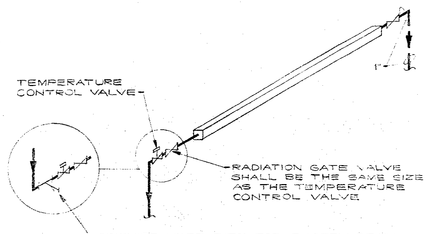
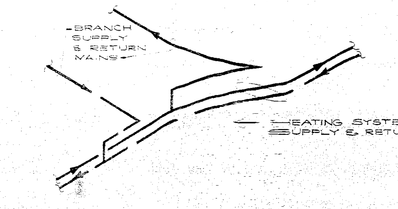
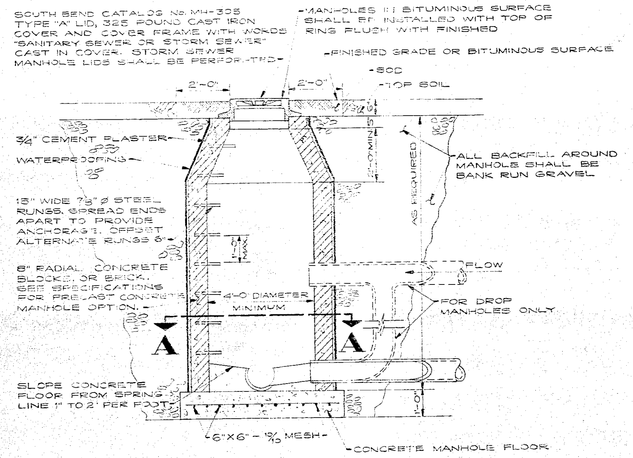


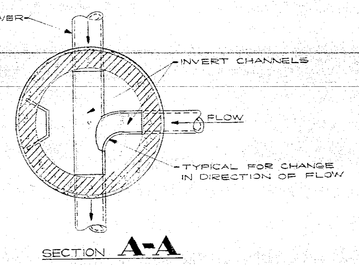
TYPICAL PIPING CONNECTION TO PINNED TUBE RADIATION
NO SCALE



TYPICAL DETAIL OF SWING BRANCH TAKE-OFF FROM MAIN—NOT REQUIRED IF ANCHOR TO ANCHOR
NO SCALE

JOINT AT HEATING ADJACENT





SECTION A-A

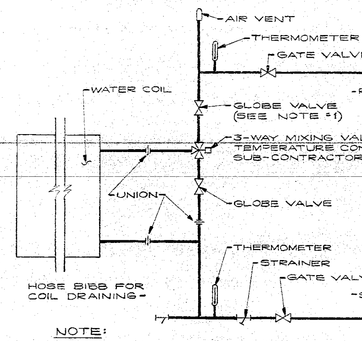
TYPICAL MANHOLE DETAIL
SCALE: 3/8" = 1'-0"

PLUMBING LEGEND

NAME	SYMBOL	ABBREVIATION
COLD WATER		C.W.
RAW COLD WATER		RAW C.W.
SOFT COLD WATER		SOFT C.W.
120° HOT WATER		H.W.
150° HOT WATER		150° H.W.
DOMESTIC HOT WATER RETURN		H.W.R.
GAS LINE		G
GAS OUTLET		G
CAST IRON STORM DRAIN		S
CAST IRON SANITARY WASTE		W
VITRIFIED TILE STORM SEWER		V.T.S.
VITRIFIED TILE SANITARY SEWER		V.T.
PLUMBING VENTS		
SILL COCK		S.C.
HOSE BIBB	H.B.	H.B.
ROOF DRAIN	R.D.	R.D.
FLOOR DRAIN	F.D.	F.D.
HOPPER DRAIN	H.D.	H.D.
OPEN SITE DRAIN	O.S.D.	O.D.
BALANCING COCK		B.C.
GATE VALVE		G.V.
CHECK VALVE		C.V.
INSIDE ROOF CONDUCTOR	R.C.	R.C.
CLEAN OUT	C.O. C.O.	C.O.
WATER CLOSET		W.C.
URINAL		U.R.
LAVATORY		L.AV.
SERVICE SINK		S.S.
WASH SINK		W.S.
DRINKING FOUNTAIN		D.F.
VITRIFIED TILE COMBINATION SEWER		V.T.C.S.

