AIR CONDITIONING UNITS

UNIT													VIBRATION ISOLATORS		HEATING COIL									COOLING COIL									
UNIT NO.	SERVICE	TYPE	CFM OF STD AIR	CFM OF O.A.	MAX. O.V.	FAN DIA.	EXT. S.P. IN IN. WATER	MOTOR HP	FAN WHEEL TYPE	FILTER TYPE	INLET VANES	SUPPORT	TYPE	MIN. STATIC DEFLECTION	MAX. FACE VEL.	ENT. AIR TEMP	LV. AIR TEMP	ENT. WATER TEMP	LV. WATER TEMP	MAX. FINS PER IN.	BRANCH PIPE SIZE	GPM	MAX. FACE VEL.	ENT. AIR D.B.	ENT. AIR W.B.	LV. AIR D.B.	LV. AIR W.B.	ENT. WATER TEMP.	LV. WATER TEMP.	MAX. FINS PER IN.	BRANCH PIPE SIZE	GPM
AC-1	SECOND FL. EAST	HORIZ.	6050	1000	1800	16 1/2"	2 1/4	10	FC	T.A.	YES	CONC. PAD	B	1"	450	55	85	200	160	9	1 1/4"	9.8	450	78	63.4	53	51.4	45	55	9	2"	42
AC-2	SECOND FL. CENTER	↓	4000	600	1740	13 1/2"	2 1/4	7 1/2	↓	↓	↓	↓	↓	↓	425	↓	↓	↓	↓	↓	1"	6.5	425	↓	63.5	↓	51.2	↓	↓	↓	2"	29
AC-3	SECOND FL. WEST	↓	6700	1000	1850	16 1/2"	2 1/4	10	↓	↓	↓	↓	↓	↓	500	↓	↓	↓	↓	↓	1 1/4"	10.9	500	↓	64	↓	51.2	↓	↓	↓	2 1/2"	50
AC-4	FIRST FL.	↓	8200	1230	1950	16 1/2"	2 3/4	15	↓	↓	↓	↓	↓	↓	500	↓	↓	↓	↓	↓	1 1/4"	13.3	500	↓	63.5	↓	51.2	↓	↓	↓	2 1/2"	59
AC-5	LUNCH RM.	↓	3240	500	2225	10 1/2"	2	5	↓	↓	NO	↓	↓	↓	600	↓	↓	↓	↓	↓	1"	5.2	600	↓	65	↓	51.2	↓	↓	↓	2"	27

LINEAR DIFFUSERS

TYPE NO.	AIR FLOW DIRECTION	LENGTH	NO. OF SLOTS	INLET DIA.	PLENUM BOX HEIGHT	MAX. NC AT LISTED AIR FLOW
1	2 WAY	4'-0"	2	8"	12 7/16"	27
2	1 WAY	↓	2	8"	12 7/16"	↓
3	2 WAY	↓	4	10"	14"	↓
4	1 WAY	↓	4	10"	14"	↓

VARIABLE AIR VOLUME BOXES

BOX					REHEAT COIL						
UNIT NO.	CFM OF STD AIR	INLET DIA.	NO. OF OUTLETS	OUTLET DIA.	MIN. AIR FLOW	ENT. AIR TEMP.	LV. AIR TEMP.	ENT. WATER TEMP.	LV. WATER TEMP.	MIN. ROWS	BRANCH PIPE SIZE
V-1	350	6"	2	8"	115	55	75	200	180	1	1/2"
V-2	770	10"	4	↓	255	↓	↓	↓	↓	↓	↓
V-3	400	6"	2	↓	135	↓	↓	↓	↓	↓	↓
V-4	370	↓	3	↓	125	↓	↓	↓	↓	↓	↓
V-5	370	↓	3	↓	125	↓	↓	↓	↓	↓	↓
V-6	250	↓	1	↓	85	↓	↓	↓	↓	↓	↓
V-7	265	↓	1	10"	90	↓	↓	↓	↓	↓	↓
V-8	265	↓	1	10"	90	↓	↓	↓	↓	↓	↓
V-9	460	8"	2	8"	155	↓	↓	↓	↓	↓	↓
V-10	460	↓	2	↓	155	↓	↓	↓	↓	↓	↓
V-11	460	↓	2	↓	155	↓	↓	↓	↓	↓	↓
V-12	460	↓	2	↓	155	↓	↓	↓	↓	↓	↓
V-13	715	10"	3	↓	235	↓	↓	↓	↓	↓	↓
V-14	715	10"	3	↓	235	↓	↓	↓	↓	↓	↓
V-15	500	8"	2	↓	165	↓	↓	↓	↓	↓	↓
V-16	200	5"	2	↓	60	↓	↓	↓	↓	↓	↓
V-17	700	10"	3	↓	230	↓	↓	↓	↓	↓	↓
V-18	600	8"	3	↓	200	↓	↓	↓	↓	↓	↓
V-19	735	10"	2	10"	245	↓	↓	↓	↓	↓	↓
V-20	735	10"	2	10"	245	↓	↓	↓	↓	↓	↓
V-21	440	8"	2	8"	145	↓	↓	↓	↓	↓	↓
V-22	420	8"	2	↓	210	↓	95	↓	↓	↓	↓
V-23	250	6"	1	↓	85	↓	75	↓	↓	↓	↓
V-24	310	6"	2	↓	155	↓	95	↓	↓	↓	↓
V-25	635	8"	3	↓	320	↓	↓	↓	↓	↓	↓
V-26	635	↓	3	↓	320	↓	↓	↓	↓	↓	↓
V-27	635	↓	3	↓	320	↓	↓	↓	↓	↓	↓
V-28	445	↓	2	↓	150	↓	75	↓	↓	↓	↓
V-29	775	10"	3	↓	255	↓	↓	↓	↓	↓	↓
V-30	775	10"	3	↓	255	↓	↓	↓	↓	↓	↓
V-31	135	5"	1	↓	50	↓	↓	↓	↓	↓	↓
V-32	210	6"	1	↓	105	↓	95	↓	↓	↓	↓
V-33	370	6"	3	↓	125	↓	75	↓	↓	↓	↓
V-34	370	6"	3	↓	125	↓	↓	↓	↓	↓	↓
V-35	715	10"	3	↓	235	↓	↓	↓	↓	↓	↓
V-36	675	10"	3	↓	225	↓	↓	↓	↓	↓	↓
V-37	475	8"	2	↓	160	↓	↓	↓	↓	↓	↓
V-38	90	5"	1	↓	50	↓	↓	↓	↓	↓	↓
V-39	820	10"	3	↓	270	↓	↓	↓	↓	↓	↓
V-40	630	8"	3	↓	210	↓	↓	↓	↓	↓	↓
V-41	480	8"	2	↓	160	↓	↓	↓	↓	↓	↓
V-42	230	6"	1	↓	75	↓	↓	↓	↓	↓	↓
V-43	425	8"	2	↓	140	↓	↓	↓	↓	↓	↓
V-44	420	↓	2	↓	140	↓	↓	↓	↓	↓	↓
V-45	570	↓	--	--	190	↓	↓	↓	↓	↓	↓
V-46	585	↓	3	8"	195	↓	↓	↓	↓	↓	↓
V-47	210	6"	1	↓	70	↓	↓	↓	↓	↓	↓
V-48	330	6"	2	↓	110	↓	↓	↓	↓	↓	↓
V-49	520	8"	3	↓	170	↓	↓	↓	↓	↓	↓
V-50	230	6"	1	↓	75	↓	↓	↓	↓	↓	↓
V-51	980	10"	4	↓	325	↓	↓	↓	↓	↓	↓
V-52	700	10"	--	--	230	↓	↓	↓	↓	↓	↓
V-53	O M I T										
V-54	O M I T										
V-55	370	8"	2	8"	125	↓	↓	↓	↓	↓	↓
V-56	410	↓	2	↓	135	↓	↓	↓	↓	↓	↓
V-57	425	↓	2	↓	140	↓	↓	↓	↓	↓	↓
V-58	475	↓	2	↓	170	↓	↓	↓	↓	↓	↓
V-59	470	↓	2	↓	160	↓	↓	↓	↓	↓	↓

FLEXIBLE DUCT DIA. SERVING VAV BOX SHALL BE SAME AS INLET DIA.

PUMPS

PUMP								SUCTION DIFFUSER		
UNIT NO.	SERVICE	SIZE	GPM	FT. OF WATER HEAD	MOTOR HP	MOTOR RPM	SUPPORT	INLET SIZE	OUTLET SIZE	START-UP STRAINER
P-1	CHILLED WATER	8" X 6"	1360	100	60	1750	CONC. PAD	--	--	--
P-2	HOT WATER	3" X 2 1/2"	174	80	10	1750	CONC. PAD	4	3	YES
P-3	STAND BY P-2	3" X 2 1/2"	174	80	10	1750	CONC. PAD	4	3	YES

P-1 SIZED FOR FUTURE FLOW OF 1480 GPM. TRIM IMPELLER FOR CURRENT CONDITIONS.
P-2 & P-3 SIZED FOR FUTURE FLOW OF 210 GPM. TRIM IMPELLER FOR CURRENT CONDITIONS.

VANE-AXIAL FANS

UNIT NO.	SERVICE	CFM OF STD AIR	MAX. O.V.	EXT. S.P. IN IN. WATER	MOTOR HP	DRIVE	FAN DIA.	SUPPORT	VIBRATION ISOLATORS TYPE	VIBRATION ISOLATORS MIN. STATIC DEFLECTION
VA-1	RETURN AIR AC-1	6050	1100	1 1/4	3	V-BELT	30"	SUSP.	D	1"
VA-2	RETURN AIR AC-2	4000	1100	↓	2	↓	24"	↓	↓	↓
VA-3	RETURN AIR AC-3	6700	1200	↓	3	↓	30"	↓	↓	↓
VA-4	RETURN AIR AC-4	8200	1200	↓	5	↓	33"	↓	↓	↓

PROVIDE INLET VANES FOR VA-1 THRU VA-4

IN-LINE FANS

UNIT NO.	SERVICE	CFM OF STD AIR	MAX. O.V.	EXT. S.P. IN IN. WATER	MOTOR HP	DRIVE	FAN DIA.	SUPPORT	VIBRATION ISOLATORS TYPE	VIBRATION ISOLATORS MIN. STATIC DEFLECTION
IF-1	HOOD LAB 213	700	550	1/2"	1/4	V-BELT	9"	SUSP.	D	1"
IF-2	LAB. 214	500	400	3/8"	1/4	V-BELT	8"	SUSP.	D	1"

HEAT EXCHANGERS

UNIT NO.	SERVICE	SQ FT OF HEATING SURFACE	STEAM PRESS. PSIG	LIQUID TEMP. IN	LIQUID TEMP. OUT	GPM	SHELL DIA.	MAX. P.D. FT. WATER
HX-1	PROF. BLDG.	67	5	170	200	120	8"	2.0

SQ FT OF HEATING SURFACE INDICATED INCLUDES AN ADDITIONAL 25% FOULING FACTOR

CONVECTORS

UNIT NO.	CABINET SIZE D	CABINET SIZE L	CABINET SIZE H	ELEMENT SIZE	END POCKET SUP	END POCKET RET	CAP. MBH	TYPE	RECESS	DAMPER	AIR VENT ASSEM.	BRANCH PIPE SIZE
C-1	4	38	24	4" X 38"	--	--	3.8	RGB	YES	NO	NO	3/4"

CAP. BASED ON 65°F E.A.T., 200°F E.W.T. AND 180°F L.W.T.

FIN PIPE RADIATION

UNIT NO.	ELEMENT SIZE	ELEMENT TYPE	FINS SIZE	FINS TYPE	BTU PER LIN. FT.	HGT. TOP OF CAB. TO FIN. FL.	CABINET DEPTH	CABINET HEIGHT	DAMPER
FP-1	3/4"	COPPER	3 1/4 X 3 1/4	ALUM.	840	14"	4"	10"	NO

CAP BASED ON 65°F E.A.T., 200 °F E.W.T. AND 180°F L.W.T.

