ELECTRICAL SPECIFICATION

A. GENERAL
1. THE ENTIRE ELECTRICAL INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND LOCAL JURISDICTION REQUIREMENTS.

B. SHOP DRAWINGS
1. PROVIDE SHOP DRAWINGS FOR THE FOLLOWING ITEMS: LIGHTING FIXTURES, OCCUPANCY SENSORS, RECEPTACLES AND FIRE ALARM DEVICES

C. EQUIPMENT AND DEFINITIONS
1. ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UNDERWRITER'S LABORATORIES LABEL.
2. UNLESS SPECIFICALLY NOTED ON THE PLANS ALL CIRCUITRY, EQUIPMENT, DEVICES, ETC., NOT NOTED EXISTING TO REMAIN OR TO BE RELOCATED SHALL BE NEW.

D. JUNCTION BOXES LABELING REQUIREMENTS
1. ALL JUNCTION BOXES FOR BRANCH CIRCUITRY SHALL BE CLEARLY LABELED WITH PANEL DESIGNATION AND CIRCUIT NUMBERS.

E. PANELBOARDS
1. PROVIDE A TYPED CIRCUIT DIRECTORY FOR THE ENTIRE PANELBOARD REVISED UNDER THIS CONTRACT.
2. CONTRACTOR SHALL PHASE BALANCE ALL PANELBOARDS AS NECESSARY.
3. THE BRANCH CIRCUITS SHOWN FOR ITEMS SERVED AS INDICATED. CONTRACTOR SHALL FIELD COORDINATE ALL BRANCH CIRCUITS ACCORDINGLY.
4. BRANCH CIRCUITRY SHOWN ON FLOOR PLAN CONNECTED TO A DESIGNATED CIRCUIT EXACT POSITION OF CIRCUIT BREAKER SHALL BE AFTER REMOVAL OF OUTLETS UNDER DEMOLITION. CONTRACTOR SHALL UTILIZE ALL C/B'S BECOMING SPARE

F. CIRCUIT BREAKERS
1. ALL NEW CIRCUIT BREAKERS TO BE INSTALLED IN NEW PANELS SHALL BE BOLT-ON TYPE.

G. SWITCHES, RECEPTACLES, TELEPHONE OUTLETS AND DATA OUTLETS
1. WHERE TWO OR MORE DEVICES OF THE SAME VOLTAGE ARE SHOWN TOGETHER ON THE PLANS, A GANGED PLATE SHALL BE USED. DEVICES OF DIFFERENT VOLTAGES SHALL BE SEPARATED HORIZONTALLY BY 6" BUT SHALL BE HORIZONTALLY OR VERTICALLY ALIGNED.
2. ALL RECEPTACLES, TELEPHONE, AND DATA OUTLETS SHOWN ON A WALL BACK TO BACK SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY.

H. LIGHTING FIXTURES
1. COORDINATE ALL LIGHTING FIXTURES WITH SPRINKLERS, MECHANICAL EQUIPMENT AND ARCHITECTURAL CEILING PLAN TO AVOID CONFLICT. GRID LAYOUT ON PLANS IS APPROXIMATE, ADJUST AND COORDINATE LIGHTING FIXTURES IN FIELD PER ARCHITECTS REFLECTED CEILING PLAN.
2. PROVIDE FINISHED FRAMES FOR ALL RECESSED LIGHTING FIXTURES, TYPE TO BE COORDINATE ALL FIXTURE TYPES WITH CEILING SYSTEM BEFORE ORDERING FIXTURES. PROVIDE ALL MOUNTING ATTACHMENTS FOR A COMPLETE INSTALLATION. LIGHTING FIXTURES SHALL BE SUPPORTED PER LOCAL CODE REQUIREMENTS.
3. ALL NEW LIGHTING FIXTURES SHALL BE INSTALLED COMPLETE WITH LAMPS. SEE LIGHTING FIXTURE SCHEDULE FOR LAMPS AND TYPE OF BALLASTS REQUIREMENTS AND/OR PLANS.
4. COLOR OF LIGHTING FIXTURES SHALL BE AS SELECTED BY THE ARCHITECT.

I. BRANCH CIRCUITRY AND FEEDER
1. ALL CONDUCTORS SHALL BE COPPER.
2. ALL BRANCH CIRCUITRY AND FEEDER SHALL COMPLY WITH THE UTEST NATIONAL ELECTRICAL CODE (N.E.C.) LOCAL JURISDICTION AND LOCAL STATE CODE REQUIREMENTS. THE FOLLOWING ARE SOME ACCEPTABLE WIRING METHOD REQUIREMENTS.

J. INDOOR USE BRANCH CIRCUITRY
1. METAL CLAD CABLE (MC CABLE) IS PERMITTED TO SERVE RECEPTACLES/LIGHTING AND OTHER EQUIPMENT LOAD. METAL CLAD CABLE MC IS PERMITTED TO RUN CONCEALED AREA SUCH AS CEILING SPACE AND FINISHED WALL AREA ONLY. CONTRACTOR SHALL FOLLOW ELECTRICAL SYMBOLS LIST ALL HOMERUN BRANCH CIRCUITRY FOR THE INDOOR EQUIPMENT SHALL BE INSTALLED IN EMT

K. GENERAL NOTES IN REGARDS TO BRANCH CIRCUITRY AND FEEDER
1. USE OF ALUMINUM CONDUIT SHALL NOT BE PERMITTED.
2. ALL BRANCH CIRCUITRY AND FEEDERS SHALL BE RUN CONCEALED.
3. ALL CIRCUITRY RUNS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL DETERMINE IN FIELD THE MOST SUITABLE ROUTES.
4. MINIMUM SIZE EMT OR CONDUIT SHALL BE 3/4". UNLESS MULTIPLE HOMERUN CIRCUITS REQUIRES URGER SIZE CONDUIT.
5. NO NONMETALLIC CONDUIT SHALL BE USED FOR BRANCH CIRCUIT WORK ABOVE GRADE

L. WIRE AND CABLE
1. FEEDERS: FEEDER SHALL BE ALUMINUM . INSULATION SHALL BE THW OR THHN/THWN.
2. COLOR CODE: ALL WIRING SHALL BE COLOR CODED THROUGHOUT AS PER N.E.C. REQUIREMENTS.
3. ALL CONDUCTORS SHALL BE COPPER, MINIMUM #2 AWG.
4. ALL RECEPTACLES, LIGHTING FIXTURES, MOTORS, ETC.. SHALL BE GROUNDED PER N.E.C. ALL RECEPTACLE CIRCUITS SHALL CONTAIN A #12 INSULATED GROUND CONDUCTORS
5. RUN MULTIPLE HOMERUNS TO ALTERNATELY NUMBERED PANELBOARD CIRCUITS (I.E., 1,3,5) SERVING LIGHTING, GENERAL RECEPTACLES, AND MOTORS. ANY CIRCUITS SERVING, ISOLATED GROUND RECEPTACLES OR RECEPTACLES SERVING COMPUTER EQUIPMENT, WHEN THE CONTRACTOR RUN CIRCUITRY IN MULTIPLE HOMERUNS. CONTRACTOR SHALL OVERSIZE THE NEUTRAL CONDUCTOR TO A MINIMUM 200% OF THE CAPACITY OF PHASE CONDUCTORS SIZE THE EMT/CONDUIT ACCORDINGLY WHERE NECESSARY.
6. ALL EMPTY RACEWAYS SHALL CONTAIN A DRAG WIRE. EMPTY RACEWAYS 2" OR LARGER IN SIZE SHALL HAVE A MAXIMUM OR 2 - 90 DEGREES BENDS PER RUN. WHERE REQUIRED, PROVIDE PULL BOXES PER N.E.C. REQUIREMENTS.
7. FINAL CONNECTION TO ALL MOTORS OR VIBRATING EQUIPMENT SHALL BE WITH FLEXIBLE CONDUIT OR LIQUID-TIGHT FLEXIBLE CONDUIT FOR OUTDOOR.
8. ALL 120 VOLT CIRCUIT HOMERUNS WHICH ARE OVER 100 LINEAR FEET SHALL BE A MINIMUM OF # 10 CONDUCTORS OR AS SHOWN ON THE PLANS.
9. EXPOSED AND CONCEALED CIRCUITRY SHALL BE RUN TIGHT TO CEILING SLAB IN A NEAT WORKMANLIKE MANNER. ALL RUNS SHALL BE PARALLEL OR PERPENDICULAR TO BUILDING WALL.

M. GROUNDING
1. PROVIDE GROUND TO ALL DEVICES PER N.E.C. REQUIREMENTS.
2. PROVIDE SERVICE GROUND CONDUCTORS SIZE PER NEC REQUIREMENTS.
3. PROVIDE EQUIPMENT GROUND CONDUCTORS SIZE PER NEC REQUIREMENTS.

N. FIRE SEALANT MATERIALS
1. ANY PENETRATION TO THE FIRE WALLS. CONTRACTOR SHALL PROVIDE FIRE SEALANT MATERIALS AT EVERY POINT WHERE OCCURRED. FIRE SEALANT MATERIALS MANUFACTURER SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO APPLICATION.

O. WORK SCHEDULE
1. COORDINATE WITH ARCHITECT AND/OR OWNER'S REPRESENTATIVE FOR WORK SCHEDULE REQUIREMENTS

P. FINAL TESTING
1. AT THE TIME OF FINAL INSPECTION AND TEST, ALL CONNECTIONS AND TERMINATIONS AT PANELBOARDS, DEVICES, EQUIPMENT, AS WELL ALL SPLICES MUST BE ALL COMPLETED. EACH BRANCH CIRCUIT AND ITS RESPECTIVE CONNECTED EQUIPMENT MUST TEST FREE OF SHORT CIRCUIT COMPLETION OF THE WORK, CLEAN AND POLISH ALL EXPOSED SURFACES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

ELECTRICAL SYMBOLS

PANELBOARD - SEE SCHEDULE. MOUNTING HEIGHT TO CENTERLINE ABOVE FINISHED FLOOR 6' - 0 " TO TOP.

MOTOR CONNECTION - HORSEPOWER AS INDICATED, FRACTIONAL IF NO NOTED.

DISCONNECT SWITCH - SEE DRAWING FOR VOLTAGE, POLES AND AMPERAGE RATING.