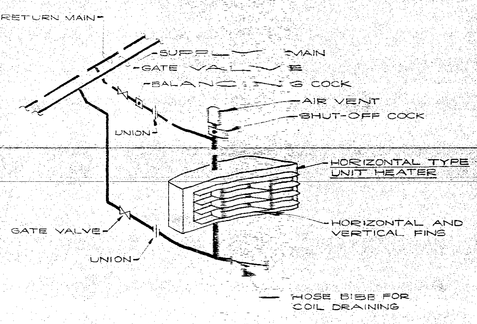
HEATING, VENTILATING & AIR CONDITIONING LEGEND

NAME	SYMBOL	ABBREVIATION
HEATING SYSTEM WATER SUPPLY		S
HEATING SYSTEM WATER RETURN		R
GATE VALVE		
CHECK VALVE		
TEMPERATURE REGULATING VALVE		
GLOBE VALVE		
STRAINER		
PIPE ANCHOR		
UNION		
PLUG VALVE OR BALANCING COCK		
PIPING DROP WITH RESPECT TO FLOW		
PIPING RISE WITH RESPECT TO FLOW		
PIPING TEE OUT TOP		
PIPING TEE OUT BOTTOM		
HOSE BIBB		HB
THERMOSTAT		
AIR VENT		
SUPPLY AIR OUTLET		
RETURN & EXHAUST AIR INLET		
DUCT DROP WITH RESPECT TO FLOW		
DUCT RISE WITH RESPECT TO FLOW		
BALANCING DAMPER		
EXHAUST DUCT FROM CEILING PLENUM		
DUCT (1ST FIG = WIDTH - 2ND = DEPTH)		
SUPPLY DUCT SECTION		
EXHAUST OR RETURN AIR DUCT SECTION		
STEAM SUPPLY		
CONDENSATE RETURN		



NOTE:
1. PROVIDE PLUG COCK INSTEAD OF GLOBE VALVE FOR PIPE SIZES 2" AND SMALLER.

DETAIL "A"
HEATING COIL PIPING CONNECTIONS
NO SCALE



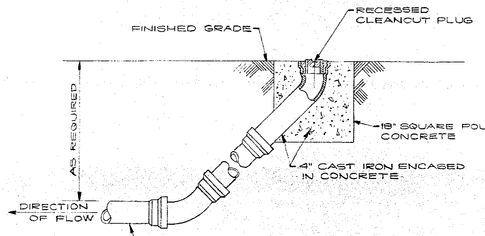
HORIZONTAL UNIT HEATER HOT WATER
PIPING DIAGRAM
NO SCALE

GENERAL PLUMBING NOTES
(APPLY TO ALL MECHANICAL SHEETS)

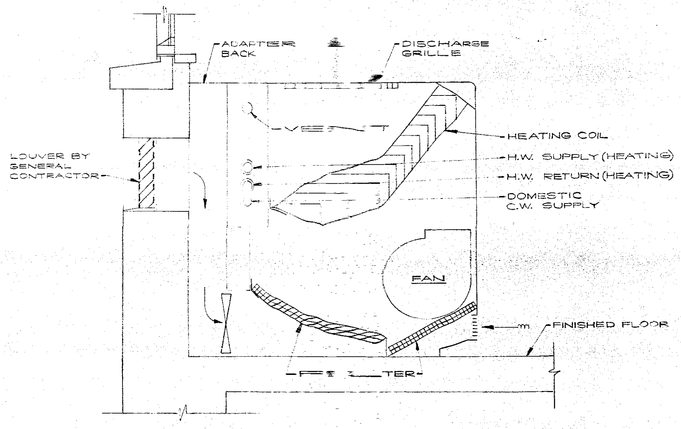
1. ALL WORK SHOWN IS NEW AND BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
2. ALL DOMESTIC WATER, GAS, COMPRESSED AIR, ETC., BRANCH PIPING SHOWN WITHOUT SIZE INDICATED SHALL BE A MINIMUM OF 3/4".
3. ALL STORM SEWERS 12" IN DIAMETER AND LARGER SHALL BE CONCRETE PIPE; SEE SCHEDULE THIS SHEET.
4. VALVE ALL COMBSTIC WATER BRANCHES IN FAN ROOMS, TUNNELS AND PIPE SPACES.
5. ALL HORIZONTAL PIPING SHOWN ON FLOOR PLANS SHALL BE RUN ABOVE SUSPENDED CEILING UNLESS OTHERWISE NOTED AND SHALL BE INSTALLED TO AVOID DUCTWORK, LIGHT FIXTURES, BEAMS AND OTHER STRUCTURAL MEMBERS.
6. ALL PIPING IN PIPE SPACES SHALL BE RUN AS CLOSE TO WALLS AS POSSIBLE TO ALLOW MAXIMUM ACCESS.