PRESSURE REDUCING VALVE

NO.	LOCATION	SIZE	CAPACITY LBS/HR	CAPACITY INLET PRESS.	CAPACITY OUTLET PRESS.	BY-PASS SIZE	RELIEF VALVE CAP. LBS/HR	RELIEF VALVE SIZE	RELIEF VALVE SET PRESS.
PRV-1	RM. 64	1"	1825	100	5	3/4"	1700	4 X 3	10

CEILING EXHAUST FANS

UNIT NO.	SERVICE	CFM OF STD AIR	FAN DIA.	EXT. S.P. IN IN. WATER	MOTOR HP	MOTOR RPM	SOLID STATE SPEED CONTROLLER
CE-1	TOILET 276	155	4 3/4"	.125	1/50	1550	NO
CE-2	TOILET 265	↓	↓	↓	↓	↓	↓
CE-3	TOILET 256	↓	↓	↓	↓	↓	↓
CE-4	JAN. 233	↓	↓	↓	↓	↓	↓
CE-5	MEN 205	↓	↓	↓	↓	↓	↓
CE-6	WOMEN 211	↓	↓	↓	↓	↓	↓
CE-7	WOMEN 46	↓	↓	↓	↓	↓	↓
CE-8	MEN 47	↓	↓	↓	↓	↓	↓
CE-9	MEN 19	↓	↓	↓	↓	↓	↓
CE-10	WOMEN 21	↓	↓	↓	↓	↓	↓
CE-11	JAN. 20	↓	↓	↓	↓	↓	↓
CE-12	TOILET 63	↓	↓	↓	↓	↓	↓

CONDENSATE PUMPS

UNIT NO.	TYPE	CAP. SQFT EDR	DISCH. PRESS. PSIG	PUMP GPM	RECEIVER SIZE	MOTOR HP	MOTOR RPM	SUPPORT
CP-1	DUPLEX	8000	40	9	23 GAL.	1	3500	CONC. PAD

UNIT HEATERS

UNIT NO.	TYPE	CAP. MBH	CFM OF STD AIR	MOTOR HP	MOTOR RPM	SPEEDS	DIFFUSER	BRANCH PIPE SIZE
UH-1	HORIZ.	115.3	2380	1/6	1100	1	HORIZ.&VERT.	1 1/4"
UH-2	HORIZ.	115.3	2380	1/6	1100	1	HORIZ.&VERT.	1 1/4"
UH-3	HORIZ.	115.3	2380	1/6	1100	1	HORIZ.&VERT.	1 1/4"
UH-4	HORIZ.	19.1	543	1/20	1550	1	HORIZ.&VERT.	3/4"

CAP. BASED ON 60°F E.A.T., 200 °F E.W.T. AND 180°F L.W.T.

CABINET HEATERS

UNIT NO.	TYPE	CAP. MBH	CFM OF STD AIR	MOTOR HP	DRIVE	SPEED	RECESS	BRANCH PIPE SIZE
CH-1	CR	21.8	200	1/60	DIRECT	3	YES	3/4"
CH-2	CR	21.8	200	1/60	DIRECT	3	YES	3/4"
CH-3	IW	21.8	200	1/60	DIRECT	3	NO	3/4"
CH-4	IW	21.8	200	1/60	DIRECT	3	NO	3/4"

CAP. BASED ON 60°F E.A.T., 200°F E.W.T. AND 180°F L.W.T.
RECESS DIM. TO BE FURN. TO GEN. CONTR. BY MECH. CONTR.

GENERAL NOTES:

-THE MECHANICAL CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS.

-RUN ALL PIPE AND DUCTWORK AS HIGH AS POSSIBLE. FURNISH AND INSTALL ALL DROPS, RISES AND OFFSETS AS REQUIRED TO AVOID CONFLICTS WITH ALL PIPING, CONDUIT, LIGHTING, STRUCTURE...ETC.. VENT ALL HIGH POINTS AND DRAIN ALL LOW POINTS OF PIPING.

-COORDINATE LOCATION OF DIFFUSERS AND VAV BOXES WITH FINAL LIGHTING LAYOUT.

DEMOLITION:

-MECHANICAL CONTRACTOR SHALL REMOVE ALL EXISTING EQUIPMENT, DUCTWORK, PIPING AND CONTROLS UNLESS INDICATED OTHERWISE ON THE DRAWINGS.

WISCONSIN
BERT THOMAS FREDERICKSEN
E-23249
MILWAUKEE, WIS.
PROFESSIONAL ENGINEER

BERT FREDERICKSEN, INC.
CONSULTING ENGINEER
M-1 THRU M-11

BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3245 NORTH 124th STREET MILWAUKEE, WISCONSIN 53222
TELEPHONE: 781-9070 (414)
#8971

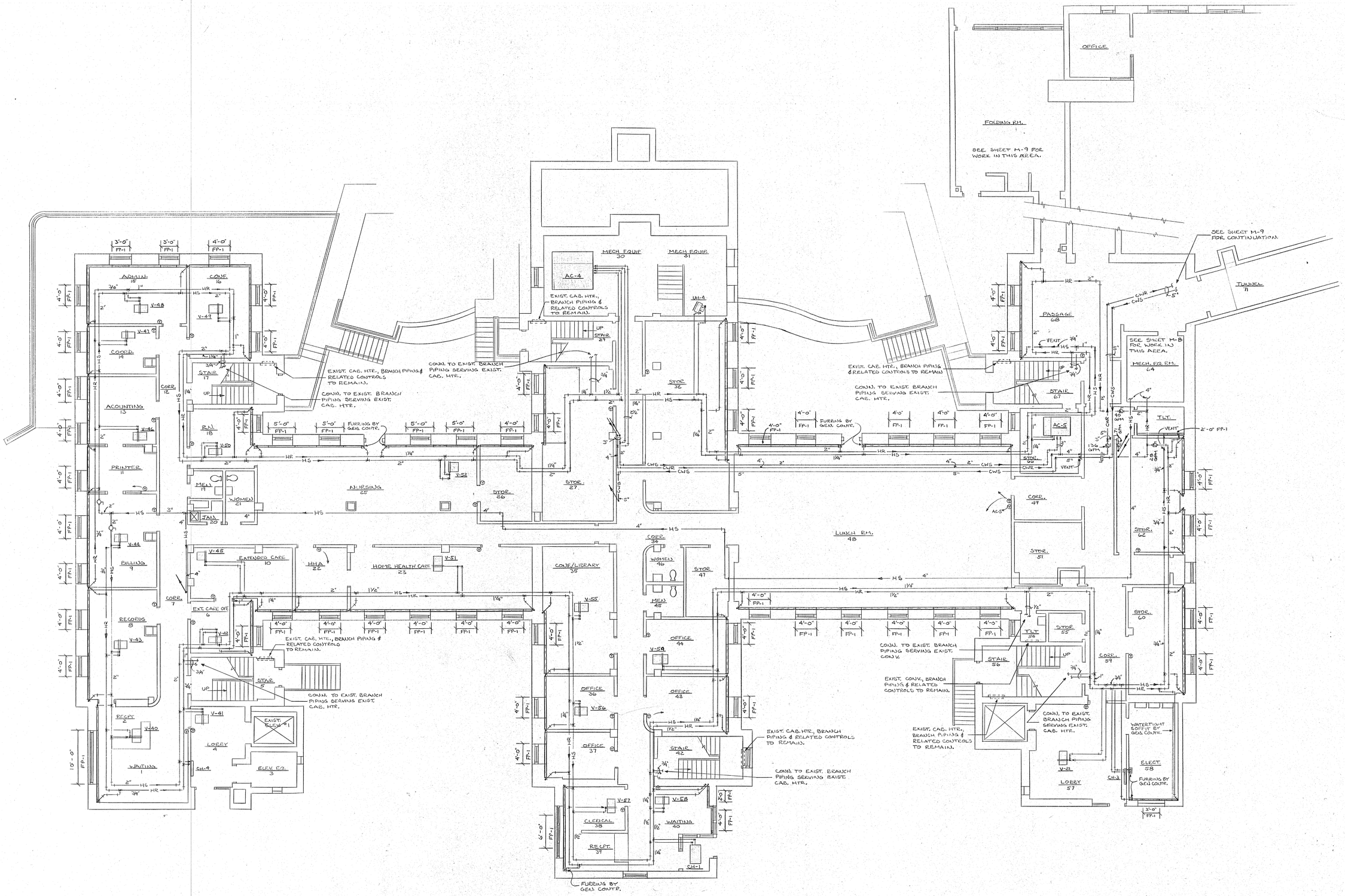
LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE (414) 437-6166 GREEN BAY, WISCONSIN 54301

DRAWN | CHECKED

THIS DRAWING, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF THE ARCHITECT AND IS NOT TO BE USED FOR OTHER WORK EXCEPT BY WRITTEN AGREEMENT WITH THE ARCHITECT.

DATE SEPT. 1989
SHEET M 1
PROJ. NO. 8905



FIRST FLOOR PIPING PLAN
1/8" = 1'-0"

LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

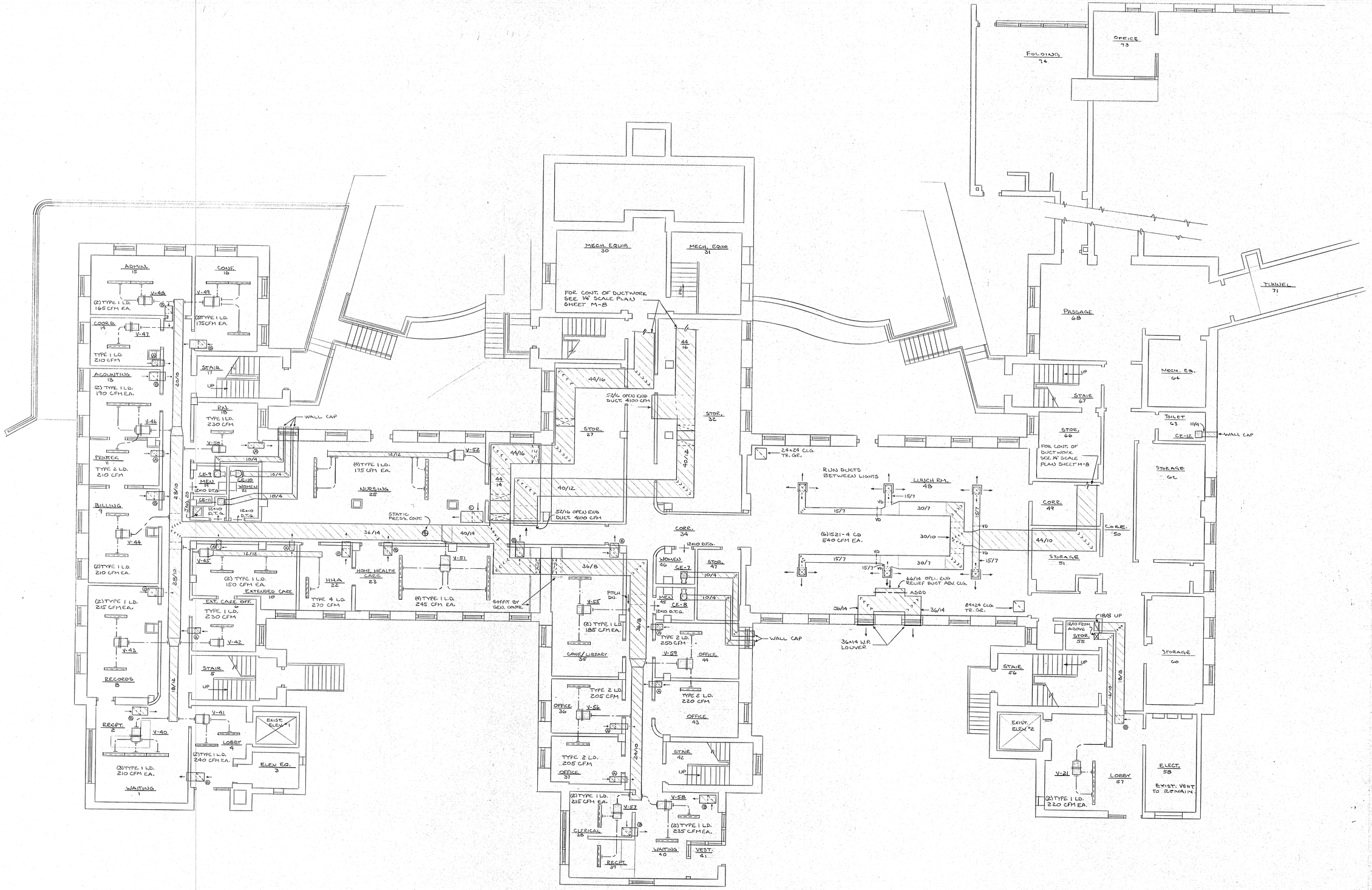
DRAWN | CHECKED

THIS DRAWING, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF THE ARCHITECT AND IS NOT TO BE USED FOR OTHER WORK EXCEPT BY WRITTEN AGREEMENT WITH THE ARCHITECT.

TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE (414) 437-6166 GREEN BAY, WISCONSIN 54301

DATE SEPT. 1989
SHEET M 2
PROJ. NO. 8905

BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3245 NORTH 124th STREET MILWAUKEE, WISCONSIN 53222
TELEPHONE 781-9070 (414)



FIRST FLOOR DUCTWORK PLAN

1/8" = 1'-0"

LAKEVIEW PROFESSIONAL PLAZA REMODELING

MARATHON COUNTY WAUSAU, WISCONSIN

DRAWN | CHECKED

THIS DRAWING, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF THE ARCHITECT AND IS NOT TO BE USED FOR OTHER WORK EXCEPT BY WRITTEN AGREEMENT WITH THE ARCHITECT.

TILLEMAN ASSOCIATES, INC., ARCHITECTS

119 SOUTH WEBSTER AVENUE (414) 437-6166 GREEN BAY, WISCONSIN 54301

BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3245 NORTH 124th STREET MILWAUKEE, WISCONSIN 53222
TELEPHONE 781-9070 (414)

DATE SEPT. 1989

SHEET M 3

PROJ. NO. 8905

LAKEVIEW PROFESSIONAL PLAZA REMODELING

MARATHON COUNTY WAUSAU, WISCONSIN

SECOND FLOOR PIPING PLAN

1/8" = 1'-0"

N

TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE GREEN BAY, WISCONSIN 54301 (414) 437-6166

BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3245 NORTH 124th STREET MILWAUKEE, WISCONSIN 53222
TELEPHONE 781-9070 (414)

DRAWN | CHECKED

DATE SEPT. 1979

SHEET M 4

PROJ. NO. 8905

LAKEVIEW PROFESSIONAL PLAZA REMODELING

MARATHON COUNTY WAUSAU, WISCONSIN

SECOND FLOOR DUCTWORK PLAN

1/8" = 1'-0"

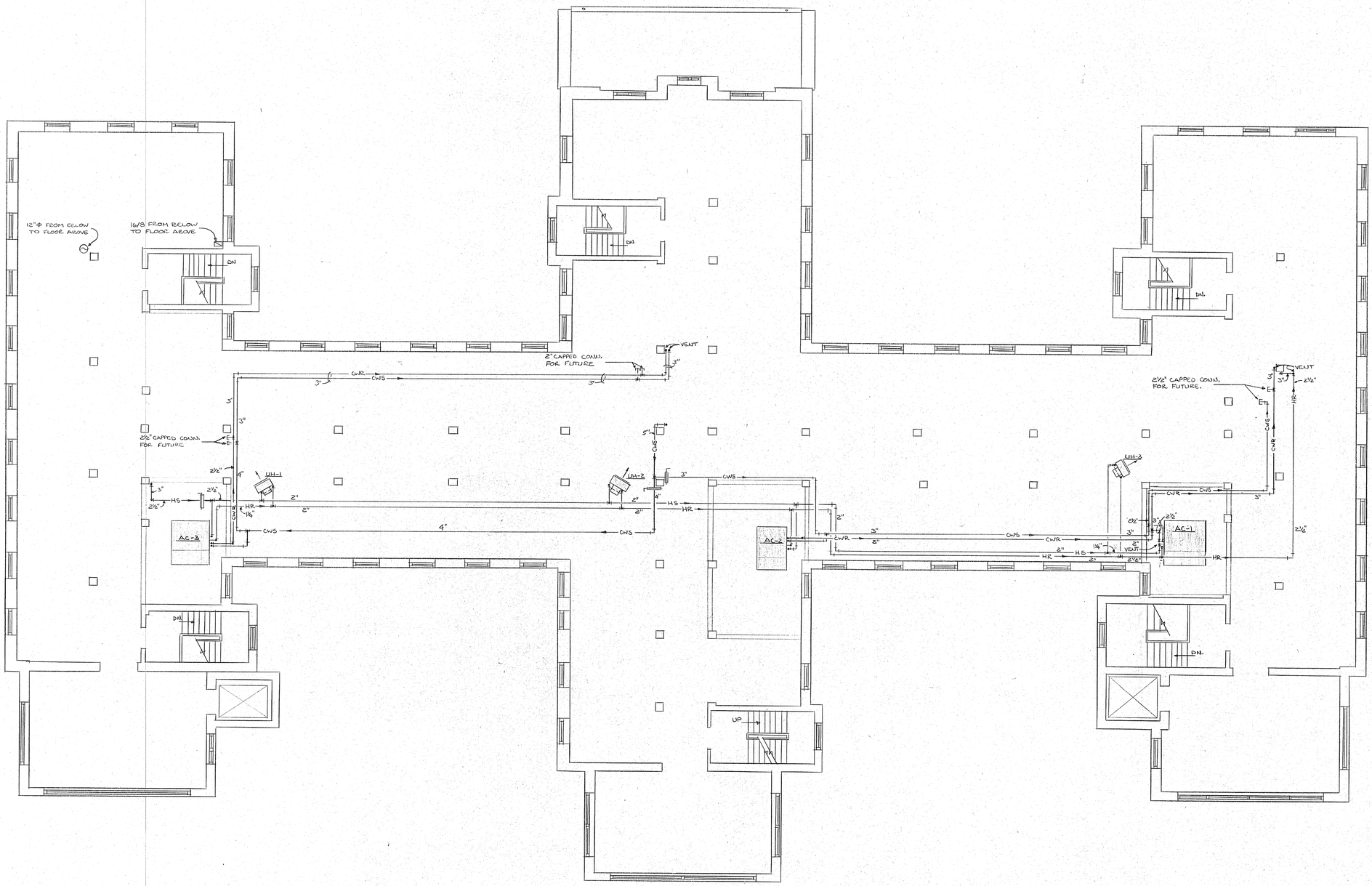
TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE GREEN BAY, WISCONSIN 54301 (414) 437-6186

BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3245 NORTH 124th STREET MILWAUKEE WISCONSIN 53222
TELEPHONE 781-9070 (414)

DATE SEPT. 1989

SHEET M 5

PROJ. NO. 8905



THIRD FLOOR PLAN
1/8" = 1'-0"

LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

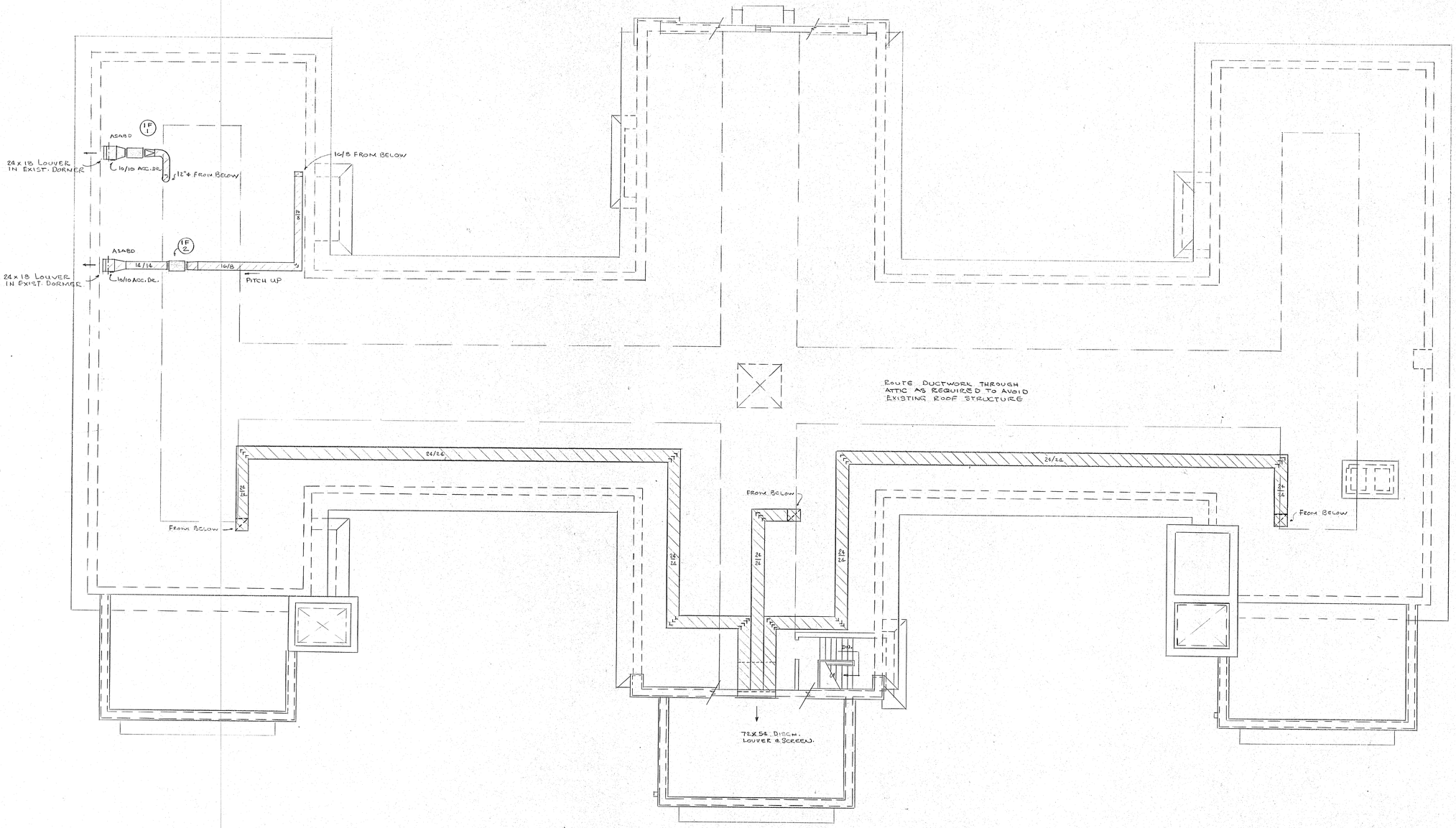
DRAWN | CHECKED

THIS DRAWING, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF THE ARCHITECT AND IS NOT TO BE USED FOR OTHER WORK, EXCEPT BY WRITTEN AGREEMENT WITH THE ARCHITECT.

TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE (414) 437-6166 GREEN BAY, WISCONSIN 54301

DATE SEPT. 1989
SHEET M 6
PROJ. NO. 8905

BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3245 NORTH 124th STREET MILWAUKEE, WISCONSIN 53222
TELEPHONE 781-9070 (414)



PARTIAL ATTIC PLAN

SCALE 1/8"=1'-0"

LAKEVIEW PROFESSIONAL PLAZA REMODELING

MARATHON COUNTY WAUSAU, WISCONSIN

TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE (414) 437-6168 GREEN BAY, WISCONSIN 54301

DRAWN | CHECKED

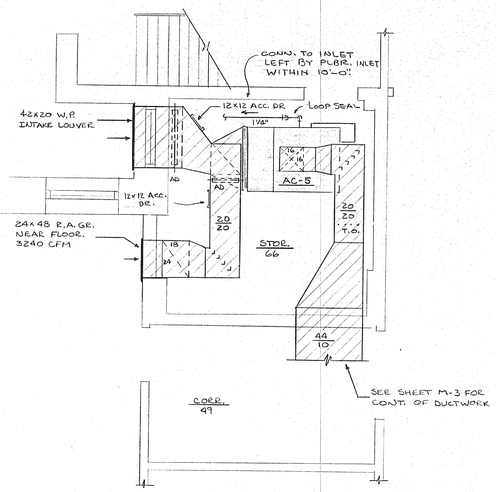
THIS DRAWING AS AN INSTRUMENT OF SERVICE IS THE PROPERTY OF THE ARCHITECT AND IS NOT TO BE USED FOR OTHER WORK EXCEPT BY WRITTEN AGREEMENT WITH THE ARCHITECT