A-1
HOMERUN TO PANELBOARD. NUMBER OF ARROWHEADS INDICATE NUMBER OF
CIRCUITS. NUMERALS AND LETTERS ADJACENT TO ARROWHEADS INDICATE
ASSIGNED PANEL AND CIRCUIT NUMBERS. SEE PANEL SCHEDULE FOR AMPERAGE
RATING OF EACH CIRCUIT BREAKER AND CONDUCTOR SIZES

CIRCUITRY INSTALLED CONCEALED IN WALL OR ABOVE CEILING.
NUMBER
OF TICKS INDICATE NUMBER OF CONDUCTORS. IF NO TICKS MARK INDICATE 2
(TWO) CONDUCTORS IN RACEWAY. SEE PANEL SCHEDULE FOR CONDUCTOR SIZES.

S_M OCCUPANCY SENSOR FOR THE SMALL INDIVIDUAL OFFICE, +48" A.F.F. MOTION SENSOR SHALL BE AS MANUF. BY WATTSTOPPER WITH TIME DELAY SHALL BE
SET @ LESS THAN 15 MINUTES WATTSTOPPER CAT# DW-100
COLOR TO BE SELECTED BY THE ARCHITECT.

OC OCCUPANCY SENSOR, CEILING MOUNTED AS MANUF. BY WATTSTOPPER.

SWITCH BANK

DL DAYLIGHT SENSOR

ELECTRICAL SYMBOLS

EXIT LIGHTING FIXTURE ON EMERGENCY CIRCUITRY ARROWS AS INDICATED. FIXTURES TO COMPLY WITH LOCAL JURISDICTION REQUIREMENTS - SEE SCHEDULE

S_T MOTOR RATED SWITCH WITH THERMAL OVERLOAD

WALL MOUNTED DUPLEX RECEPTACLE - 2P, 3W, 20A, 125V, GROUNDED (HUBBELL #5362). COLOR OF DEVICE AND FACE PLATE SHALL BE AS SELECTED BY THE ARCHITECT. MOUNTING HEIGHT TO
CENTERLINE ABOVE FINISHED FLOOR 18" UON.

WALL MOUNTED DOUBLE DUPLEX RECEPTACLE - 2P, 3W, 20A, 125V,
GROUNDED (HUBBELL #5362). COLOR OF DEVICE AND FACE PLATE SHALL BE AS SELECTED BY THE ARCHITECT. MOUNTING HEIGHT TO CENTERLINE ABOVE FINISHED FLOOR 18" UON.

2-HEAD BATTERY LIGHTING UNIT

J J JUNCTION BOX - CEILING OR WALL MOUNTED

S SINGLE POLE SWITCH - ARROW HART #1991. COLOR OF DEVICE AND FACE PLATE SHALL BE WHITE.
MOUNTING HEIGHT TO CENTERLINE ABOVE FINISHED FLOOR 4' - 0".

S_3 THREE WAY SWITCH . COLOR OF DEVICE AND FACE SHALL BE WHITE
MOUNTING HEIGHT TO CENTERLINE ABOVE FINISHED FLOOR 4' - 0"

SD SMOKE DETECTOR

SPECIAL OUTLET. COORDINATE EXACT NEMA CONFIGURATIONS OF OUTLET WITH OWNER'S REPRESENTATIVE AND EXACT MOUNTING HEIGHT PRIOR TO ROUGH-IN.

ABBREVIATIONS

A	AMPERE
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY C CONDUIT/EMT
C/B	CIRCUIT BREAKER
EC	EMPTY CONDUIT/EMT. PROVIDE PULL WIRE
EMT	ELECTRICAL METALLIC TUBING
G	GROUND
HP	HORSEPOWER
MCB	MAIN CIRCUIT BREAKER
MTD	MOUNTED
NIC	NOT IN CONTRACT
KW	KILOWATTS
P	POLE
PNL	PANEL
R	RECESSED
LF	LINEAR FEET
S	SURFACE
UON	UNLESS OTHERWISE NOTED
V	VOLT
W	WIRE
MTD	MOUNTED
OC	ON CEILING
EG	EQUIPMENT GROUND
IG	ISOLATED GROUND
FACP	FIRE ALARM CONTROL PANEL

THE HIVE SALON STUDIOS
4104 TAYLORSVILLE ROAD
LOUISVILLE, KENTUCKY 40220

MARK	DATE	DESCRIPTION

ISSUE:

PROJECT NO:
CAD FILE:
DATE:
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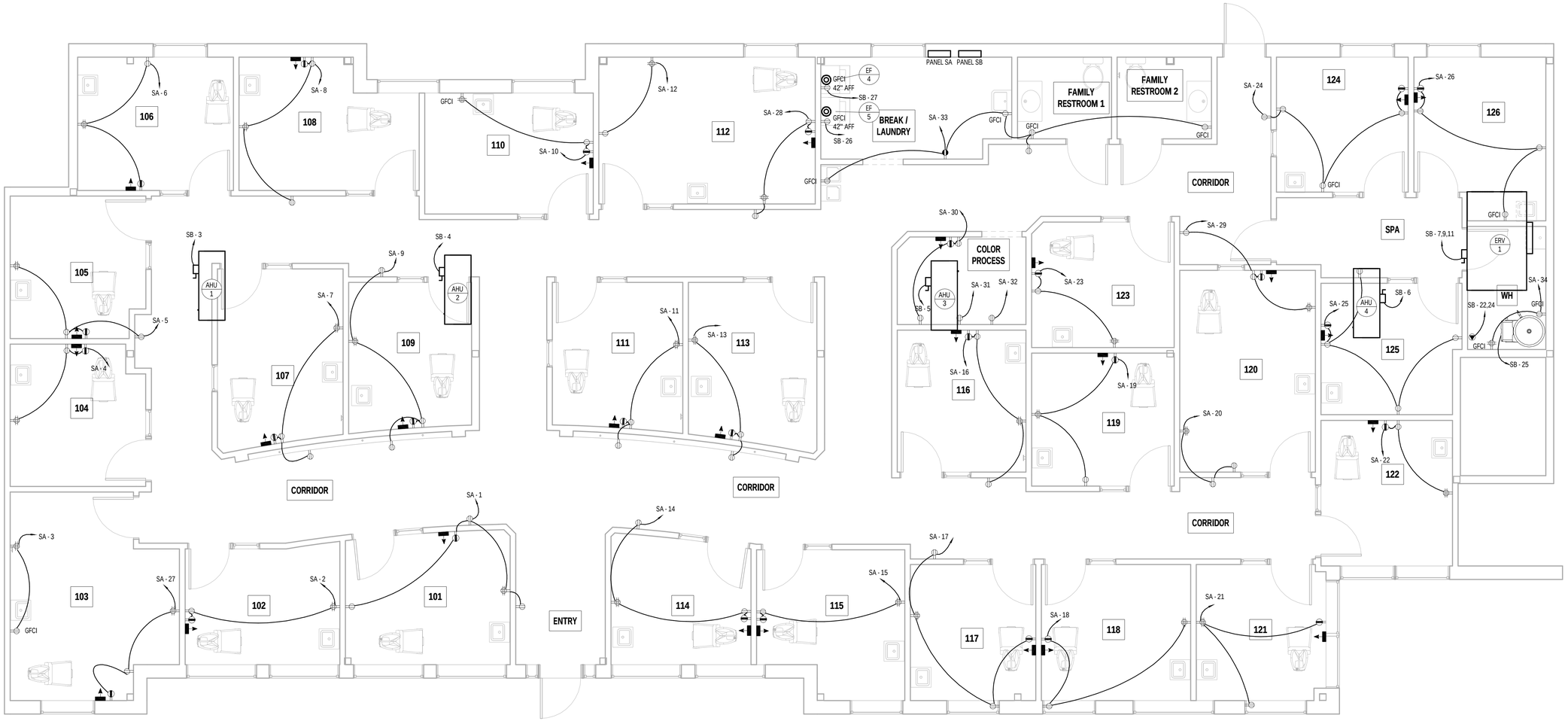
SHEET TITLE:

ELECTRICAL NOTES

DRAWING SHEET NO:

E000



1 ELECTRICAL POWER PLAN
1/4" = 1'-0"

2 POWER ROOF PLAN
1/8" = 1'-0"

POWER PLAN LEGEND

	120V 20A DUPLEX RECEPTACLE @ 12" AFF
	120V 20A DUPLEX RECEPTACLE FOR FLATSCREEN @ 72" AFF
	CATV OUTLET @ 72" AFF

NOTES

1. TERMINATE ALL CAT-6 CABLE RUNS AT UTILITY ROOM AT EQUIPMENT RACK.
2. ALL 120V 15A & 20A RECEPTACLES WITHIN 6FT OF SINKS SHELL BE GFCI PROTECTED.

THE HIVE SALON STUDIOS
4104 TAYLORSVILLE ROAD
LOUISVILLE, KENTUCKY 40220

MARK	DATE	DESCRIPTION
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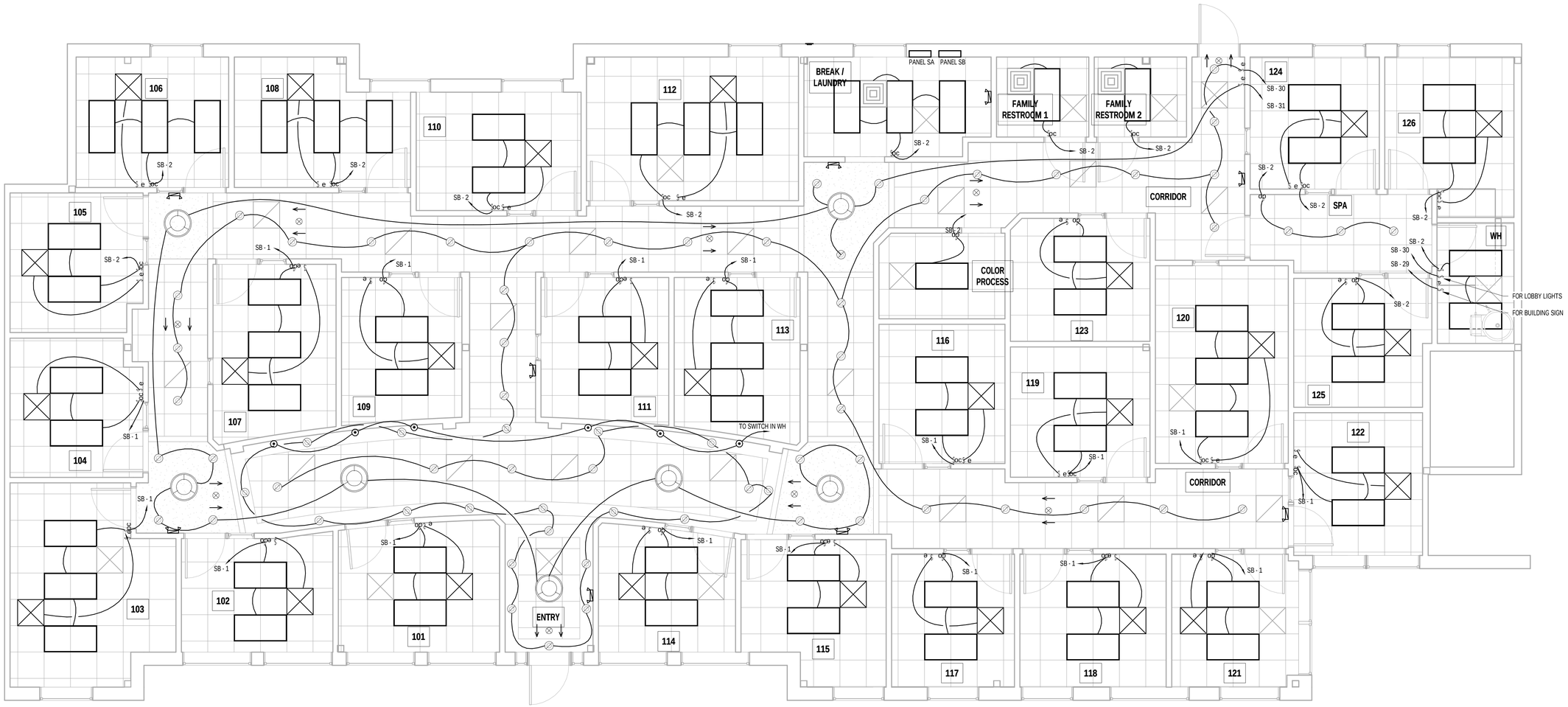
POWER PLAN