GENERAL NOTES
HEATING, VENTILATING & AIR CONDITIONING
(APPLY TO ALL MECHANICAL SHEETS)

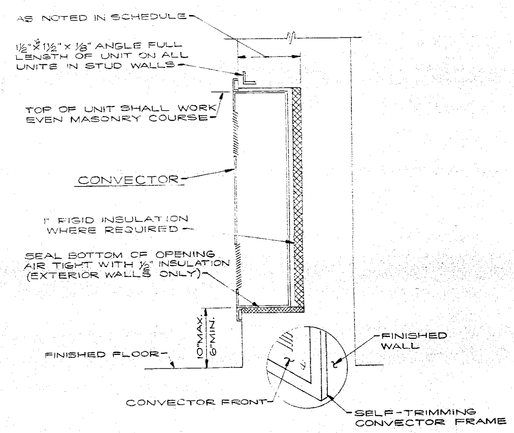
1. ALL WORK SHOWN IS NEW AND BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
2. ALL EXISTING BUILDING SURFACES, WALLS, FLOORS, ETC. WHICH ARE TO BE EXPOSED, DISTURBED, CUT, OR PARTIALLY REMOVED BY THE MECHANICAL CONTRACTOR IN ABANDONING, REMOVING, RELOCATING, REPLACING, OR INSTALLING MECHANICAL EQUIPMENT OR PIPING WILL BE PATCHED AND REPAIRED BY THE GENERAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL COORDINATE THIS WORK WITH THE GENERAL CONTRACTOR AND SHALL ONLY EXPOSE, DISTURB, CUT, OR REMOVE THE MINIMUM AREA OF SUCH SURFACES NECESSARY TO PERFORM HIS WORK.
3. ALL DASHED LINES NOT OTHERWISE NOTED ON THE PLANS INDICATE LOCATION OF TOP-LITES, BULKHEADS, CANOPIES, OR ROOF OVERHANGS PROVIDED BY THE GENERAL CONTRACTOR.
4. SEE ARCHITECTURAL SECTIONS FOR DETAILS OF PINNED TUBE RADIATION INSTALLED BY THE MECHANICAL CONTRACTOR IN HEATING ENCLOSURES PROVIDED BY THE GENERAL CONTRACTOR.
5. PRIMARY AIR TILE AND CONCRETE PIPE SHALL BE INSTALLED LOW ENOUGH TO ACCOMODATE PLUMBING DRAINS ABOVE THEM UNLESS OTHERWISE NOTED ON THE PLUMBING FOUNDATION PLANS.
6. ALL THERMOSTATS SHALL BE APPROXIMATELY 4'-6" ABOVE FINISHED FLOOR AND LINED UP VERTICALLY WITH LIGHT SWITCHES UNLESS OTHERWISE NOTED OR DIRECTED BY THE ARCHITECT.
7. ARROWS ON HOT WATER AND CHILLED WATER MAINS INDICATE DIRECTION OF FLOW. PITCH MAINS UP A MINIMUM OF 1" IN 50'-0" IN DIRECTION OF SUPPLY WATER FLOW.
8. ALL AUTOMATIC TEMPERATURE REGULATING VALVES SHALL BE SIZED FOR FIVE POUND WATER PRESSURE DROP.
9. PROVIDE DRAIN VALVES INSIDE ENCLOSURES OF ALL HEATING OR COOLING UNITS WHICH ARE SUPPLIED FROM OVERHEAD MAINS.
10. ALL FAN COIL UNIT CONDENSATE DRAINS ABOVE GRADE SHALL BE TYPE "L" HARD COPPER TUBING AND SHALL BE SIZED AS FOLLOWS: 1" DRAIN FOR ONE COIL, 1 1/4" FOR TWO COILS, 1 1/2" FOR THREE COILS, 2" FOR FOUR OR MORE COILS. ALL BELOW GRADE DRAINS SHALL BE 2" EXTRA HEAVY CAST IRON SOIL PIPE AND SHALL SLOPE 1/8" PER FOOT UNLESS OTHERWISE NOTED.
11. HEATING AND COOLING RUNOUTS TO CONVECTORS AND FAN COIL UNITS SHALL BE 3/4" FOR UNITS UNDER 4 GPM AND 1" FOR UNITS OVER 4 GPM; AND 1" TO ALL PINNED TUBE, CABINET HEATERS, AND UNIT HEATERS UNLESS OTHERWISE NOTED.
12. ALL AIR CONDITIONING SUPPLY DUCTWORK TERMINATING AT DIFFUSERS AND REGISTERS SHALL BE LINED WITH 1" INSULATION. ALL OUTDOOR AIR INTAKE DUCTWORK SHALL BE COVERED WITH 1" INSULATION. ALL RETURN AND EXHAUST DUCTWORK AND HEATING ONLY SUPPLY DUCTWORK SHALL NOT BE INSULATED. ALL DUCT SIZES SHOWN ARE SHEET METAL DIMENSIONS.
13. ALL DUCTWORK RUN ABOVE CEILING SHALL BE RUN TO AVOID LIGHTING FIXTURES, JOISTS, BEAMS, ETC., AS APPROVED BY THE ARCHITECT.
14. ALL SHEET METAL DUCTWORK RUN ABOVE THE ROOF SHALL BE 20 GAUGE (MINIMUM) UNLESS OTHERWISE NOTED.
15. ALL CONCRETE AIR DISTRIBUTION PIPE SHALL PITCH DOWN TO FAN ROOMS.
16. PROVIDE ACCESS PANEL AND BAFFLES IN ALL AIR HANDLING UNIT MIXING BOXES.
17. PROVIDE A MANUAL BALANCING DAMPER IN EACH ZONE DUCT OF ALL MULTI-ZONE AIR HANDLING UNITS AS CLOSE TO UNITS AS POSSIBLE.