DATE SEPT. 1989

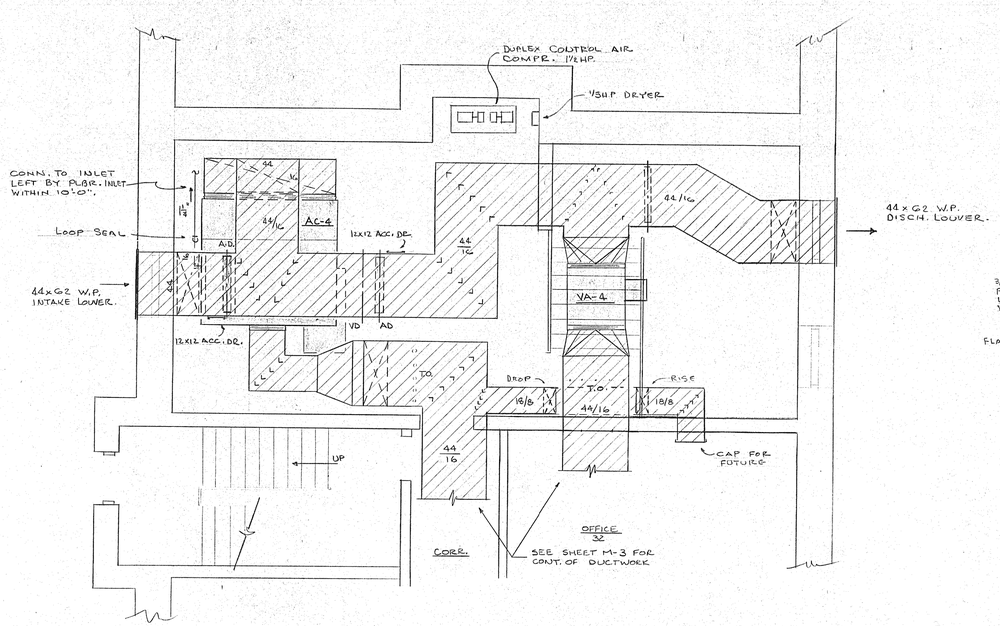
SHEET M 7

PROJ. NO. 8905

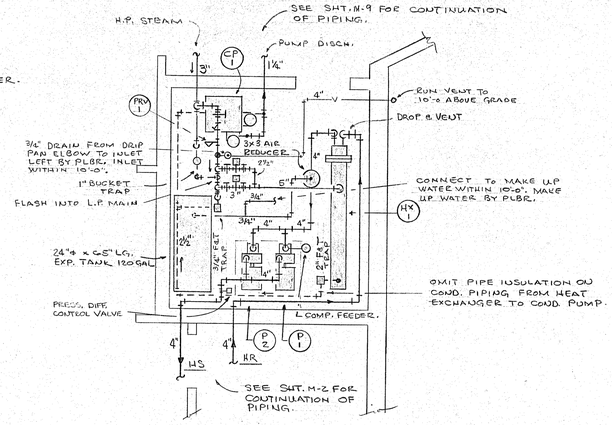
BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3245 NORTH 124th STREET MILWAUKEE, WISCONSIN 53222
TELEPHONE 781-9070 (414)



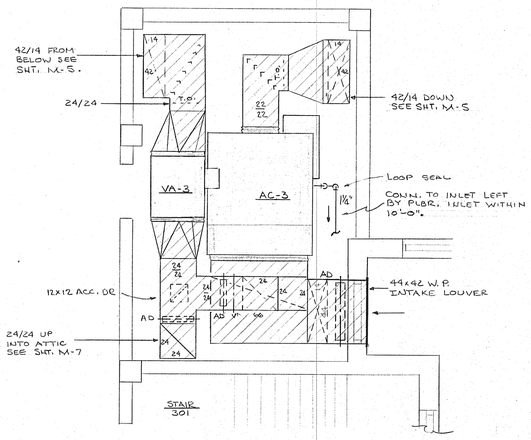
STORAGE RM. 66
1/4" = 1'-0"



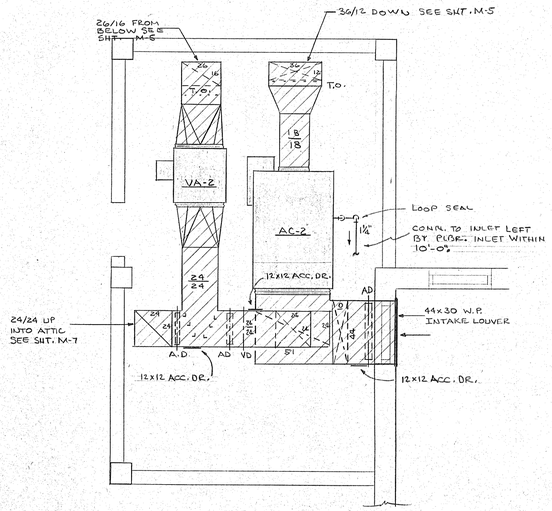
MECHANICAL EQUIPMENT RMS. 30 & 31
1/4" = 1'-0"



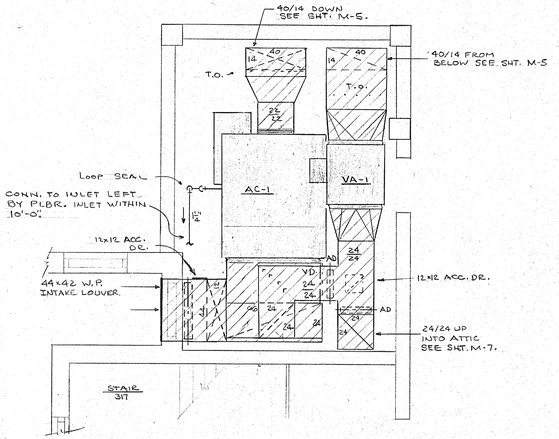
MECHANICAL EQUIPMENT RM. 64



WEST WING EQUIPMENT ROOM 310
1/4" = 1'-0"



CENTER WING EQUIPMENT ROOM 311
1/4" = 1'-0"



EAST WING EQUIPMENT ROOM 312
1/4" = 1'-0"

LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

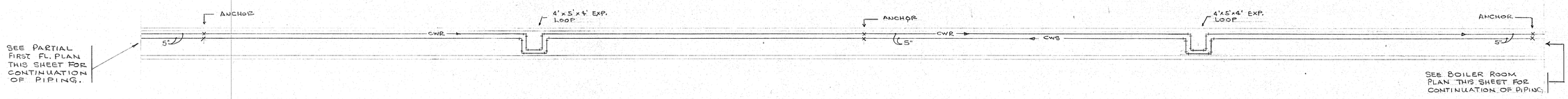
DRAWN | CHECKED

THIS DRAWING, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF THE ARCHITECT AND IS NOT TO BE USED FOR OTHER WORK EXCEPT BY WRITTEN AGREEMENT WITH THE ARCHITECT.

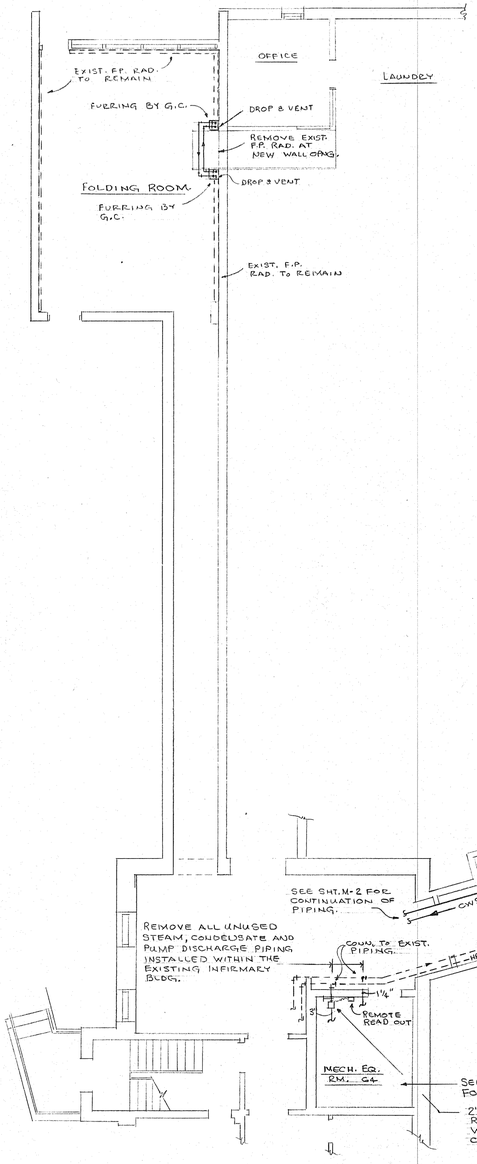
TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE (414) 437-6166 GREEN BAY, WISCONSIN 54301

DATE SEPT. 1989
SHEET M 8
PROJ. NO. 8905

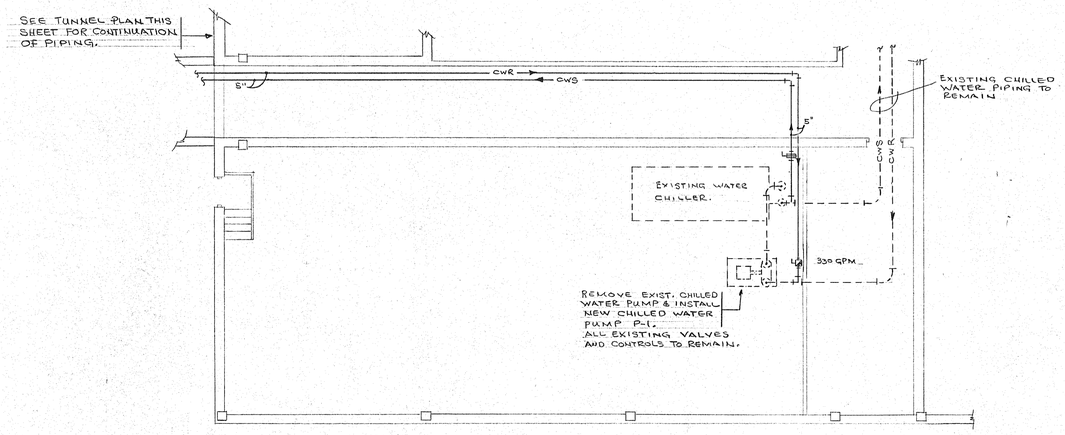
BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3245 NORTH 124th STREET MILWAUKEE, WISCONSIN 53222
TELEPHONE: 781-9070 (414)



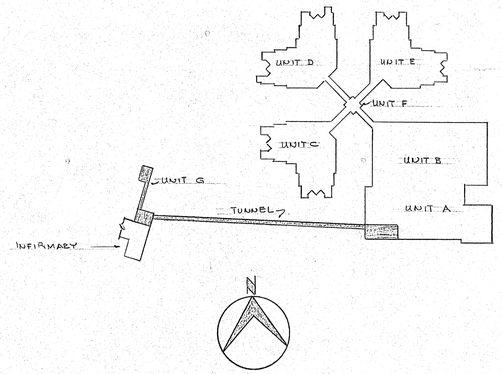
TUNNEL PLAN
SCALE 1/16" = 1'-0"



PARTIAL FIRST FLOOR PLAN
SCALE 1/8" = 1'-0"



EXISTING BOILER RM. PLAN (UNIT A)
SCALE 1/8" = 1'-0"



KEY PLAN

LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

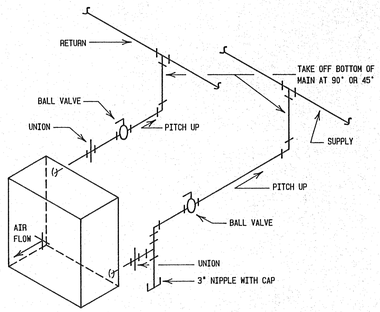
DRAWN | CHECKED

THIS DRAWING, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF THE ARCHITECT AND IS NOT TO BE USED FOR OTHER WORK EXCEPT BY WRITTEN AGREEMENT WITH THE ARCHITECT.