DRAWING SHEET NO:

E001



LIGHTING POWER DENSITY CALCULATION

AREA = 4620 SQ.FT

TOTAL WATTS = 4877.5

LIGHTING POWER DENSITY =1.11 < 1.05 WATTS DIVIDED BY SQ.FT.

THIS CALCULATION IS BASE PER 2015 IECC SECTION 405.4.2

LIGHTING FIXTURES LEGEND

SYMBOL	SPECIFICATIONS	MANUFACTURER	MODEL	TYPE	WATTS	VOLTS
	2X4 LED LAY-IN TROFFER	LITHONIA	2GTL4	LED	34.5	120
	LED 6" RECESSED CEILING MOUNT DOWN LIGHT FIXTURE	LITHONIA	65BEMW	LED	12	120
	LED CHANDELIER PER CLIENT			LED	250 max	120

LIGHTING PLAN LEGEND

$OC	SINGLE POLE SWITCH W/ OCCUPANCY DETECT. LUTRONMS-OPS5M-WH
$	SINGLE POLE SWITCH. DECORA
$E	SINGLE POLE SWITCH W/ ELECTRONIC CONTROL. GEJASCO 45609 WB

THE HIVE SALON STUDIOS
4104 TAYLORSVILLE ROAD
LOUISVILLE, KENTUCKY 40220

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LIGHTING PLAN

DRAWING SHEET NO:

E002

PANEL TAG	SA		
PANEL LOCATION	BREAK / LAUNDRY		
VOLTAGE	120/208 Wye		
PHASE	3	WIRE	4
RATED AMPS	100 A	AIC	25K
MCB	100 A	MOUNTING	Recessed

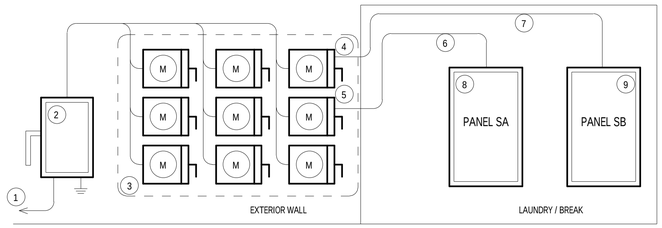
CIRCUIT	DESCRIPTION	NEW/ EXIST.	LOAD TYPE	BREAKER SIZE	POLES	WIRE SIZE	A	B	C	A	B	C	WIRE SIZE	POLES	BREAKER SIZE	LOAD TYPE	NEW/ EXIST.	DESCRIPTION	CIRCUIT
1	RECEPTACLES STUDIO 101	N	R	20 A	1	1-#8, 1-#8, 1-#8	1.6			1.1			1-#10, 1-#10, 1-#10	1	20 A	R	N	RECEPTACLES STUDIO 102	2
3	RECEPTACLES STUDIO 103	N	R	20 A	1	1-#10, 1-#10, 1-#10		0.9			1.1		1-#10, 1-#10, 1-#10	1	20 A	R	N	RECEPTACLES STUDIO 104	4
5	RECEPTACLES STUDIO 105	N	R	20 A	1	1-#8, 1-#8, 1-#8			1.4			1.1	1-#10, 1-#10, 1-#10	1	20 A	R	N	RECEPTACLES STUDIO 106	6
7	RECEPTACLES STUDIO 107	N	R	20 A	1	1-#10, 1-#10, 1-#10	1.4			1.4			1-#10, 1-#10, 1-#10	1	20 A	R	N	RECEPTACLES STUDIO 108	8
9	RECEPTACLES STUDIO 109	N	R	20 A	1	1-#8, 1-#8, 1-#8		1.6			1.1		1-#12, 1-#12, 1-#12	1	20 A	R	N	RECEPTACLES STUDIO 110	10
11	RECEPTACLES STUDIO 111	N	R	20 A	1	1-#10, 1-#10, 1-#10			1.4			0.9	1-#12, 1-#12, 1-#12	1	20 A	R	N	RECEPTACLES STUDIO 112	12
13	RECEPTACLES STUDIO 113	N	R	20 A	1	1-#10, 1-#10, 1-#10	1.4			1.4			1-#10, 1-#10, 1-#10	1	20 A	R	N	RECEPTACLES STUDIO 114	14
15	RECEPTACLES STUDIO 115	N	R	20 A	1	1-#12, 1-#12, 1-#12		1.1			1.4		1-#12, 1-#12, 1-#12	1	20 A	R	N	RECEPTACLES STUDIO 116	16
17	RECEPTACLES STUDIO 117	N	R	20 A	1	1-#10, 1-#10, 1-#10			1.4			1.1	1-#10, 1-#10, 1-#10	1	20 A	R	N	RECEPTACLES STUDIO 118	18
19	RECEPTACLES STUDIO 119	N	R	20 A	1	1-#12, 1-#12, 1-#12	1.1			1.1			1-#12, 1-#12, 1-#12	1	20 A	R	N	RECEPTACLES STUDIO 120	20
21	RECEPTACLES STUDIO 121	N	R	20 A	1	1-#10, 1-#10, 1-#10		1.1			1.1		1-#10, 1-#10, 1-#10	1	20 A	R	N	RECEPTACLES STUDIO 122	22
23	RECEPTACLES STUDIO 123	N	R	20 A	1	1-#12, 1-#12, 1-#12			1.1			1.3	1-#10, 1-#10, 1-#10	1	20 A	R	N	RECEPTACLES STUDIO 124	24
25	RECEPTACLES STUDIO 125	N	R	20 A	1	1-#10, 1-#10, 1-#10	1.3			1.0			1-#12, 1-#12, 1-#12	1	20 A	R	N	RECEPTACLES STUDIO 126	26
27	RECEPTACLES STUDIO 103	N	R	20 A	1	1-#8, 1-#8, 1-#8		1.1			1.4		1-#12, 1-#12, 1-#12	1	20 A	R	N	RECEPTACLES STUDIO 112	28
29	RECEPTACLES STUDIO 120	N	R	20 A	1	1-#10, 1-#10, 1-#10			1.4			0.8	1-#12, 1-#12, 1-#12	1	20 A	R	N	RECEPTACLES COLOR PROCESS	30
31	RECEPTACLES COLOR PROCESS	N	R	20 A	1	1-#12, 1-#12, 1-#12	0.3			0.3			1-#12, 1-#12, 1-#12	1	20 A	R	N	RECEPTACLES COLOR PROCESS	32
33	RECEPTACLES RESTROOMS, LAUNDRY	N	R	20 A	1	1-#10, 1-#10, 1-#10		1.5			0.9		1-#12, 1-#12, 1-#12	1	20 A	R	N	WH RECEPTACLES	34
35																			36
37																			38
39																			40
41																			42
							A	B	C		TOTAL								
						CONNECTED LOAD	13.1	14.1	11.6		38.7								
						CONNECTED AMPS	110.7	119.4	96.3		107.4 A								

DEMAND LOAD CALCULATION	FACTOR	CONNECTED LOAD	DEMAND LOAD
CONTINUOUS LOADS (C)			
NON CONTINUOUS LOAD (NC)			
LIGHTING (L)			
RECEPTACLES (R) - UNDER / OVER 10kVA	62.92%	38.7	24.4
MOTOR LOADS (M)			
KITCHEN (K)			
WATER HEATER (WH)			
SUB PANEL (SP)			
DEMAND LOAD			24.4
DEMAND AMPS			67.6 A

PANEL TAG	SB		
PANEL LOCATION	BREAK / LAUNDRY		
VOLTAGE	120/208 Wye		
PHASE	3	WIRE	4
RATED AMPS	200 A	AIC	25K
MCB	200 A	MOUNTING	Recessed

