOWER MOTOR VOLTAGE OF AIR HANDLER FOR HEAT PUMP OR ELECTRIC FURNACE.

DISTRIBUTION SYSTEM FOR WARM AIR GAS OR OIL FURNACE

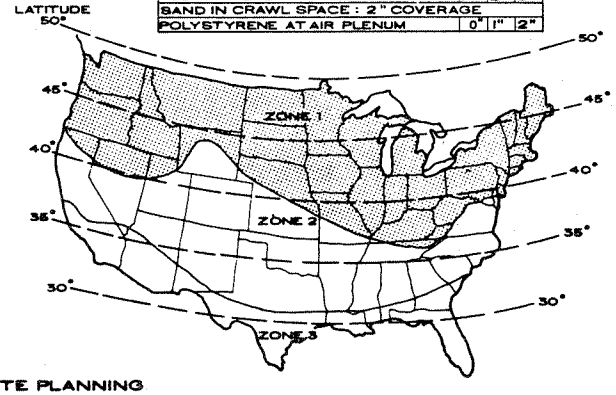


COLLECTOR SPACE VENTILATORS



ALL COLLECTOR SPACE VENTILATORS WIRED IN PARALLEL FOR SIMULTANEOUS ACTION.

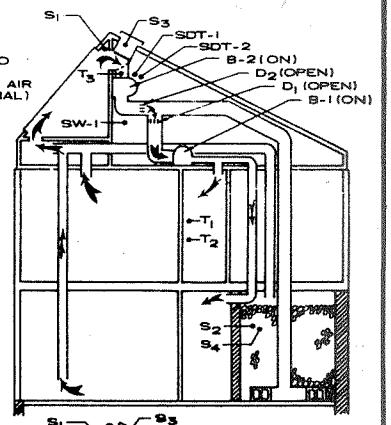
FOUNDATION INSULATION TABLE			
HOUSE ZONE	3	2	1
POLYSTYRENE IN FOUNDATION WALL	1½"	3"	4½"
POLYSTYRENE BELOW ROCK	1"	2"	3"
SAND IN CRAWL SPACE : 2" COVERAGE			
POLYSTYRENE AT AIR PLENUM	0"	1"	2"



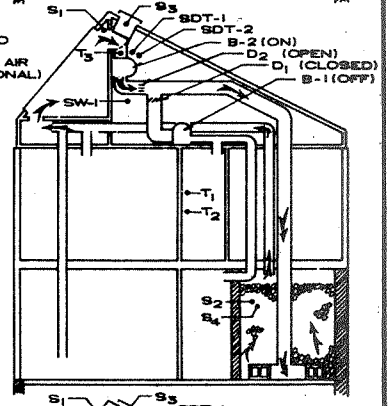
SITE PLANNING

ORIENT HOUSE WITH COLLECTOR FACING SOUTH FOR OPTIMUM SOLAR ENERGY ASSORBTION MAKING SURE NO OBSTRUCTIONS SUCH AS HIGH TREES OR BUILDINGS WILL BE BLOCKING THE SUN'S RAYS. MAKE MAXIMUM USE OF EXISTING ASSETS SUCH AS NATURAL SHADE, OPEN EXPOSURE TO SUMMER BREEZES, SHELTER FROM COLD WINTER WINDS, AND GOOD DRAINAGE AWAY FROM HOUSE. IF HIGH WATER TABLE EXISTS, MAKE SURE ADEQUATE DRAINAGE IS POSITIVE TO PREVENT WATER SATURATION IN THE AIR PLENUMS AND ROCK STORAGE UNDER FLOOR; OTHERWISE HIGH DEGREE OF HUMIDITY DISCOMFORT WILL RESULT WITHIN THE DWELLING.

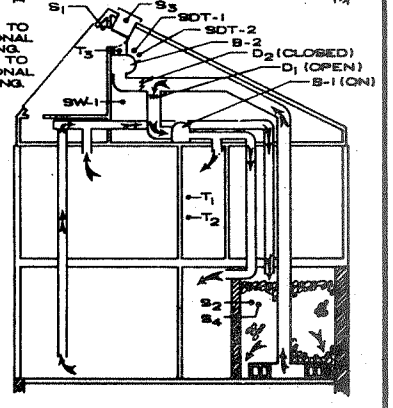
HEATING: ATTIC TO HOUSE
COOLING: OUTSIDE AIR TO HOUSE (OPTIONAL)



HEATING: ATTIC TO ROCK STORAGE
COOLING: OUTSIDE AIR TO STORAGE (OPTIONAL)



HEATING: STORAGE TO HOUSE, CONVENTIONAL FORCED AIR HEATING.
COOLING: STORAGE TO HOUSE, CONVENTIONAL FORCED AIR COOLING.



AIR FLOW DIAGRAMS FOR SIX OPERATING MODES AND CONTROL LOCATIONS

NO SCALE

DIAGRAMMATIC REPRESENTATION OF AIR HANDLING EQUIPMENT DOES NOT INDICATE ACTUAL OPERATING LOCATION.

COOPERATIVE EXTENSION SERVICE
AGRICULTURE AND HOME ECONOMICS

AND
UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING

2 STORY SOLAR ATTIC

USDA '84 | EX. 7238 | SHEET 7 OF 7