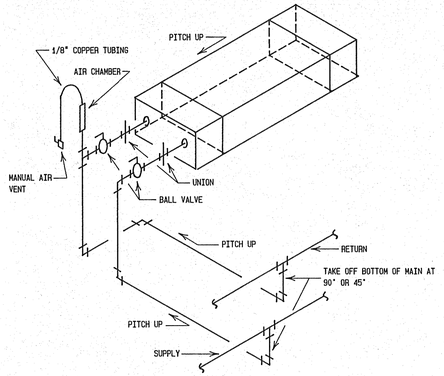
TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE (414) 437-6166 GREEN BAY, WISCONSIN 54301

DATE SEPT. 1989
SHEET M 9
PROJ. NO. 8905

BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3245 NORTH 124th STREET MILWAUKEE, WISCONSIN 53222
TELEPHONE 781-9070 (414)



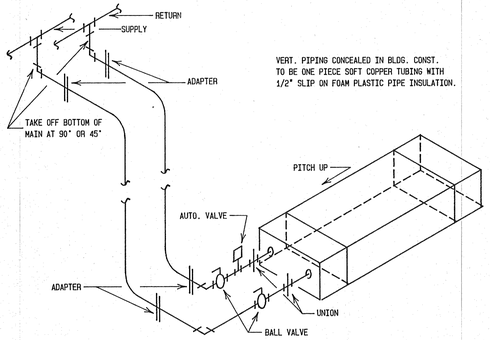
HOT WATER UNIT HEATER



CEILING HUNG CABINET HEATER

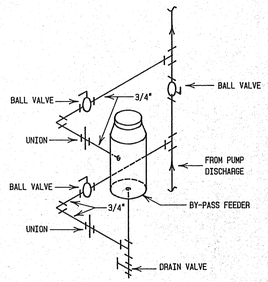
SYMBOLS

PD	PUMP DISCHARGE
HS	HOT WATER SUPPLY
HR	HOT WATER RETURN
CS	CHILLED WATER SUPPLY
CR	CHILLED WATER RETURN
	FLEXIBLE DUCT
	AUTOMATIC VALVE
	GATE VALVE
	BUTTERFLY VALVE
	CIRCUIT SETTER
	BALL VALVE
	STRAINER
	THERMOMETER
	PITCH ARROW - DOWN
AD	AUTOMATIC DAMPER
VD	MANUAL VOLUME DAMPER
ASBD	ADJUSTABLE SELF-ACTING BACKDRAFT DAMPER
TO	TEST OPENINGS (MAX. 6" CENTERS)
	1" THICK ACOUSTICAL INSULATION LINING ON INSIDE OF DUCT. LISTED DIMENSION IS CLEAR INSIDE DIMENSION.
	TURNING VANES
	DEFLECTROL (ADJUSTABLE)
T	PNEUMATIC THERMOSTAT
T	LINE VOLTAGE ELECTRIC THERMOSTAT
F & T	FLOAT & THERMOSTATIC TRAP
	FLOW DIRECTION
A	12 X 12 CEILING TRANSFER GRILLE WITH 12/8 DUCT
B	18 X 18 CEILING TRANSFER GRILLE WITH 18/8 DUCT
C	24 X 24 CEILING TRANSFER GRILLE WITH 24/10 DUCT

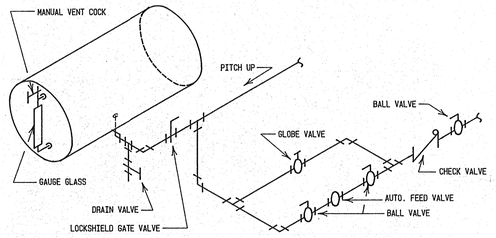


VERT. PIPING CONCEALED IN BLDG. CONST. TO BE ONE PIECE SOFT COPPER TUBING WITH 1/2" SLIP ON FOAM PLASTIC PIPE INSULATION.

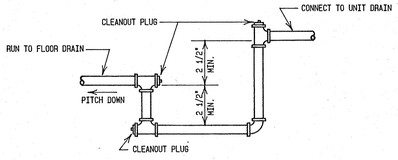
DOWNFEED CABINET HEATER



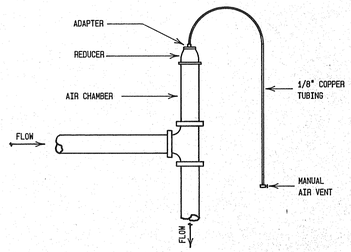
BY-PASS COMPOUND FEEDER



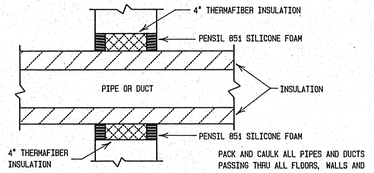
EXPANSION TANK



LOOP SEAL



AIR VENT



PACK AND CAULK

LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

DRAWN	CHECKED

THIS DRAWING, AS AN INSTRUMENT OF SERVICE, IS AND SHALL REMAIN THE PROPERTY OF BERT FREDERICKSEN, INC. AND IS NOT TO BE USED FOR OTHER WORK EXCEPT BY WRITTEN AGREEMENT WITH THE ARCHITECT.

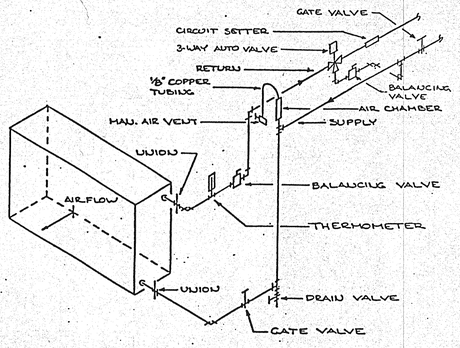
TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE GREEN BAY, WISCONSIN 54301 (414)437-6166

DATE SEPT. 1989

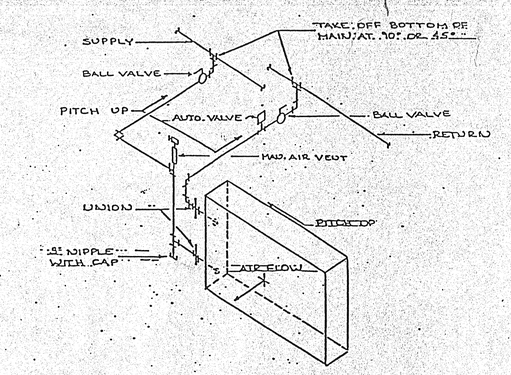
SHEET M 10

BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3245 NORTH 124th STREET MILWAUKEE, WISCONSIN 53222
TELEPHONE: 781-9070 (414)