CIRCUIT	DESCRIPTION	NEW/ EXIST.	LOAD TYPE	BREAKER SIZE	POLES	WIRE SIZE	A	B	C	A	B	C	WIRE SIZE	POLES	BREAKER SIZE	LOAD TYPE	NEW/ EXIST.	DESCRIPTION	CIRCUIT
1	LIGHTING FRONT SIDE, DAMPERS		L; M	20 A	1	1-#1/0, 1-#1/0, 1-#1/0	1.4			1.1			1-#2, 1-#2, 1-#2	1	20 A	L; M		LIGHTING REAR SIDE, DAMPERS, FANS	2
3	AHU-1		M	20 A	1	1-#12, 1-#12, 1-#12		0.9			0.9		1-#12, 1-#12, 1-#12	1	20 A	M		AHU-2	4
5	AHU-3		M	20 A	1	1-#12, 1-#12, 1-#12			0.9			0.9	1-#12, 1-#12, 1-#12	1	20 A	M		AHU-4	6
7	ERV-1		M	20 A	3	3-#12, 1-#12, 1-#12	0.0			2.5			3-#8, 1-#8, 1-#10	3	40 A	M		CU-1	8
9	--		--	--	--	--		0.0			2.5		--	--	--	--		--	10
11	--		--	--	--	--			0.0			2.5	--	--	--	--		--	12
13	CU-2		M	40 A	3	3-#8, 1-#8, 1-#10	2.5			2.5			3-#8, 1-#8, 1-#10	3	40 A	M		CU-3	14
15	--		--	--	--	--		2.5			2.5		--	--	--	--		--	16
17	--		--	--	--	--			2.5			2.5	--	--	--	--		--	18
19	CU-4		M	40 A	3	3-#8, 1-#8, 1-#10	2.5			0.4			1-#12, 1-#12, 1-#12	1	20 A	R		ROOFTOP RECEPTACLES	20
21	--		--	--	--	--		2.5			0.3		2-#12, 1-#12, 1-#12	2	20 A	M		RECIRCULATION PUMP	22
23	--		--	--	--	--			2.5			0.3	--	--	--	--		--	24
25	WH-1		WH	20 A	1	1-#12, 1-#12, 1-#12	0.7			1.0			1-#12, 1-#12, 1-#12	1	20 A	R		DRYER	26
27	DRYER		R	20 A	1	1-#12, 1-#12, 1-#12		0.3			0.2		1-#12, 1-#12, 1-#12	1	20 A	M		EF-4 & 5	28
29	BUILDING SIGN		L	20 A	1	1-#12, 1-#12, 1-#12			1.0			0.7	1-#4, 1-#4, 1-#4	1	20 A	L		CORRIDOR LIGHTS	30
31	CORRIDOR LIGHTS		L	30 A	1	1-#2, 1-#2, 1-#2	2.2												32
33																			34
35																			36
37																			38
39																			40
41																			42
							A	B	C		TOTAL								
						CONNECTED LOAD	16.7	12.3	13.5		42.5								
						CONNECTED AMPS	140.9	102.1	113.9		117.8 A								

DEMAND LOAD CALCULATION	FACTOR	CONNECTED LOAD	DEMAND LOAD
CONTINUOUS LOADS (C)			
NON CONTINUOUS LOAD (NC)			
LIGHTING (L)	125%	6.2	7.7
RECEPTACLES (R) - UNDER / OVER 10kVA	100%	1.7	1.7
MOTOR LOADS (M)	100%	34.0	34.0
KITCHEN (K)			
WATER HEATER (WH)	100%	0.7	0.7
SUB PANEL (SP)			
DEMAND LOAD			44.0
DEMAND AMPS			122.1 A

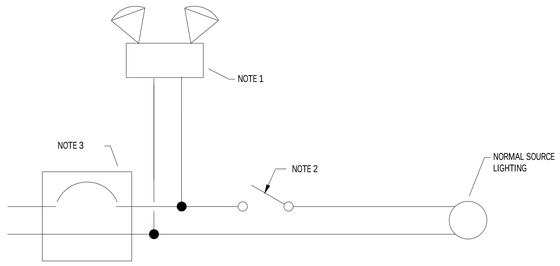


ELECTRICAL RISER DIAGRAM

NOT TO SCALE

FEEDER AND EQUIPMENT NOTES

1. INCOMING ELECTRICAL FROM POWER CO.
2. EXISTING MAIN SWITCH.
3. EXISTING METER BANK.
4. EXISTING METER. MAX 1200A, 120/208 V, 3PH, 4 W WITH NEW 200A SWITCH.
5. EXISTING METER. MAX 1200A, 120/208 V, 3PH, 4 W WITH NEW 100A SWITCH.
6. NEW COPPER FEEDERS 4 3/0 + 1 #6 GND IN 2 1/2" CONDUIT.
7. NEW COPPER FEEDERS 4 #3 + 1 #8 GND IN 1 1/2" CONDUIT.
8. NEW PANEL "SA" 100A, 120/208 V, 3PH, 4 W - SEE PANEL SCHEDULE.
9. NEW PANEL "SB" 200A, 120/208 V, 3PH, 4 W - SEE PANEL SCHEDULE

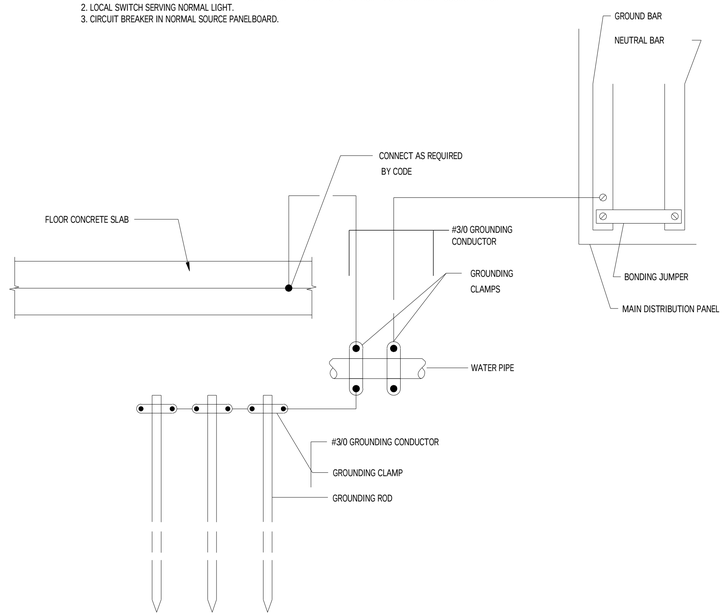


EMERGENCY WIRING SCHEMATIC DIAGRAM

NOT TO SCALE

NOTES

1. SELF CONTAINED UNIT WITH 2 HEAD LIGHT FIXTURE ON THE UNIT TO BE ENERGIZED UPON NORMAL SOURCE FAILURE.
2. LOCAL SWITCH SERVING NORMAL LIGHT.
3. CIRCUIT BREAKER IN NORMAL SOURCE PANELBOARD.



GROUNDING DETAIL

NOT TO SCALE

THE HIVE SALON STUDIOS
4104 TAYLORSVILLE ROAD
LOUISVILLE, KENTUCKY 40220

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PANEL SHEDULES AND DETAILS

DRAWING SHEET NO:

E003

MECHANICAL GENERAL NOTES

1. GENERAL

1.1 THE MECHANICAL WORK SHALL CONFORM TO APPLICABLE STATE AND LOCAL CODES AND THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.

1.2 THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS AND PAY FOR ALL PERMITS, FEES, CHARGES AND INSPECTIONS REQUIRED, AS WELL AS HAULING, RIGGING AND TRANSPORTATION CHARGES APPLICABLE TO HIS WORK.

1.3 THE PROJECT SHALL BE BID ON THE BASIS OF SPECIFIED PRODUCT(S) WHICH ESTABLISH MINIMUM QUALITY REQUIREMENTS. WHERE MORE THAN ONE PRODUCT NAME IS INDICATED, BIDS SHALL BE BASED ON ONE OF THE NAMED PRODUCTS. ALL MECHANICAL EQUIPMENT SHOWN ON CONTRACT DOCUMENTS SHALL BE NEW, SHALL BE ALL LISTED AND SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.

A). WHERE USE OF AN 'ACCEPTABLE EQUAL' PRODUCT REQUIRES CHANGES TO THE BASE DESIGN IN ORDER TO INCORPORATE THE PRODUCT INTO THE PROJECT, THE CONTRACTOR SHALL SUBMIT A LAYOUT SHOWING ALL CHANGES TO ARCHITECTURAL. STRUCTURAL, ELECTRICAL, PLUMBING AND MECHANICAL REQUIREMENTS. CHANGES DUE TO USE OF 'ACCEPTABLE EQUAL' PRODUCTS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER AND THE COST OF CHANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR LAYOUT SHALL ACCOMPANY PRODUCT SUBMITTAL DATA.

B). SUBSTITUTIONS FOR 'ACCEPTABLE EQUAL' PRODUCTS NOT SPECIFIED WILL BE CONSIDERED WHEN INCLUDED WITH SUBMISSION OF THE BID AND SHALL BE SUBJECT TO ACCEPTANCE BY THE ENGINEER. PROPOSALS FOR SUBSTITUTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO: (1) ANY ADDED CREDIT OR COST. (2) PRODUCT IDENTIFICATION. (3) CODE COMPLIANCE. (4) REFERENCED STANDARD COMPLIANCE. (5) DESCRIPTION OF ALL CHANGES INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND MECHANICAL, REQUIRED TO INCORPORATE SUBSTITUTED PRODUCT INTO THE PROJECT. THE OWNER/ENGINEER RESERVES THE RIGHT TO REJECT PROPOSED SUBSTITUTIONS.

C). WHERE 'OR EQUAL' PRODUCTS ARE INDICATED. THE CONTRACTOR SHALL SUBMIT A LIST OF PROPOSED EQUAL SUBSTITUTE PRODUCTS WITH THE BID. THE LIST SHALL INCLUDE ADEQUATE SUPPORTING INFORMATION AS PROOF OF EQUALITY IN ORDER TO BE CONSIDERED ACCEPTABLE. NO LATER SUBSTITUTES WILL BE CONSIDERED.

D). SUBSTITUTIONS SHALL PROVIDE THE SAME GUARANTEE AS SPECIFIED FOR BASE BID PRODUCTS.

1.4 THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS FOR POINTS OF CONNECTIONS, CAPACITIES, AND LOCATIONS OF SYSTEMS. IN ALL AREAS AFFECTED BY THE PROJECT, CUT, PATCH, REPAIR, AND/OR REPLACE ALL MATERIALS DAMAGED AS A RESULT OF WORK. ALL REPAIRED FINISHES SHALL MATCH APPROPRIATE ADJACENT FINISHES. FILL VOIDS AROUND DUCTWORK PENETRATING WALLS WITH FIRE STOPPING MATERIAL.

1.5 MECHANICAL EQUIPMENT AND PRODUCTS SHALL BE LISTED AND/OR LABELED BY AN APPROVED TESTING OR INSPECTION AGENCY IN ACCORDANCE WITH LOCAL AND GOVERNING CODE REQUIREMENTS.

1.6 THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF WORK INCLUDED IN THE PROJECT. DO NOT SCALE THE DRAWING. THE CONTRACTOR SHALL ESTABLISH FINAL DIMENSIONS FROM FIELD MEASUREMENTS, PRIOR TO STARTING WORK.

1.7 MECHANICAL WORK SHALL BE COORDINATED WITH THE WORK OF ALL OTHER TRADES PRIOR TO INSTALLATION, TO AVOID CONFLICTS AND ALLOCATE SPACE REQUIREMENTS.