DETAIL OF TYPICAL OUTSIDE CLEANOUT
NO SCALE



TYPICAL CLASSROOM UNIT VENTILATOR
NO SCALE



TYPICAL DETAIL OF RECESSED CONVECTOR
NO SCALE

PLUMBING FIXTURE SCHEDULE

ITEM	FIXTURE	WASTE	VENT	C.W.	H.W.	SIZE OF CONNECTIONS ELEMENTARY	SIZE OF CONNECTIONS HIGH SCHOOL
P-1	WATER CLOSET	4"	2"	1"	—	15"	15"
P-2	URINAL	2"	1 1/2"	3/4"	—	16"	20"
P-3	LAVATORY WITH SOAP DISPENSER	1 1/2"	1 1/2"	1/2"	1/2"	27" - 31"	
P-4	SERVICE SINK (FLOOR RECESSED)	3"	1 1/2"	3/4"	3/4"	6" TO TOP OF RIM	
P-5	DRINKING FOUNTAIN (NO SUPPLY)	1 1/2"	1 1/2"	1/2"	—	28" TO 30" TO NOZZLE	36" TO 38" TO NOZZLE
P-6	WATER COOLER	1 1/2"	1 1/2"	1/2"	—	NOZZLE STANDARD	NOZZLE STANDARD
P-7	SINK UNIT (SEE NOTE #3)	1 1/2"	1 1/2"	1/2"	—		
P-8	CABINET SINK (SEE NOTE #4)	1 1/2"	1 1/2"	1/2"	1/2"	STANDARD	

NOTES:
1. ALL BRANCH SIZES SHOWN IN THE ABOVE SCHEDULE ARE INDIVIDUAL BRANCH SIZES TO FLUSH VALVES, FAUCETS, BUBBLERS, ETC.
2. WATER CLOSETS AND URINALS SHALL BE FLUSH VALVE OPERATED.
3. MECHANICAL CONTRACTOR SHALL CONSULT WITH THE ARCHITECT'S REPRESENATIVE BEFORE ROUGHING-IN ANY WATER CLOSETS.
4. THIS CONTRACTOR SHALL FURNISH ALL MATERIAL AND LABOR TO ROUGH-IN AND HOOK UP COMPLETE, INCLUDING THE FURNISHING AND INSTALLATION OF ALL TRIM, EXCEPT THE CRUMB CUP, TAIL PIECE AND STRAINER. SEE SPECIFICATIONS.
5. ALL FIXTURES, INCLUDING DRINKING FOUNTAINS AND WATER COOLERS, SHALL HAVE A CHROME PLATED KEY OPERATED VALVE EXPOSED AT THE FIXTURES.