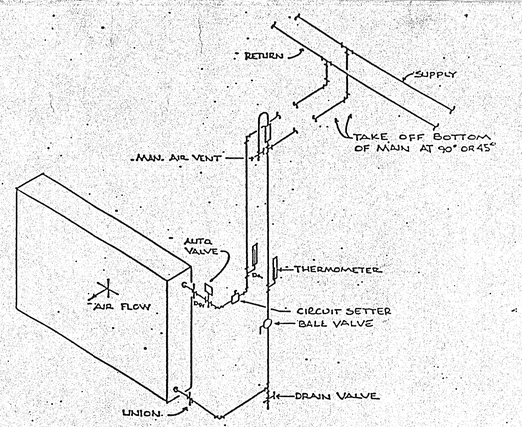
PROJECT NO. 8905

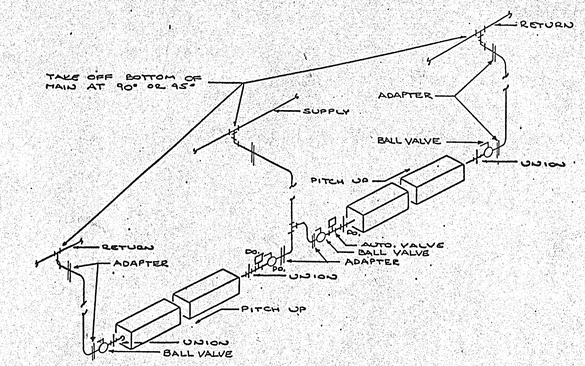


Cooling Coils

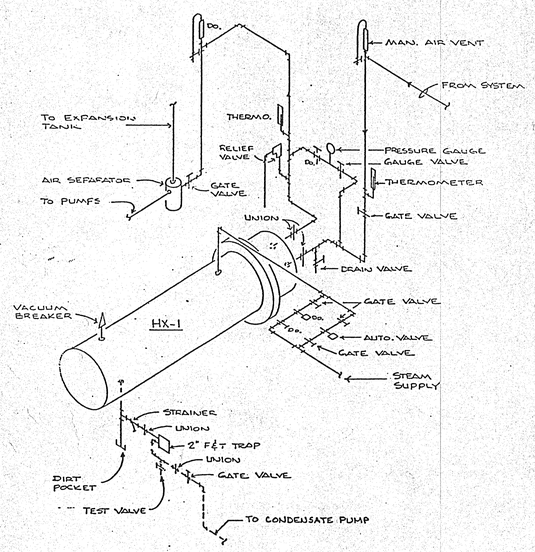


Variable Air Volume Box

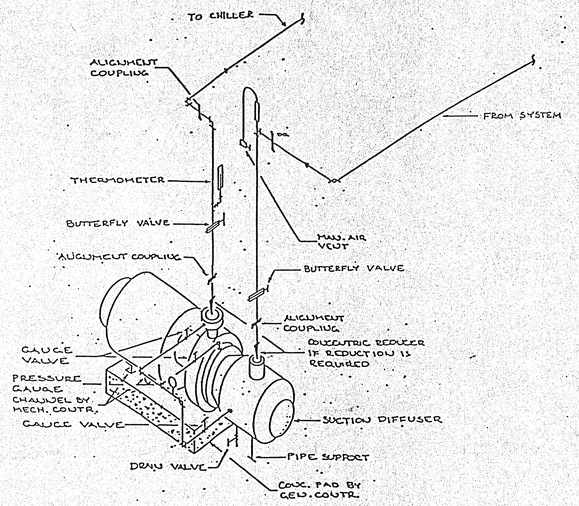




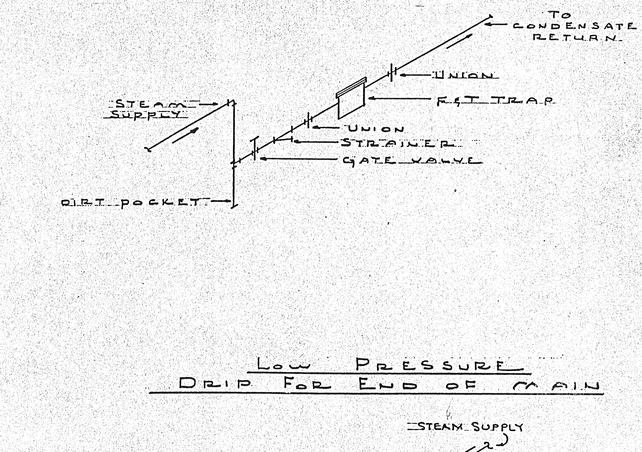
Fin Pipe Radiation Downfeed



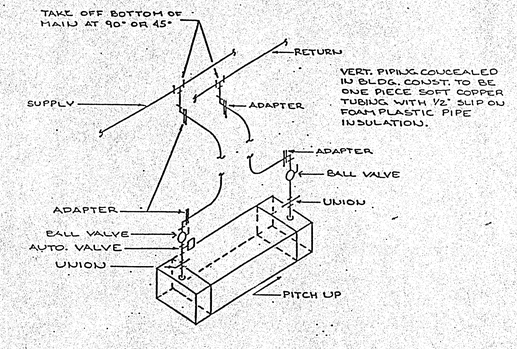
Heat Exchanger

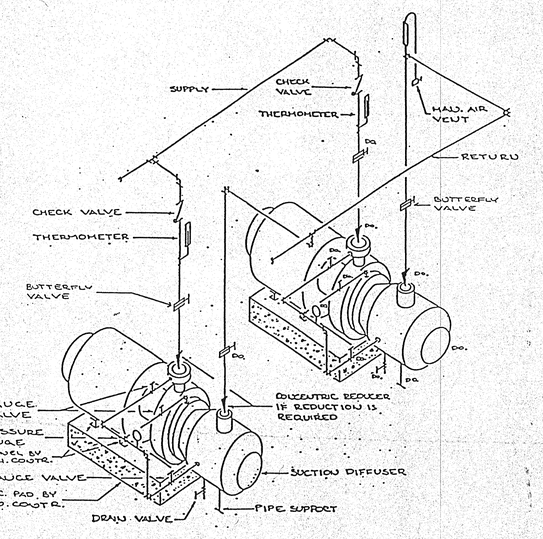


Pump P-1

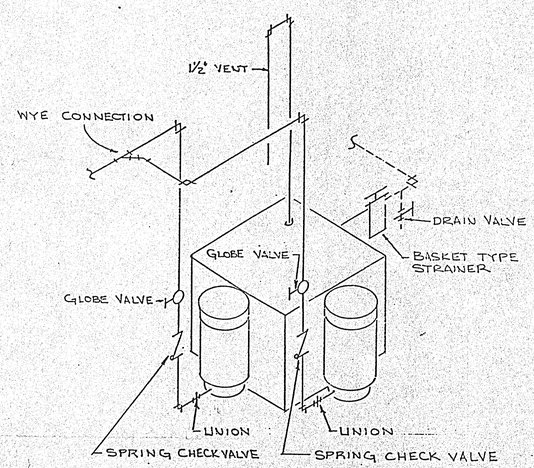


Hot Water Heating Coil

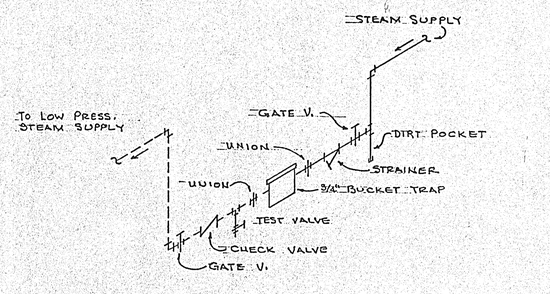




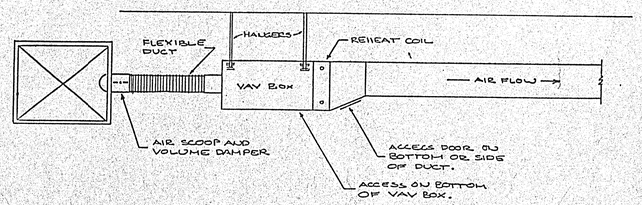
Pumps P-2&3



Duplex Condensate Pump

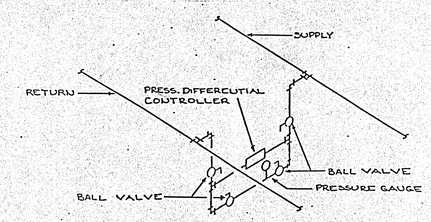


Low Pressure Drip For End of Main

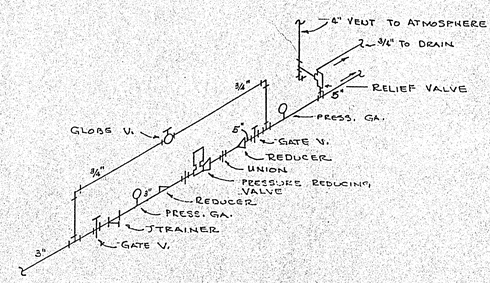


High Pressure End Of Main Drip

Variable Volume Box Duct Connections



Downfeed Hot Water Convector



Pressure Differential Controller Piping

Pressure Reducing Valve Station

LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE (414) 437-6168 GREEN BAY, WISCONSIN 54301

DRAWN | CHECKED

DATE SEPT. 1984

SHEET M 11

PROJ. NO. 8905

BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3245 NORTH 124th STREET MILWAUKEE, WISCONSIN 53222
TELEPHONE 781-9070 (414)

NOTES:

1. PLBG. CONTR. TO REVIEW PLAN SHEETS #14, 15, 16 FOR FIXTURE LOCATIONS. REMOVE ALL EXISTING FIXTURES, PIPING, ETC. UNLESS NOTED OTHERWISE.
2. CONTR. SHALL VISIT THE SITE TO VERIFY ALL EXISTING CONDITIONS.
3. ALL CUTTING & PATCHING OF FLOORS TO BE BY PLBG. CONTR.

FIRST FLOOR PLUMBING PLAN
SCALE: 1/8" = 1'-0"

LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE (414) 437-6166 GREEN BAY, WISCONSIN 54301

DRAWN | CHECKED

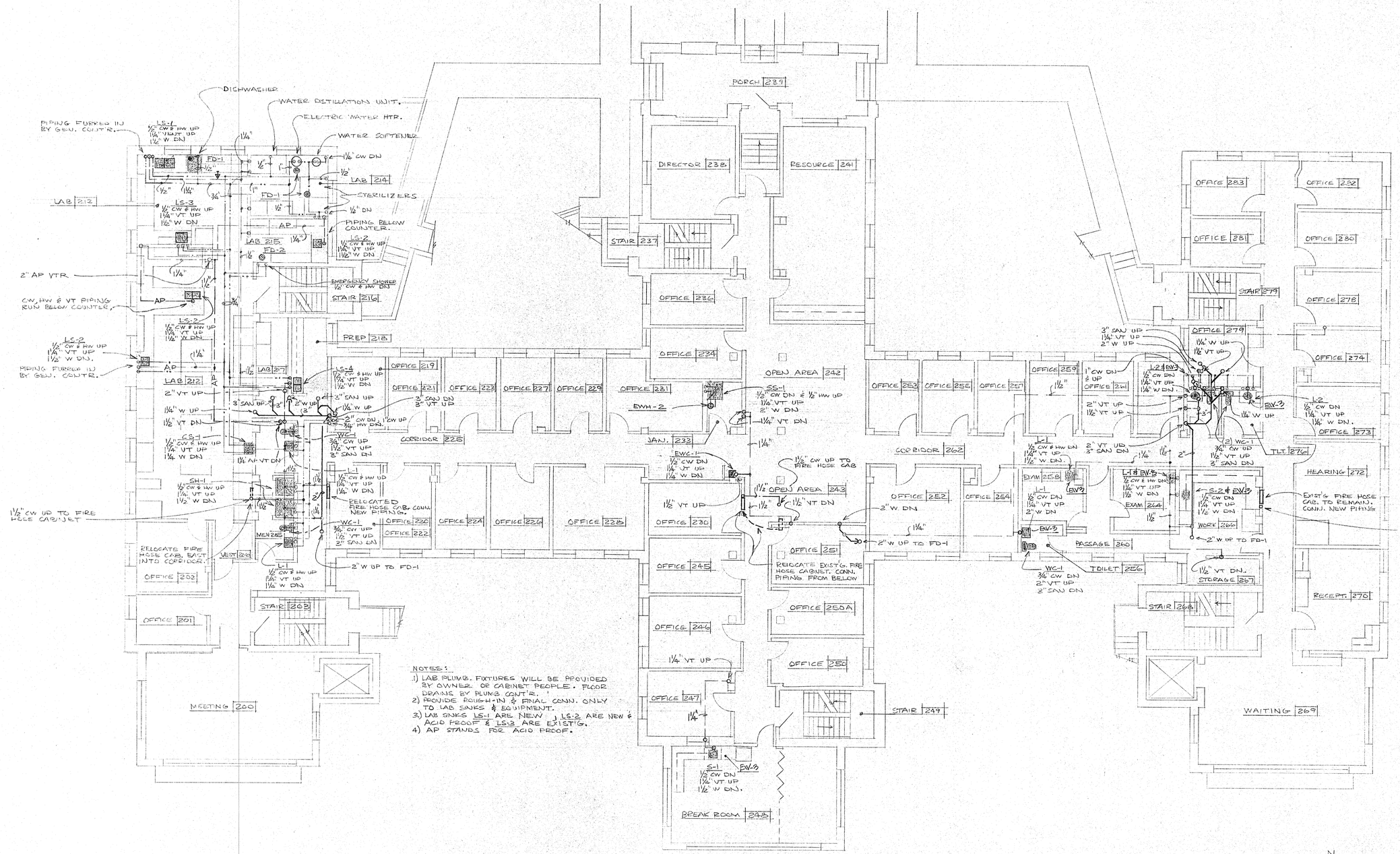
THIS DRAWING, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF THE ARCHITECT AND IS NOT TO BE USED FOR OTHER WORK EXCEPT BY WRITTEN AGREEMENT WITH THE ARCHITECT.

DATE SEPT. 1989
SHEET P 1
PROJ. NO. 8905

WISCONSIN KENNETH FRANK SIKORA E-16945 Green Bay, Wis. PROFESSIONAL ENGINEER
Kenneth F. Sikora

LAKEVIEW PROFESSIONAL PLAZA REMODELING

MARATHON COUNTY WAUSAU, WISCONSIN



NOTES:

1) LAB PLUMB. FIXTURES WILL BE PROVIDED BY OWNER OR CABINET PEOPLE. FLOOR DRAINS BY PLUMB CONT'R.
2) PROVIDE ROUGHING & FINAL CONN. ONLY TO LAB SINKS & EQUIPMENT.
3) LAB SINKS LS-1 ARE NEW, LS-2 ARE NEW & ACID PROOF & LS-3 ARE EXISTING.
4) AP STANDS FOR ACID PROOF.

SECOND FLOOR PLUMBING PLAN

SCALE : ⅛"=1'-0"

N

TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE (414) 437-6166 GREEN BAY, WISCONSIN 54301

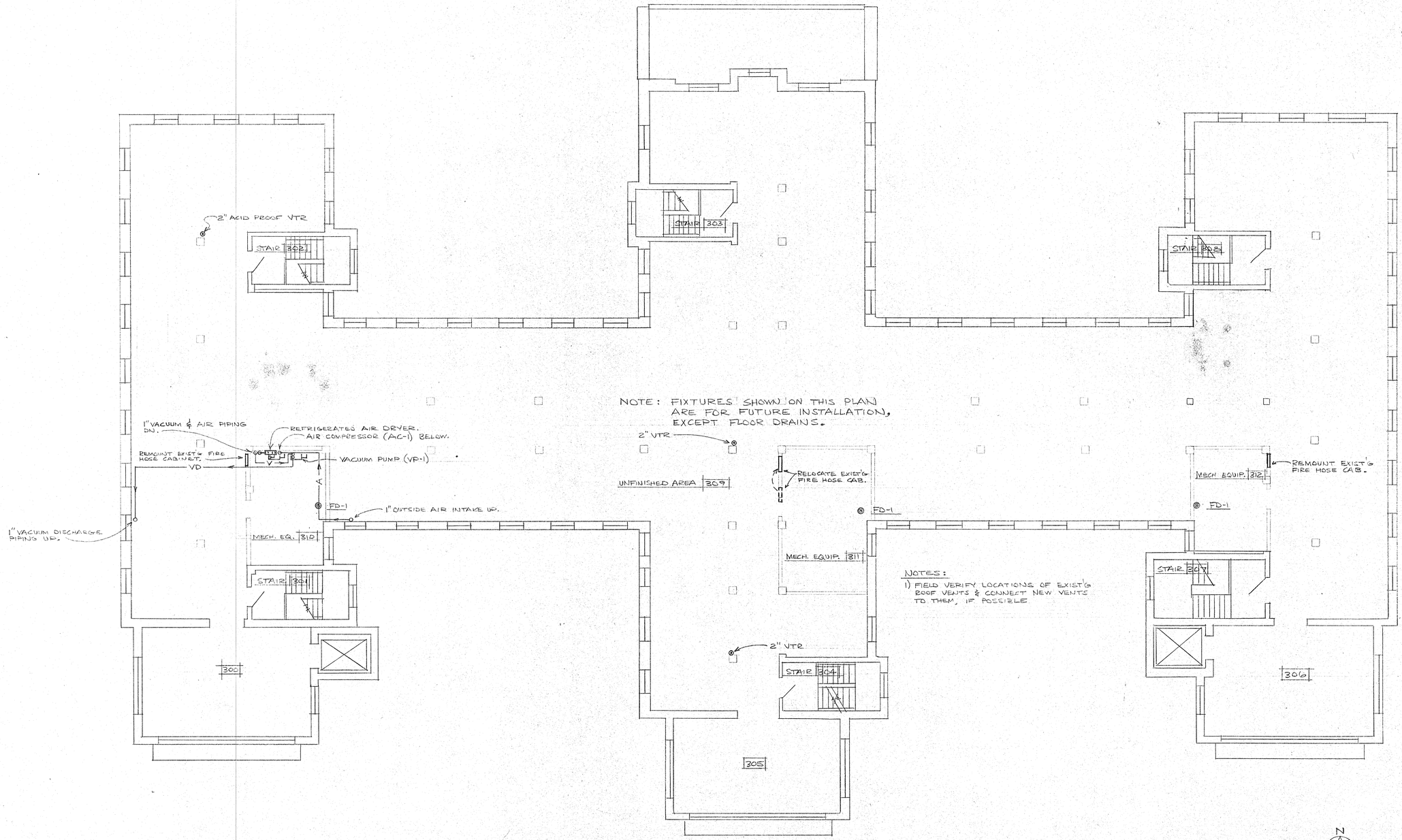
DRAWN CHECKED

DATE SEPT. 1989

SHEET P 2

PROJ. NO. 8905

KENNETH FRANK SIKORA E-16943 Green Bay, Wis. PROFESSIONAL ENGINEER



NOTE: FIXTURES SHOWN ON THIS PLAN ARE FOR FUTURE INSTALLATION, EXCEPT FLOOR DRAINS.