1.8 MATERIALS SHALL BE RATES FOR THE OPERATING TEMPERATURE AND PRESSURE OF THE HYDRONIC SYSTEM. MATERIALS SHALL BE SUITABLE FOR THE TYPE OF FLUID IN THE HYDRONIC SYSTEM.

1.9 PROJECT PREMISES SHALL BE THOROUGHLY CLEANED AND READY FOR OCCUPANCY INCLUDING ALL FINISHES OF EQUIPMENT PROVIDED AS PART OF THE CONTRACTOR'S WORK. PROVIDE ONE NEW SET OF CLEAN AIR FILTERS FOR ALL AIR MOVING EQUIPMENT AT PROJECT CLOSEOUT.

1.10 THE WORD 'PROVIDE' AS USED IN THE PROJECT SHALL BE DEFINED AS "'FURNISH AND INSTALL"

2. PIPING

2.1 PIPING SHOWN IS SCHEMATIC AND DOES NOT INDICATE EVERY OFFSET, ELBOW, UNION, VALVE, TRAP, ACCESS PANEL, ETC., THAT IS REQUIRED FOR A COMPUTE WORKING SYSTEM. PROVIDE ITEMS AND FITTINGS THAT ARE REQUIRED TO INSTALL THE PIPING SYSTEM WITHIN THE SPACE PROVIDED AND THAT ARE REQUIRED FOR A COMPUTE SYSTEM. PIPING SHALL BE PROPERLY SECURED IN ACCORDANCE WITH MSS STANDARD SP-69.

2.2 MATERIALS SHALL BE RATED FOR THE OPERATING TEMPERATURE AND PRESSURE OF DOMESTIC SYSTEM. MATERIALS SHALL BE SUITABLE FOR THE TYPE OF FLUID IN THE DOMESTIC SYSTEM.

2.3 PIPE SUPPORTS SHALL BE SELECTED AND INSTALLED IN ACCORDANCE WITH THE MSS SP-69 OR LOCAL CODES, WHICHEVER IS MORE STRINGENT. UTILIZE TRAPEZE HANGERS FOR PARALLEL RUNS OR PIPING, OTHER THAN SPRINKLER AND WASTE PIPING. COPPER PIPING SYSTEMS SHALL BE SUPPORTED ON COPPER OR COPPER-PLATED SUPPORTS. HANG PIPE FROM SUBSTANTIAL BUILDING STRUCTURE. PIPING SHALL NOT BE HUNG FROM OTHER PIPING, ALL RIGID HANGERS SHALL PROVIDED A MEANS OF VERTICAL ADJUSTMENT AFTER ERECTION. SHIELD SHALL BE PROVIDED BETWEEN HANGERS AND INSULATION.

2.4 WELDING SHALL CONFORM TO CURRENT STANDARDS AND RECOMMENDATIONS OF THE NATIONAL CERTIFIED PIPE WELDING BUREAU, NFPA 51B, STANDARD FOR FIRE PROTECTION; AND NFPA 241,STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS.

3. EQUIPMENT

3.1 ALL MECHANICAL EQUIPMENT SHOWN ON CONTRACT DOCUMENTS SHALL BE NEW, AND SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.

3.2 EQUIPMENT AND PRODUCT MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS FOR INSTALLATION AND OPERATION SHALL BE FOLLOWED IN PERFORMING MECHANICAL WORK, UNLESS OTHERWISE INDICATED OR DIRECTED. MATERIALS AND METHODS USED IN THE WORK SHALL BE COMPATIBLE WITH BUILDING CONDITIONS AND COMPLY WITH THE BUILDING CODE REQUIREMENTS, WHICH SHALL BE THE BASIS FOR MINIMUM PRODUCT QUALITY. ALL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER BY SKILLED WORKMEN EXPERIENCED IN THEIR TRADE. THE WORK SHALL BE SUBJECT TO THE ACCEPTANCE OF THE OWNER OR THE DULY AUTHORIZED REPRESENTATIVE.

4. DUCTWORK

4.1 DUCTWORK SHALL BE FABRICATED OF GALVANIZED SHEET METAL WITH CONSTRUCTION AND INSTALLATION IN ACCORDANCE WITH SMACNA STANDARDS AND SYSTEM REQUIREMENTS. SHEET METAL GAUGES SHALL CONFORM TO THE INTERNATIONAL MECHANICAL CODE (IMC), ASHRAE STANDARDS, AND UL LISTED FIRE RESISTANCE DIRECTORY REQUIREMENTS AS APPLICABLE.

4.2 DUCT COVERINGS, DUCT LININGS, TAPES, AND CORE MATERIAL SHALL HAVE A FLAME SPREAD RATING NOT OVER 25, AND SMOKE DEVELOPMENT NOT OVER 50.

4.3 ALL NECESSARY ALLOWANCES AND PROVISIONS SHALL BE MADE BY CONTRACTOR FOR BEAMS. COLUMNS OR OTHER OBSTRUCTIONS OF THE BUILDING OR THE WORK OF OTHER CONTRACTORS. WHETHER OR NOT SAME IS INDICATED. WHERE NECESSARY TO AVOID OBSTRUCTIONS. THE DUCTS SHALL BE TRANSFORMED, DIVIDED OFFSET, RAISED OR LOWERED WITH THE REQUIRED FREE AREA BEING MAINTAINED IN ACCORDANCE WITH SMACNA STANDARDS.

4.4 ALL RECTANGULAR DUCTWORK ELBOWS 30 DEGREE OR GREATER SHALL BE PROVIDED WITH DOUBLE THICKNESS RADIUS TURNING VANES.

4.5 DUCTWORK SIZES SHOWN ARE NET CLEAR INSIDE DIMENSIONS. FOR INTERNALLY LINED DUCTS, FABRICATE SHEET METAL TO ALLOW FOR THICKNESS OF INSULATION AND MAINTAIN NET CLEAR DIMENSIONS.

4.6 DUCTWORK SHALL BE SEALED WITH AN APPROVED DUCT MASTIC OR LIQUID SEALANT AS MANUFACTURED BY UNITED MCGILL CORP., OR APPROVED EQUAL. DUCT SYSTEM LEAKAGE SHALL CONFORM TO SMACNA "HVAC DUCT LEAKAGE TEST MANUAL" FOR CLASS 2' W.C. SEAL CLASS A, LEAKAGE CLASS 24 FOR RECTANGULAR DUCTS AND CLASS 12 FOR ROUND DUCTWORK.

4.7 PROVIDE FIRE DAMPERS IN HVAC AIR DISTRIBUTION SYSTEMS THAT PENETRATE FIRE RATED ASSEMBLIES IN ACCORDANCE WITH THE INTERNATIONAL BUILDING AND MECHANICAL CODES. FIRE DAMPERS SHALL BE TYPE B IN ALL DUCTWORK, IN ADDITION TO SECONDARY FIRE DAMPERS FOR CEILING, WALL AND FLOOR MOUNTED AIR DEVICES.

4.8 COORDINATE SPECIFIC FIRE RESISTIVE CONSTRUCTION REQUIREMENTS WITH THE FIRE RATED ASSEMBLIES INDICATED ON ARCHITECTURAL DRAWINGS. THROUGH PENETRATIONS FIRESTOP SYSTEMS SHALL CONFORM TO UL LISTED FIRE RESISTANCE DIRECTORY OR OTHER METHODS ACCEPTABLE TO LOCAL GOVERNING CODE AUTHORITIES.

4.9 PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS (SUPPLY, RETURN AND EXHAUST) CONNECTED TO AIR HANDLING UNITS, FANS AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.

4.10 PROVIDE ACCESS DOORS IN DUCTWORK TO PROVIDE ACCESS FOR ALL SMOKE DETECTORS, FIRE DAMPERS. SMOKE DAMPERS, VOLUME DAMPERS, COILS, AND OTHER ITEMS LOCATED IN THE DUCTWORK WHICH REQUIRE SERVICE AND/ OR INSPECTION. LABEL ACCESS WITH 1/2" LETTERING.

5. INSULATION

5.1 INSULATION MATERIALS SHALL BE CERTAIN-TEED OR APPROVED EQUAL INSULATION MATERIALS SHALL HAVE A FLAME SPREAD RATING NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50. PROVIDE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS FOLLOWS:

6. DUCT INSULATION

1. SUPPLY/RETURN AIR DUCTWORK (CONCEALED): INSULATE WITH NOMINAL 1-INCH THICK TYPE 75 STANDARD DUCTWRAP WITH FSK FACING VAPOR BARRIER. MINIMUM 3/4-INCH INSTALLED THICKNESS WITH A 5.6 R VALUE.

2. SUPPLY/RETURN AIR DUCTWORK (INTERIOR EXPOSED WHERE INDICATED): INSULATE WITH 1-INCH THICK TYPE 200 ULTRA-LITE ACOUSTICAL DUCT LINER WITH 100 PERCENT ADHESIVE COVERAGE AND MECHANICAL FASTENERS. MINIMUM INSTALLED R VALUE OF 3.1.

3. SUPPLY/RETURN AIR DUCTS (CONCEALED IN ATTIC/CRAWL/ROOF CEILING SPACE): INSULATE WITH NOMINAL 3-INCH THICK TYPE 75 STANDARD DUCTWRAP WITH FSK FACING, VAPOR BARRIER. MINIMUM 2-1/4-INCH INSTALLED THICKNESS WITH 8.5 R VALUE.

4. SUPPLY/RETURN/EXHAUST/OUTSIDE AIR DUCTS (OA DUCTWORK & DUCTWORK EXPOSED TO WEATHER CONDITIONS): INSULATE DUCTWORK EXTERIOR WITH SEMI-RIGID FIBERGLASS BOARD INSULATION, TYPE 1B300, 3.0 LBS/CU. FT. DENSITY, MINIMUM 2-INCH INSTALLED THICKNESS WITH 8.5 R VALUE. PROVIDE WEATHERPROOF FINISH AS MANUFACTURED BY FOSTERS MONOLAR 60 -95 COATINGS (MINIMUM OF 3 COATS) OR APPROVED EQUAL.

5. PROVIDE ALL NECESSARY FOUNDATIONS, SUPPORTS, PADS AND BASES AS REQUIRED FOR MECHANICAL EQUIPMENT, PIPING, AND DUCTWORK AS PER INTERNATIONAL BUILDING AND MECHANICAL CODES. INSTALL EQUIPMENT, PIPING, AND DUCTWORK SO AS TO BE FREE FROM OBJECTIONABLE NOISE AND VIBRATIONS. CONTRACTOR SHALL COORDINATE WORK WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS PRIOR TO ACTUAL WORK.