FLOOR DRAIN & HOPPER DRAIN SCHEDULE

TYPE	JAY R. SMITH FLOOR DRAIN	JAY R. SMITH TRAP	WADE FLOOR DRAIN	WADE TRAP	GENERAL LOCATION	SEE NOTE
A	2041-A	INTEGRAL	1120-C.D.	INTEGRAL	IN FINISHED AREAS (OTHER FLOORS ARE ON GRADE	2
B	2210	7230 WITH 4021 S.O.	1670	W-8980-A	AREAWAY	3
C	2630	7230 WITH 4021 S.O.	2370-SQ.	W-8980-A	BOILER RM. KITCHEN FAN ROOM, ETC.	4
D	3510-11	7222	1100-ER.	8950-H	FAN ROOMS WITH FLOOR NOT ON GRADE	5
E	SIMILAR TO AMERICAN STANDARD #F-7704 WITH F-7723 RESERVE STRAINER, TRAP SIMILAR TO JAY R. SMITH #7230 WITH 4021 S.O.				KITCHEN AREA ONLY	6
F	3540-11	INTEGRAL	1120-CR.	INTEGRAL	KITCHEN AREA ONLY	7

NOTES:
1. ALL FLOOR AND HOPPER DRAINS SHALL BE FULL SIZE OF THE CONNECTING WASTE LINE SHOWN ON THE DRAWINGS, UNLESS OTHERWISE NOTED.
2. ALL FLOOR DRAINS SHALL HAVE NICKEL BRONZE RIMS AND STRAINERS. THE STRAINERS SHALL HAVE A 5" MINIMUM DIAMETER OR TWICE THAT OF THE CONNECTING WASTE LINE, UNLESS OTHERWISE NOTED.
3. FLOOR DRAIN SHALL HAVE A SHALLOW PERFORATED SEDIMENT BUCKET AND POLISHED BRONZE STRAINER. OMIT TRAP WHEN INSTALLED IN OUTSIDE INTERCEPTOR GUTTER OR AREAWAY.
4. HOPPER DRAIN SHALL BE GALVANIZED IRON WITH DOUBLE DRAINAGE FLANGE, INSIDE BRONZE STRAINER AND GALVANIZED TOP GRATE. OMIT GALVANIZING IN BOILER ROOM ONLY.
5. FLOOR DRAIN SHALL HAVE A POLISHED BRONZE STRAINER AND ADJUSTABLE INDIRECT WASTE FUNNEL.
6. HOPPER DRAIN SHALL BE ENAMELED CAST IRON FLOOR SINK WITH REMOVABLE ENAMELED CAST IRON BEEHIVE STRAINER.
7. SAME AS #5 EXCEPT WITH NICKLE BRONZE RIM AND STRAINER.

COPPER FIN TUBE RADIATION SCHEDULE

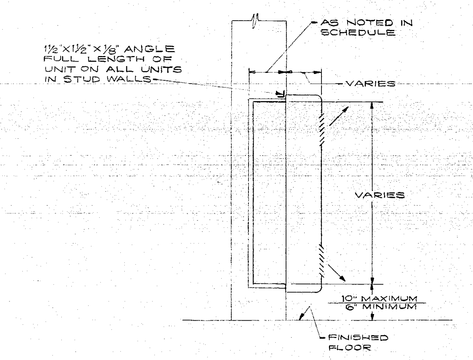
TYPE	MODEL NUMBER	BTU PER FOOT	TUBE DIA.	FIN SIZE	NUMBER OF ROWS	FINS PER FOOT	TYPE OF COVER	SEE NOTE
A	VULCAN LINVECTOR	1750	1 1/4"	4 1/2" X 4 1/2"	1	48	SHELVING BY GENERAL CONTRACTOR.	1

NOTES:
1. HEATING CAPACITIES ARE BASED ON 70°F. ENTERING AIR, 20°F. TEMPERATURE DROP, 200°F. AVERAGE WATER.

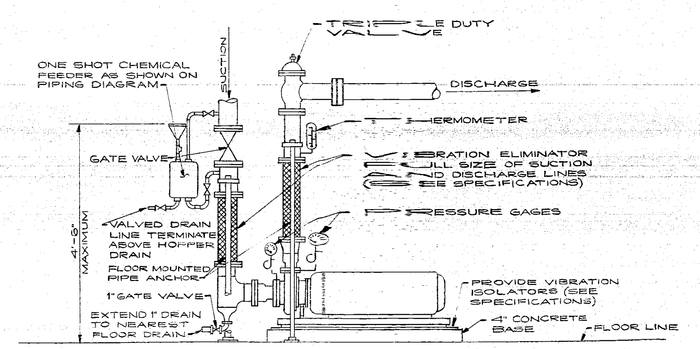
BRANCH PIPE SIZING FOR FIXTURES IN PIPE SPACES