NOTES:

1) FIELD VERIFY LOCATIONS OF EXIST'G ROOF VENTS & CONNECT NEW VENTS TO THEM, IF POSSIBLE.

THIRD FLOOR PLUMBING PLAN
SCALE: 1/8" = 1'-0"

N

LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

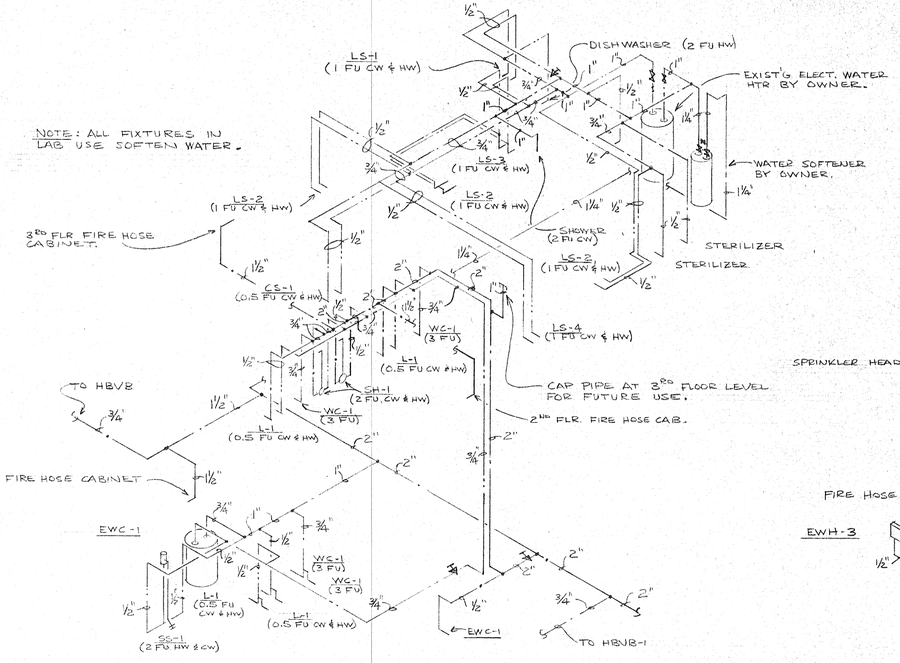
DRAWN | CHECKED

THIS DRAWING, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF THE ARCHITECT AND IS NOT TO BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN AGREEMENT WITH THE ARCHITECT.

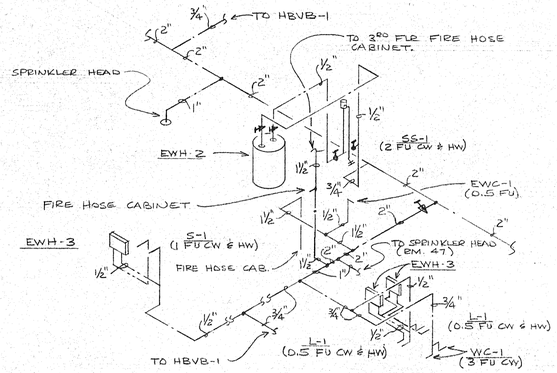
TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE (414) 437-6166 GREEN BAY, WISCONSIN 54301

DATE SEPT. 1989
SHEET P 3
PROJ. NO. 8905

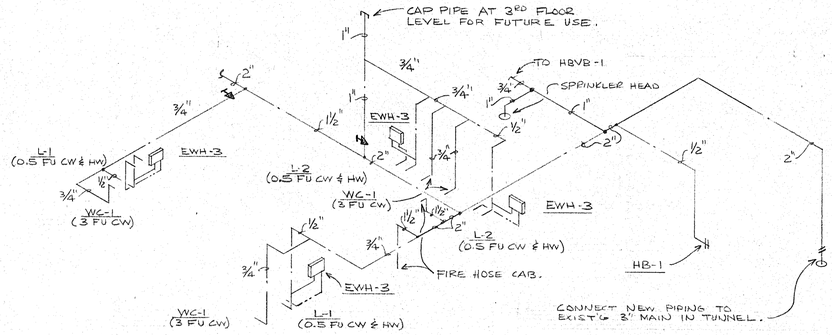
WISCONSIN
KENNETH FRANK SHORE
E-19316
Green Bay, Wis.
PROFESSIONAL ENGINEER



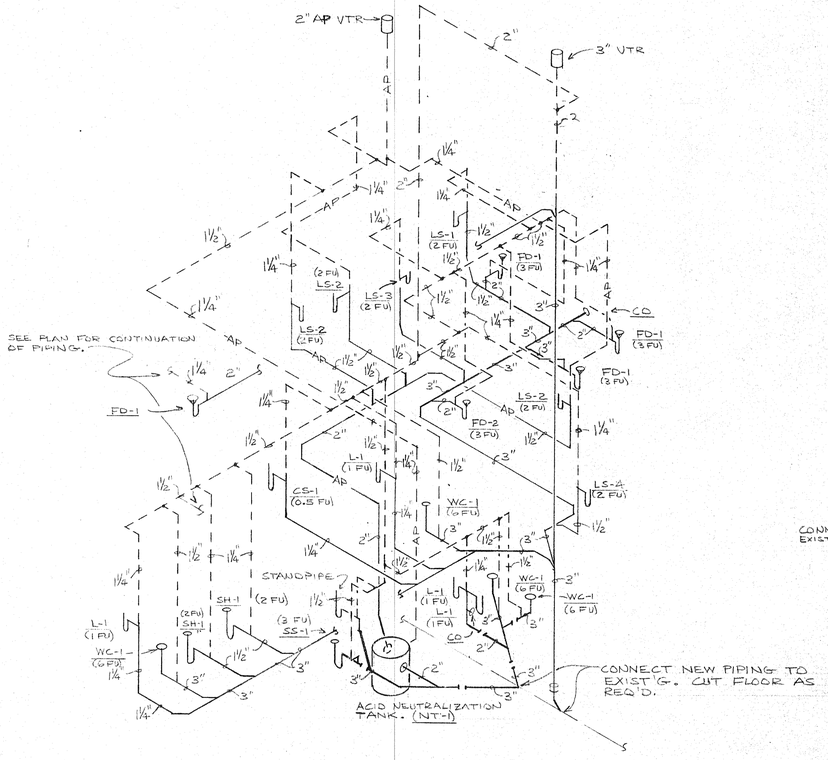
WATER SERVICE ISOMETRIC - WEST WING
NO SCALE



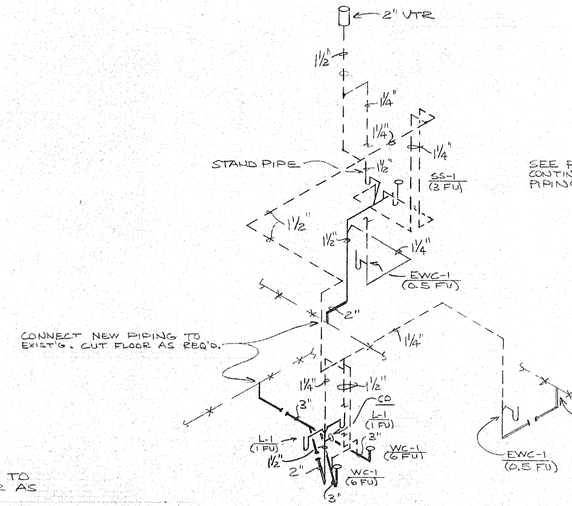
WATER SERVICE ISOMETRIC - CENTER WING
NO SCALE



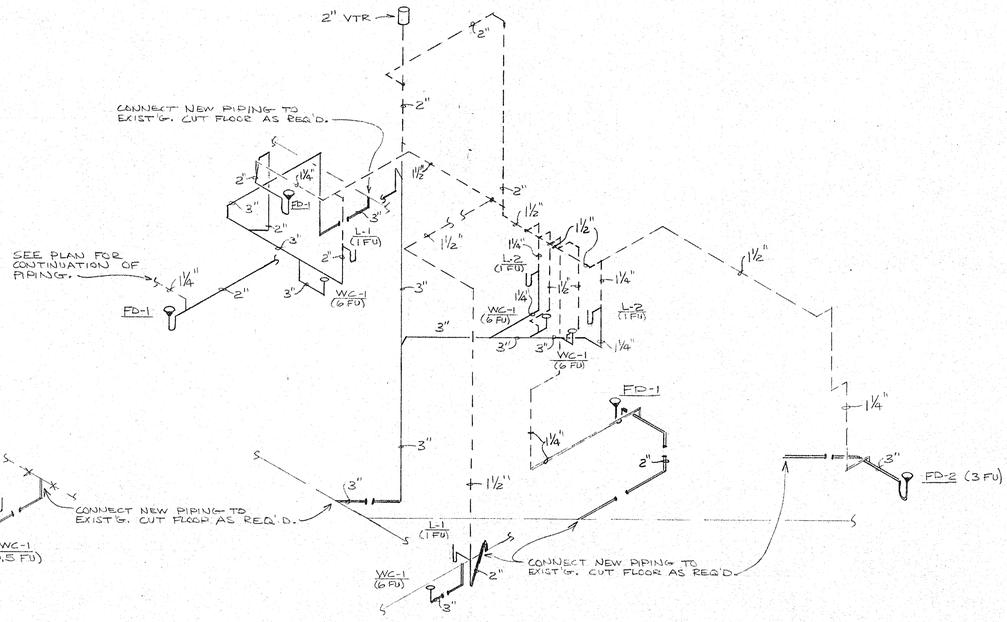
WATER SERVICE ISOMETRIC - EAST WING
NO SCALE



SOIL, WASTE & VENT ISOMETRIC - WEST WING
NO SCALE



SOIL, WASTE & VENT PIPING - CENTER WING
No SCALE



SOIL, WASTE & VENT PIPING - EAST WING
NO SCALE

LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

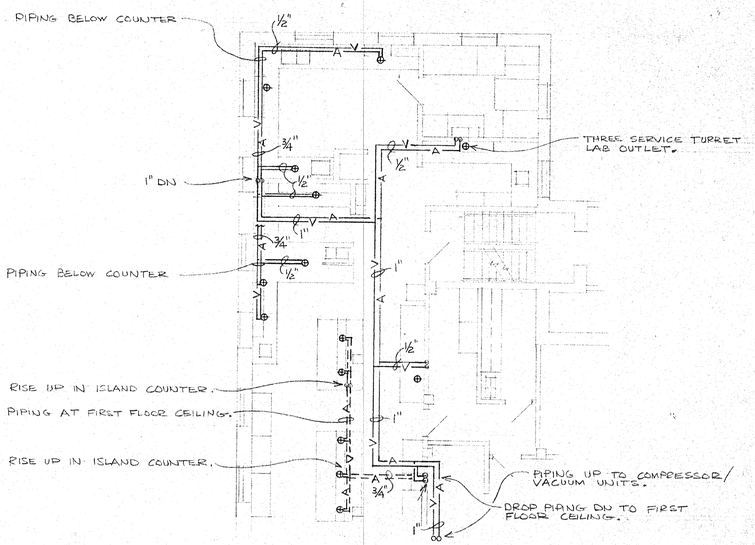
BY/WM	CHECKED	REVISIONS

THESE PLANS, DESIGNS, AND IDEAS ARE THE PROPERTY OF THE ARCHITECT AND ARE NOT TO BE USED FOR OTHER WORK WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.