7. ELECTRICAL WORK

7.1 ELECTRIC MOTORS FOR MECHANICAL EQUIPMENT SHALL BE PROVIDED UNDER THE MECHANICAL WORK UNLESS OTHERWISE NOTED. ALL MOTORS SHALL BE NEMA STANDARD DESIGN FOR QUIET OPERATION AND SIZED TO PROPERLY OPERATE EQUIPMENT AT RATED LOAD. MOTORS WITH BELT DRIVES SHALL BE PROVIDED WITH ADJUSTABLE PULLEYS AND SHAFTS. ELECTRICAL POWER CONNECTIONS FOR MECHANICAL EQUIPMENT SHALL BE PROVIDED UNDER THE ELECTRICAL WORK.

7.2 MOTOR STARTERS, RELAYS, AND CONTACTORS SHALL BE FURNISHED UNDER THE MECHANICAL WORK AND INSTALLED AND POWERED UNDER THE ELECTRICAL WORK. STARTERS, RELAYS. AND CONTACTORS SHALL BE COMPUTE WITH LUGS SIZED FOR SPECIFIED CONDUCTORS AND INCLUDE REQUIRED ACCESSORIES (I.E. START-STOP PUSH BUTTON, PILOT LIGHTS, H.O.A. SWITCH, AUXILIARY CONTACTS AND OVERLOAD PROTECTION), GENERAL PURPOSE NEMA TYPE 1 ENCLOSURES INDOORS, NEMA TYPE 3R ENCLOSURES OUTDOORS. SINGLE PHASE MOTOR STARTERS SHALL BE MANUAL TYPE WITH OVERLOAD PROTECTION, UNLESS OTHERWISE NOTED. THREE PHASE STARTERS SHALL BE MAGNETIC FULL VOLTAGE, NON-REVERSING, UNLESS OTHERWISE NOTED. STARTERS FOR MECHANICAL SYSTEMS SHALL BE AS MANUFACTURED BY SQUARE-D, GENERAL ELECTRIC, OR CUTLER HAMMER. STARTERS SHALL CONFORM TO NEMA STANDARDS AND NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS. STARTER CONTROL AND INTERLOCK WIRING SHALL BE PROVIDED UNDER THE MECHANICAL WORK. ALL EQUIPMENT SHALL BE FURNISHED W/ MANUFACTURER PROVIDED DISCONNECT SWITCH.

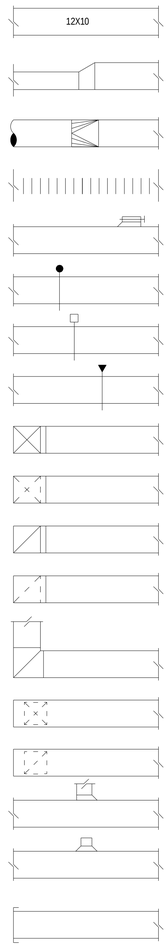
7.3 DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ALL AIR DISTRIBUTION SYSTEMS WITH A DESIGN CAPACITY OF 2000 CFM OR GREATER IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE SECTION 606 AND NATIONAL FIRE PREVENTION CODE NFPA 72 AND 90A. DUCT SMOKE DETECTORS SHALL BE "DUAL CONTAC"' TYPE (FOR TIE-IN TO FIRE ALARM SYSTEM AND FOR FAN SHUT-DOWN). COMPLETE WITH SAMPLING TUBE, REMOTE RESET, REMOTE PILOT INDICATOR (FOR CONCEALED APPLICATIONS), UL LISTED FOR INTENDED USE AND COMPLETELY COMPATIBLE WITH FIRE ALARM SYSTEM. DUCT SMOKE DETECTORS SHALL BE FURNISHED AND INSTALLED UNDER THE MECHANICAL WORK AND WIRED AND POWERED UNDER THE ELECTRICAL WORK.

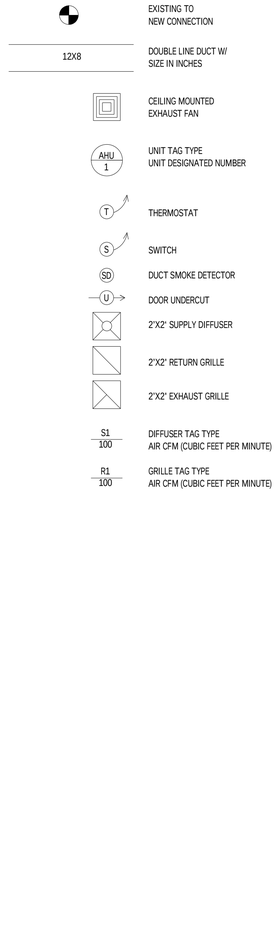
8 CONTROLS

8.1 PROVIDE AUTOMATIC TEMPERATURE CONTROL SYSTEM(S) FOR HVAC EQUIPMENT UNDER MECHANICAL WORK. CONTROL DEVICES SHALL BE PROVIDED BY UNIT MANUFACTURER, UNLESS OTHERWISE NOTED. HVAC EQUIPMENT NOT PROVIDED WITH CONTROL DEVICES SHALL BE PROVIDED WITH DEVICES AS MANUFACTURED TO MATCH BASE BUILDING CONTROLS OR APPROVED EQUAL AIR HANDLER SHALL HAVE NIGHT SET BACK CONTROLLED BY A PROGRAMMABLE THERMOSTAT. DEVICE(S) SHALL BE FULLY COMPATIBLE AND SUITABLE FOR INTENDED USE. CONTROL WIRING SHALL BE PROVIDED IN ACCORDANCE WITH THE NEC FOR 24-VOLT CONTROL SYSTEM(S). WIRING SHALL BE A MINIMUM 22 AWG, COLOR CODED AND INSTALLED IN CONDUIT WHERE SUBJECT TO PHYSICAL DAMAGE OR WHERE REQUIRED TO AVOID PLENUM SPACES. EXTEND ALL LOW VOLTAGE WIRING UNBROKEN BETWEEN EACH CONTROL DEVICE AND EQUIPMENT TERMINAL STRIP. INSTALLATION OF CONTROL SYSTEM(S), WRING. AND DEVICES SHALL BE BY A CERTIFIED CONTROLS CONTRACTOR WITH A MINIMUM OF FIVE (5) YEARS EXPERIENCE IN THE INSTALLATION AND SERVICING OF CONTROLS.

8.2 UNLESS OTHERWISE INDICATED, ALL THERMOSTATS SHALL BE MOUNTED IN ACCORDANCE WITH ADA REQUIREMENTS.

SYMBOLS





ABBREVIATIONS

AF	AIR FILTER
AFF	ABOVE FINISHED FLOOR
ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP
ARCH	ARCHITECTURAL
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BLW	BELOW
BTUH	BRITISH THERMAL UNIT PER HOUR
CC	
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CU	CONDENSING UNIT
CW	COLD WATER
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DIA	DIAMETER
DI	DIGITAL INPUT
DN	DOWN
DO	DAMPER OPERATOR
DO	DIGITAL OUTPUT
DPS	DIFFERENTIAL PRESSURE SWITCH
DWG	DRAWING
DX	DIRECT EXPANSION
(E)	EXISTING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
EXT	EXTERNAL
F	DEGREE FAHRENHEIT
FD	FIRE DAMPER
FL	FLOOR
FPM	FEET PER MINUTE
FT	FEET
GALV	GALVANIZED
HC	HEATING COIL
HP	HEAT PUMP
HW	HOT WATER
IN	INCH
IN. WG.	INCH WATER GAUGE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LB	POUNDS
LF	LINEAR FEET
MAX	MAXIMUM
MBH	1000 BTUH
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MIN	MINIMUM
MOT	MOTORIZED
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
No.	NUMBER
O.A.	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
OED	OPEN END DUCT
PD	PRESSURE DROP
PS	PRESSURE SENSOR
PSI	POUND PER SQUARE INCH
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
REFRIG	REFRIGERANT
RLA	RUNNING LOAD AMPERE
RPM	REVOLUTION PER MINUTE
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
SD	SMOKE DETECTOR
SF	SUPPLY FAN
STRUC	STRUCTURAL
TD	TRANSFER DUCT
TS	TEMPERATURE SENSOR
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
W	WATT
WB	WET BULB
WC	WATER COLUMN
WMC	WIRE MESH SCREEN
WPD	WATER PRESSURE DROP

THE HIVE SALON STUDIOS
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MECHANICAL NOTES

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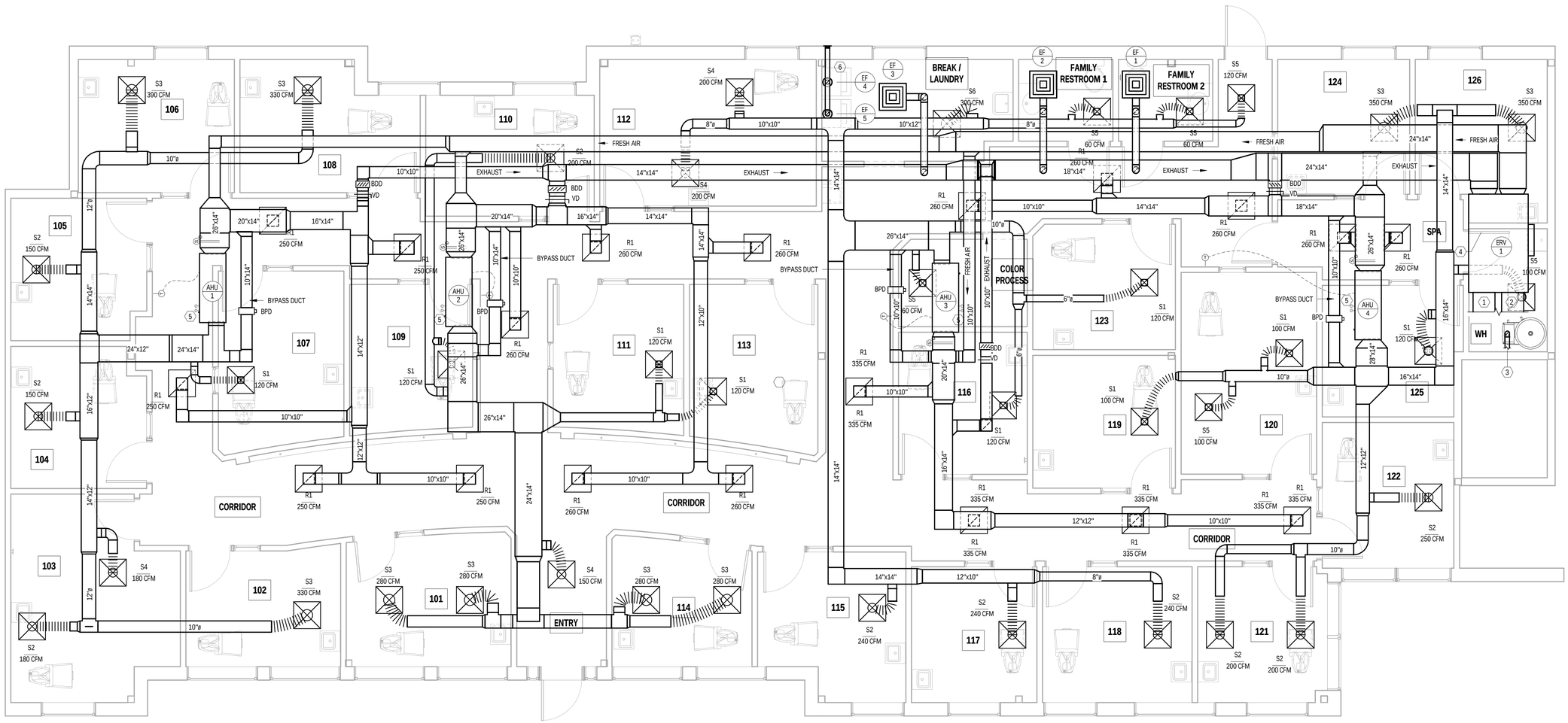
M000