FIXTURE	NUMBER OF FIXTURES ONE	TWO	THREE	FOUR	SIX OR SEVEN	SEVEN TO EIGHTEEN
WATER CLOSET	1"	1 1/4"	1 1/2"	1 1/2"	2"	2 1/2"
URINAL	3/4"	1"	1 1/4"	1 1/2"	1 1/2"	2"
LAVATORY	3/4"	3/4"	3/4"	3/4"	1"	1 1/4"

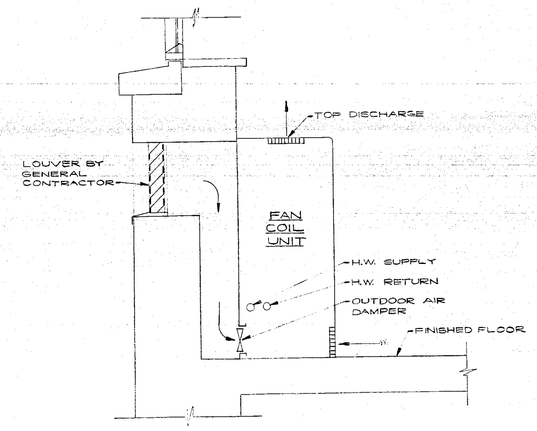
NOTE:
1. THIS SCHEDULE APPLIES TO ALL PLUMBING FLOOR PLANS.



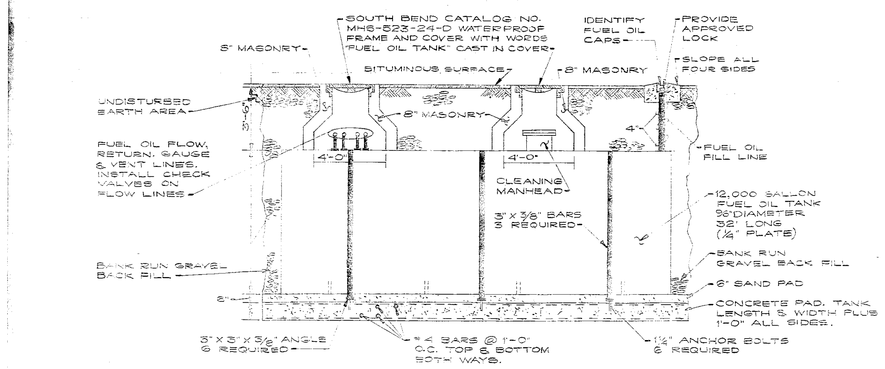
TYPICAL DETAIL OF SEMI-RECESSED CABINET HEATER
NO SCALE



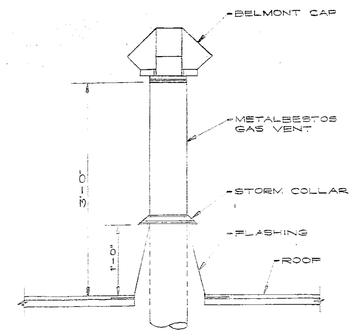
TYPICAL CIRCULATING PUMP CONNECTION
NO SCALE



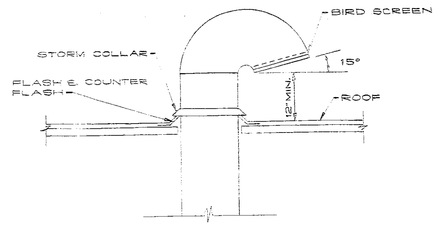
DETAIL OF FAN COIL UNITS "C1" & "C2"
NO SCALE



DETAIL OF FUEL OIL STORAGE TANK



TYPICAL METALBESTOS GAS VENT
NO SCALE



DETAIL OF GOOSENECK RELIEF VENT OR OUTSIDE AIR INTAKE TO RU ROOF
NO SCALE

CONCRETE PIPE SCHEDULE

AIR DISTRIBUTION SIZE	SPECIFICATION	CLASS
36"	ASTM-C-76	II

EVERETT I. BROWN COMPANY — ARCHITECTS & ENGINEERS
8600 BRADBURY AVENUE — PARK FLETCHER
INDIANAPOLIS INDIANA

SHEET M-1 OF 14

CHESTERTON ··· CENTRAL ··· BAILLY SCHOOLS