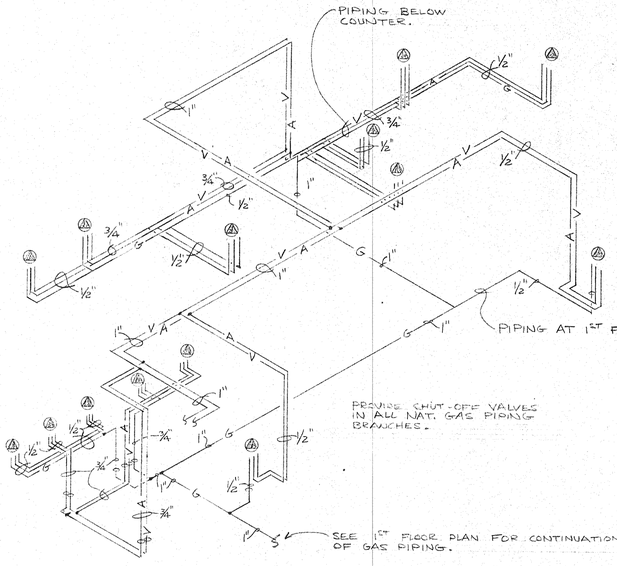
TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE GREEN BAY, WISCONSIN 54301 (414) 437-6166

DATE SEPT. 1989
SHEET P 4
PROJ. NO 8905

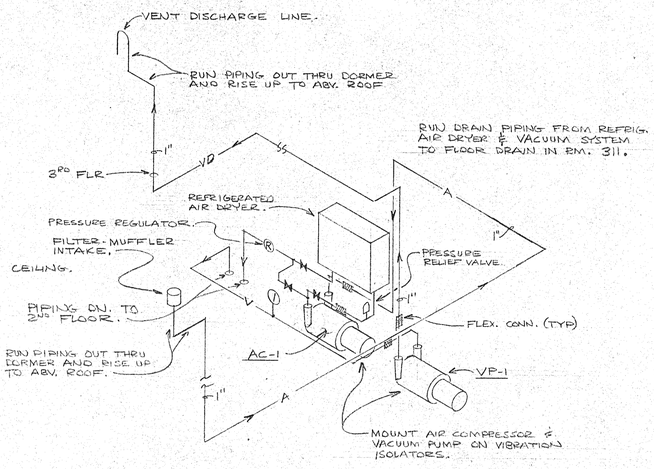
WISCONSIN KENNETH FRANK SIKORA E-19845 Green Bay WI PROFESSIONAL ENGINEER



PARTIAL SECOND FLOOR PLAN - WEST WING
(MEDICAL GAS)
SCALE - 1/8" = 1'-0"

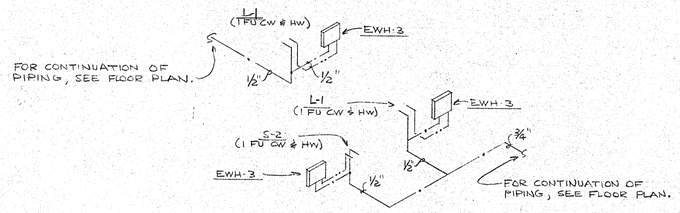


MEDICAL GAS PIPING ISOMETRIC
NO SCALE

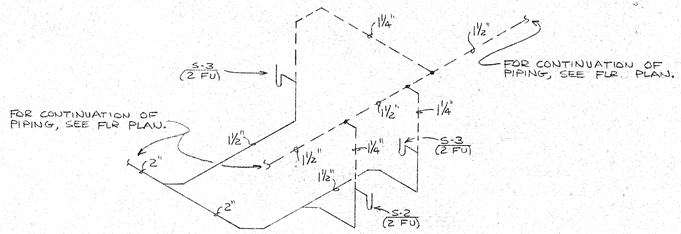


MEDICAL AIR COMPRESSOR / VACUUM PUMP ISOMETRIC
NO SCALE

Ⓐ - THREE SERVICE TURRET W/ SAFETY CHAMBER & TOP OUTLET. WATER SAVER FAUCET CO. SERIES 80-68-A TURRET W/ (3) L-2900 LAB. GROUND KEY HOSE COCKS.



WATER SERVICE ISOMETRIC - RMS. 258, 264 & 266
NO SCALE



SANITARY, WASTE & VENT ISOMETRIC - RMS. 258, 264 & 266.
NO SCALE

LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

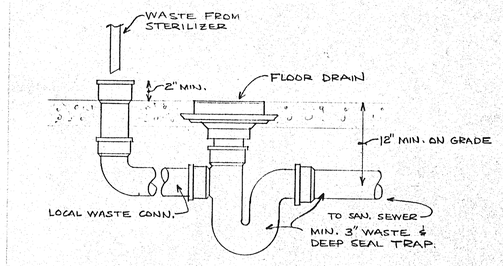
TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE GREEN BAY, WISCONSIN 54301 (414) 437-6166

DRAWN | CHECKED

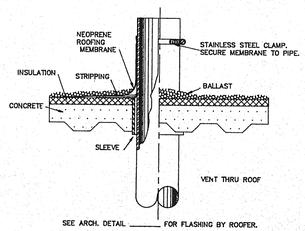
THESE PLANS, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF THE ARCHITECT AND IS NOT TO BE USED FOR OTHER WORK, EXCEPT BY WRITTEN AGREEMENT WITH THE ARCHITECT.

DATE: SEPT. 1987
SHEET: P 5
PROJ NO.: 8905

WISCONSIN KENNETH FRANK EKORA E-16345 Green Bay, Wis. PROFESSIONAL ENGINEER



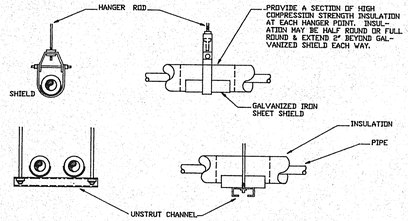
STERILIZER WASTE & FLOOR DRAIN
NO SCALE



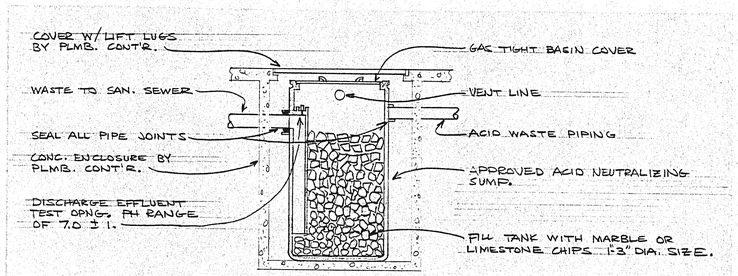
VENT THRU ROOF NTS

PIPE SUPPORT SCHEDULE

PIPE SIZE INCHES	SPACING IN FEET STEEL	SPACING IN FEET COPPER	HANGER ROD SIZE - INCHES
1/2"	5	5	3/8"
3/4"	6		3/8"
1"	7		3/8"
1 1/4"	8		3/8"
1 1/2"	9		3/8"
2"	10		3/8"
2 1/2"	11		1/2"
3"	12		1/2"
4"	12		5/8"
5"	12		5/8"



WATER PIPE HANGER N.T.S.



ACID NEUTRALIZING TANK DETAIL
NO SCALE

PLUMBING SYMBOLS (NOT ALL APPLY)

SYMBOL	ABBR.	DESCRIPTION	REMARKS
	SAN. S.	SANITARY SEWER BELOW GRADE OR FLOOR	
	SAN S.	SANITARY SEWER ABOVE GRADE OF FLOOR	
	STM. S.	STORM SEWER BELOW GRADE OR FLOOR	
	V.	VENT PIPE BELOW GRADE OF FLOOR	
	V.	VENT PIPE ABOVE FLOOR	
	COND.	CONDUCTOR ABOVE GRADE	
— CL —	CL.	CLEAR WATER WASTE ABOVE GRADE	W/ 1/2" ARMAFLEX INSUL.
—CL—	CL.	CLEAR WATER VENT ABOVE GRADE	
	C.W.	COLD WATER	W/ 1/2" FIBERGLASS INSUL.
S	C.W.S.	COLD WATER - SOFT	W/ 1/2" FIBERGLASS INSUL.
	HW.	HOT WATER	W/ 1/2" FIBERGLASS INSUL.
	HWR.	HOT WATER CIRCULATING RETURN	W/ 1/2" FIBERGLASS INSUL.
G.	G.	GAS	
A.	A.	AIR	
X X		EXISTING PIPING	
		CUT & PATCH EXIST. FLR.	
	G.V. OR BL V	GATE VALVE OR BALL VALVE	
	GL V	GLOBE VALVE	
	CH. V.	CHECK VALVE	
	S.	STRAINER	
	B.C.	BALANCING COCK	
	C.V.	AUTOMATIC CONTROL VALVE	
	P.G.	PRESS. GA. W/ COIL SYPHON & T-HANDLE GA. COCK.	
	T.	THERMOMETER WITH SEPARABLE SOCKET	0-100 PSI RANGE, 3 1/2" DIAL 30-240 F. RANGE, 7"CASE
	P&T R.V.	PRESS. &/OR TEMPERATURE RELIEF VALVE	
	B.F.P.	PUMP WITH REDUCER & INCREASER	
HVBV	H.V.B.V.	BACK FLOW PREVENTER	
	UNION	HOSE BIBB VACUUM BREAKER	
		UNION	
	F.D.	FLOOR DRAIN	
	R.D.	ROOF DRAIN	
	H.D. OR O.S.D.	HUB DRAIN OR OPEN SITE DRAIN	
	EL.	ELEVATION, FLOOR, OR GRADE EQUIP. BY OTHERS	
C.O.	C.O.	WALL CLEANOUT	
F.C.O.	F.C.O.	FLOOR CLEANOUT	
	F.	FUTURE	
	"E"	ELEVATION	
	I.E.	INVERT ELEV.	
	A.F.F.	ABOVE FINISHED FLOOR	
	S.S.	SOIL STACK	
	V.S.	VENT STACK	
	MH.	MANHOLE	
	CB.	CATCH BASIN	
	AD.	ACCESS DOOR	
	P.C.	PLBG. CONTR.	
	H.C.	HTG. CONTR.	
	E.C.	ELECT. CONTR.	
	U.O.N.	UNLESS OTHERWISE NOTED	
	N.I.C.	NOT IN CONTRACT	

EQUIPMENT SCHEDULE

TAG	MNFG	MODEL	DESCRIPTION	REMARKS
EWH-1	A.O. SMITH	EDLJ-20	20 GAL. TANK, 4.5 KW, 208/1PH., DOUBLE ELEMENT- NON-SIMULTANEOUS 20.5 GPH AT 90° F. RISE RECOVERY.	
EWH-2	A.O. SMITH	ELJF-6	6 GAL TANK, 1.5 KW, 208/1PH, SINGLE ELEMENT, 6.8 GPH AT 90° F. RISE RECOVERY.	
EWH-3	CONTROLLED ENERGY CORP.	POWER STREAM	7.1 KW, 208V/1PH, INSTANTANEOUS HEATER, 0.75 GPM AT 64° F. RISE.	
NT-1	ENFIELD	T0015	ACID NEUTRALIZING SUMP, 15 GAL. CAPACITY, 2" INLET & OUTLET, 1 1/2 VENT, 18" DIA. X 15" HIGH, HIGH DENSITY POLYENTHYLENE CONSTRUCTION.	
AC-1	BUSCH	DC0025	MEDICAL AIR COMPRESSOR, 10 CFM @ 15 PSIG, 1.7 KW MOTOR, 208V/3PH/ 60 HZ, 1800 RPM	
VP-1	BUSCH	DC0025	VACUUM PUPMP, 10 CFM @ 15" HG VACUUM, 1.7 KW MOTOR, 208V/3PH/ 60 HZ, 1800 RPM.	
–	ZURN	RF10	REFRIGERATED AIR DRYER, 10 SCFM @ 38 F. DEW POINT, 1.6 HP, 115 V./ 1PH./60 HZ, 3600 RPM.	

LAKEVIEW PROFESSIONAL PLAZA REMODELING
MARATHON COUNTY WAUSAU, WISCONSIN

DRAWN | CHECKED

THIS DRAWING AS AN INSTRUMENT OF SERVICE IS AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT. NO PART THEREOF SHALL BE COPIED, DISCLOSED TO OTHERS OR USED IN CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIED PROJECT FOR WHICH IT HAS BEEN PREPARED AND DEVELOPED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT.

TILLEMAN ASSOCIATES, INC., ARCHITECTS
119 SOUTH WEBSTER AVENUE (414) 437-6186 GREEN BAY, WISCONSIN 54301

DATE: SEPT. 1989
SHEET P 6
PROJECT NO. 8705