1 FIRST FLOOR MECHANICAL PLAN
1/4" = 1'-0"

PLAN KEYNOTES:

1. 24x14" EXHAUST FROM ERV UP TO ROOF THRU CHASE.
2. 24x14" FRESH AIR FROM ROOF THRU CHASE. LOCATE FRESH AIR INTAKE IN 10' AWAY FROM ANY EXHAUSTS.
3. 4" DIA. PVC FLUE PIPE FROM WH UP TO ROOF THRU CHASE.
4. DOOR WITH TWO 20x10 GRILLES, MAXIMUM 12" FROM TOP AND BOTTOM OF DOOR
5. REFRIGERANT PIPES FROM AHU TO CU ON ROOF.
6. 6" DIA. EXHAUST FLUE FROM DRYERS TERMINATE THRU WALL.

GENERAL NOTES:

1. ALL STUDIOS TO HAVE ELECTRICALLY-CONTROLLED AIR DAMPER FOR AIR FLOW CONTROL, MOUNTED ABOVE TWO-CONE DIFFUSOR, REFER TO DETAIL 8/M003. (APRILAIRE 66XX N.O. TYPICAL PER SPECIFIED DUCT SIZE OR EQUIVALENT, SUNCOURT PRODUCTS ARE PROHIBITED ON THIS PROJECT. CONTROL SWITCH GE 45609 WB (PROVIDED BY OWNER) WITH 24VAC, 0.25A (7W) 60HZ TRANSFORMER FOR MOTOR CONTROL, REFER TO DETAIL 6/M003.)
2. TERMINATE EXHAUST AND FLUE OUTLETS AT MIN 3' ABOVE ROOF.

THE HIVE SALON STUDIOS
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FIRST FLOOR MECHANICAL PLAN

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M001

AIR DEVICE SCHEDULE

TYPE	SERVICE	CFM RANGE	MAX SP	MAX NC	TYPE	Size	LOCATION	MODEL	NOTES
R1	Return Air	250-335 CFM	0.1	30	2'x2' CEILING DIFFUSER 10"x10" CONNECTION	10"x10"	CORRIDOR	SPEEDI-GRILLE TB-SFG	W/ MANUAL CONTROL DAMPER
S1	Supply Air	100-120 CFM	0.1	30	2'x2' CEILING DIFFUSER 6" CONNECTION	6"ø	STUDIOS	TRUEAIR 2300CD, STEEL 24X24, 2 CONE	W/ ELECTRIC CONTROL DAMPER APRILAIRE 6606 N.O.
S2	Supply Air	150-240 CFM	0.1	30	2'x2' CEILING DIFFUSER 8" CONNECTION	8"ø	STUDIOS	TRUEAIR 2300CD, STEEL 24X24, 2 CONE	W/ ELECTRIC CONTROL DAMPER APRILAIRE 6608 N.O.
S3	Supply Air	280-390 CFM	0.1	30	2'x2' CEILING DIFFUSER 10" CONNECTION	10"ø	STUDIOS	TRUEAIR 2300CD, STEEL 24X24, 2 CONE	W/ ELECTRIC CONTROL DAMPER APRILAIRE 6610 N.O.
S4	Supply Air	150-200 CFM	0.1	30	2'x2' CEILING DIFFUSER 8" CONNECTION	8"ø	STUDIOS, ENTRY	TRUEAIR 2300CD, STEEL 24X24, 2 CONE	W/ MANUAL CONTROL DAMPER
S5	Supply Air	60-120 CFM	0.1	30	2'x2' CEILING DIFFUSER 6" CONNECTION	6"ø	STUDIOS, RESTROOMS, WH	TRUEAIR 2300CD, STEEL 24X24, 2 CONE	W/ MANUAL CONTROL DAMPER
S6	Supply Air	300 CFM	0.1	30	2'x2' CEILING DIFFUSER 10" CONNECTION	10"ø	LAUNDRY	TRUEAIR 2300CD, STEEL 24X24, 2 CONE	W/ MANUAL CONTROL DAMPER

ROOM VENTILATION RATE SCHEDULE

ROOM NAME	ROOM AREA	AREA OUTDOOR AIR RATE CFM/SQ.FT.	AREA OUTDOOR AIR, CFM	OCCUPANT LOAD PER IMC TABLE 403.3 (PEOPLE / 1000 SF)	OCCUPANCY LOAD	OCCUPANT OUTDOOR AIR RATE	OCCUPANT OUTDOOR AIR	BREATHING ZONE OUTDOOR AIR	ZONE AIR DISTRIBUTION EFFECTIVENESS	ZONE OUTDOOR AIR	SUPPLY AIR DESIGN
101	119 SF	0.06	7	25	3	7.5	23	30	0.8	37	560 CFM
102	100 SF	0.06	6	25	3	7.5	23	29	0.8	36	330 CFM
103	172 SF	0.06	10	25	5	7.5	38	48	0.8	60	360 CFM
104	103 SF	0.06	6	25	3	7.5	23	29	0.8	36	150 CFM
105	104 SF	0.06	6	25	3	7.5	23	29	0.8	36	150 CFM
106	115 SF	0.06	7	25	3	7.5	23	29	0.8	37	390 CFM
107	121 SF	0.06	7	25	3	7.5	23	30	0.8	37	120 CFM
108	119 SF	0.06	7	25	3	7.5	23	30	0.8	37	330 CFM
109	99 SF	0.06	6	25	3	7.5	23	28	0.8	36	120 CFM
110	113 SF	0.06	7	25	3	7.5	23	29	0.8	37	200 CFM
111	105 SF	0.06	6	25	3	7.5	23	29	0.8	36	120 CFM
112	175 SF	0.06	11	25	4	7.5	30	41	0.8	51	400 CFM
113	114 SF	0.06	7	25	3	7.5	23	29	0.8	37	120 CFM
114	97 SF	0.06	6	25	3	7.5	23	28	0.8	35	560 CFM
115	111 SF	0.06	7	25	3	7.5	23	29	0.8	36	240 CFM
116	101 SF	0.06	6	25	3	7.5	23	29	0.8	36	120 CFM
117	94 SF	0.06	6	25	3	7.5	23	28	0.8	35	240 CFM
118	112 SF	0.06	7	25	3	7.5	23	29	0.8	37	240 CFM
119	105 SF	0.06	6	25	3	7.5	23	29	0.8	36	100 CFM
120	151 SF	0.06	9	25	4	7.5	30	39	0.8	49	200 CFM
121	96 SF	0.06	6	25	3	7.5	23	28	0.8	35	400 CFM
122	106 SF	0.06	6	25	3	7.5	23	29	0.8	36	250 CFM
123	99 SF	0.06	6	25	3	7.5	23	28	0.8	36	120 CFM
124	98 SF	0.06	6	25	3	7.5	23	28	0.8	35	350 CFM
125	99 SF	0.06	6	25	3	7.5	23	28	0.8	36	120 CFM
126	111 SF	0.06	7	25	3	7.5	23	29	0.8	36	350 CFM
BREAK / LAUNDRY	104 SF	0	0	10	2	7.5	15	15	0.8	19	300 CFM
COLOR PROCESS	62 SF	0.06	4	25	2	7.5	15	19	0.8	23	60 CFM
CORRIDOR	356 SF	0.06	21	0	0	0.0	0	21	0.8	27	0 CFM
CORRIDOR	349 SF	0.06	21	0	0	0.0	0	21	0.8	26	0 CFM
CORRIDOR	294 SF	0.06	18	0	0	0.0	0	18	0.8	22	120 CFM
CORRIDOR	234 SF	0.06	14	0	0	0.0	0	14	0.8	18	0 CFM
ENTRY	65 SF	0.06	4	10	1	5.0	5	9	0.8	11	150 CFM
FAMILY RESTROOM 1	43 SF	0	0	0	0	0.0	0	0	0.8	0	60 CFM
FAMILY RESTROOM 2	42 SF	0	0	0	0	0.0	0	0	0.8	0	60 CFM
SPA	79 SF	0.06	5	0	0	0.0	0	5	0.8	6	0 CFM
WH	53 SF	0.12	6	0	0	0.0	0	6	0.8	8	100 CFM
TOTAL	4620 SF							919		1149	7490 CFM

SPLIT TYPE UNIT SCHEDULE

INDOOR UNIT NUMBER	SERVES	MOUNTING	TOTAL CFM	OA CFM	COOLING						HEAT PUMP DATA			ELECTRICAL DATA					OUTDOOR UNIT NUMBER	MOUNTING	COMPRESSOR DATA			CONDENSER FAN DATA					POWER SUPPLY					UNIT WEIGHT, POUNDS	MFCR AND MODEL	REMARKS
					TOTAL BTUH	SENSIBLE BTUH	EAT °F		LAT °F		SEER	BTUH	EAT °F	LAT °F	MCA	MOCP	VOLTS	PHASE	CYCLE			QTY	CIRCUIT		QTY	HP	RPM	FLA	LRA	MCA	MOCP	VOLTS	PHASE	CYCLE			
							DB	WB	DB	WB													RLA	LRA													
AHU-1	STUDIOS	CEILING	1830	580	61680	45300	80	64	51	50	19	55870	50	100	7.5	15	115	1	60	CU-1	ROOF	1	15	110	1	1/5		1.2		21	35	208	3	60	261		NEW
AHU-2	STUDIOS	CEILING	1830	530	60800	46420	80	64	51	50	19	51000	50	100	7.5	15	115	1	60	CU-2	ROOF	1	15	110	1	1/5		1.2		21	35	208	3	60	261	Trane TAMAOC60S51EDA, Trane 4TWA3060B3000AA	EXISTING
AHU-3	STUDIOS	CEILING	1960	620	60650	44746	80	64	51	50	19	52020	50	100	7.5	15	115	1	60	CU-3	ROOF	1	15	110	1	1/5		1.2		21	35	208	3	60	261		NEW
AHU-4	STUDIOS	CEILING	1870	570	59340	44720	80	64	51	50	19	50130	50	100	7.5	15	115	1	60	CU-4	ROOF	1	15	110	1	1/5		1.2		21	35	208	3	60	261	Trane TAMAOC60S51EDA, Trane 4TWA3060B3000AA	EXISTING

FAN SCHEDULE

UNIT NO.	LOCATION	SERVICE	CFM	WATTS	ELECTRICAL DATA			METHOD OF CONTROL	NOTES
					VOLTS	PHASE	CYCLE		
EF -1	CEILING	RESTROOM	50 CFM	100 W	120	1	60	INTERLOCK WITH LIGHTING	
EF -2	CEILING	RESTROOM	50 CFM	100 W	120	1	60	INTERLOCK WITH LIGHTING	
EF -3	CEILING	LAUNDRY	100 CFM	100 W	120	1	60	INTERLOCK WITH LIGHTING	
EF -4	FLUE	DRYER	130 CFM	100 W	120	1	60	INTERLOCK WITH DRYER	FLUE MOUNTED W/ OUTSIDE MOTOR
EF -5	FLUE	DRYER	130 CFM	100 W	120	1	60	INTERLOCK WITH DRYER	FLUE MOUNTED W/ OUTSIDE MOTOR
ERV -1	CEILING	FRSH AIR SUPPLY	2300 CFM	7300 W	208	3	60	INTERLOCK WITH AHUs	

NOTES:
1) FAN SHALL INCLUDE DISCONNECT SWITCH AND BACKDRAFT DAMPER.
2) PROVIDE FACTORY SOLID STATE SPEED FAN CONTROLLER
3) PROVIDE FAN SUPPORT WITH VIBRATION ISOLATORS

THE HIVE SALON STUDIOS
4104 TAYLORSVILLE ROAD
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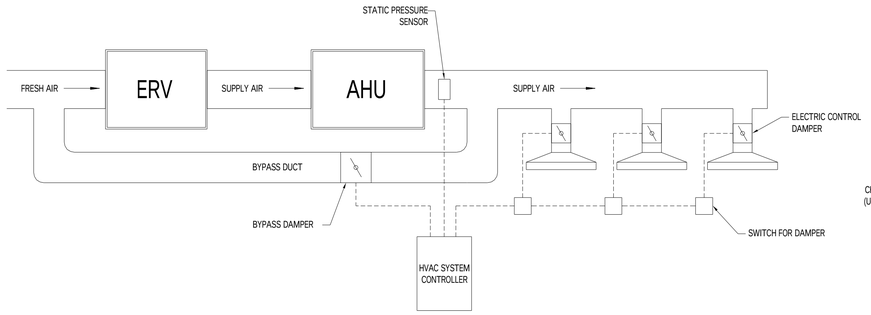
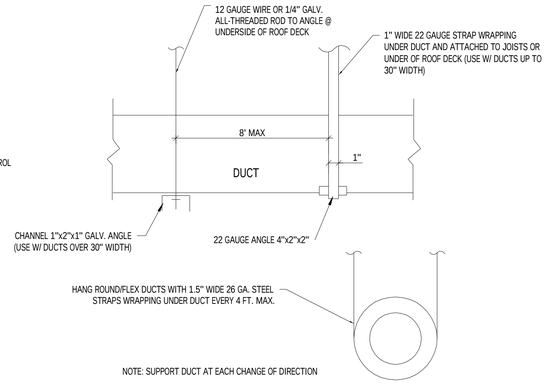
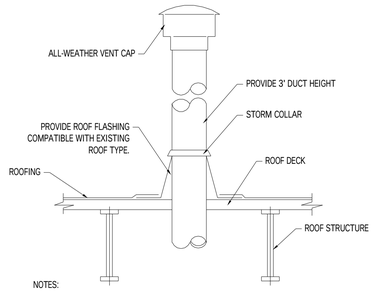


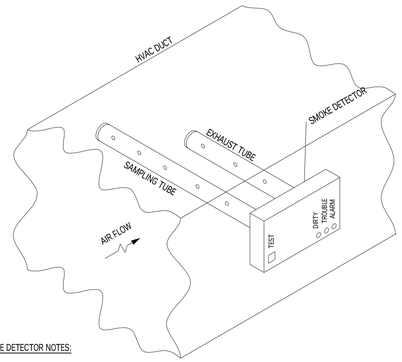
1 BYPASS SYSTEM SCHEME
NOT TO SCALE



2 DUCT SUPPORT DETAIL
NOT TO SCALE



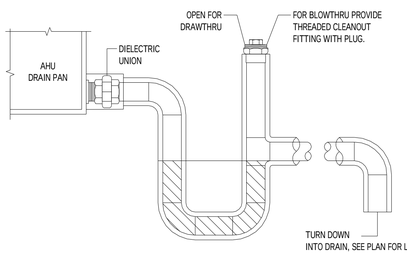
3 EXHAUST ROOF PENETRATION DETAIL
NOT TO SCALE



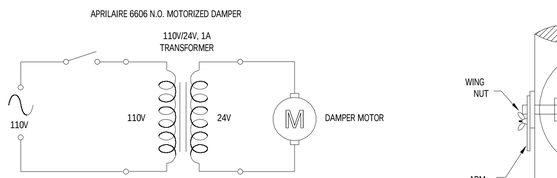
SMOKE DETECTOR NOTES:

1. LOCATE SUPPLY SMOKE DETECTOR UPSTREAM OF ANY DOAS SUPPLY AIR BRANCHES.
2. LOCATE RETURN AIR SMOKE DETECTOR DOWN STREAM OF ALL DOAS BRANCHES AND UP STREAM OF OUTSIDE AIR DUCT CONNECTION.
3. GUIDELINES FOR PLACEMENT OF RETURN DUCT DETECTORS ARE AS FOLLOWS:
   - FOR RETURN DUCTS UP TO 36" WIDE, ONE DUCT DETECTOR IS CENTERED IN THE OPENING.
   - FOR RETURN DUCTS 36" TO 72" WIDE, TWO DUCT DETECTORS ARE LOCATED IN THE QUARTER POINT OF THE OPENING.
   - FOR RETURN DUSTS OVER 72" WIDE, TWO DUCT DETECTORS ARE REQUIRED; FOR EACH 24" OF OPENING IN EXCESS OF 72", ONE ADDITIONAL DUCT DETECTOR IS REQUIRED.
4. DUCT DETECTORS MUST ALSO BE PLACED AS FOLLOWS:
   - A MINIMUM OF SIX DUCT WIDTHS DOWNSTREAM FROM BENDS OR INLETS TO AVOID AIR TURBULENCE
   - TO ENHANCE SERVICE AND MAINTENANCE

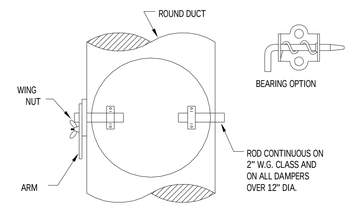
4 SMOKE DETECTOR DETAIL
NOT TO SCALE



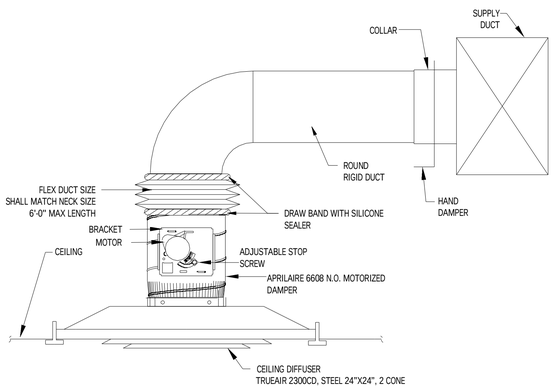
5 CONDENSATE DRAIN DETAIL
NOT TO SCALE



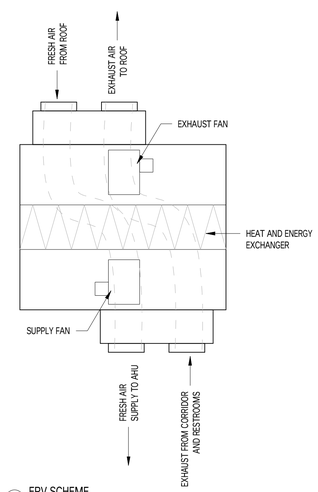
6 MOTORIZED DAMPER SCHEMATIC
NOT TO SCALE



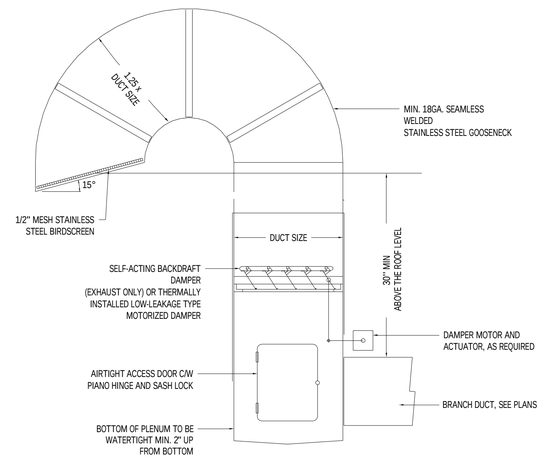
7 SINGLE BLADE VOLUME DAMPER DETAIL
NOT TO SCALE



8 TYPICAL DIFFUSER CONNECTION
NOT TO SCALE



9 ERV SCHEME
3/4" = 1'-0"



10 FRESH AIR INTAKE DETAIL
NOT TO SCALE

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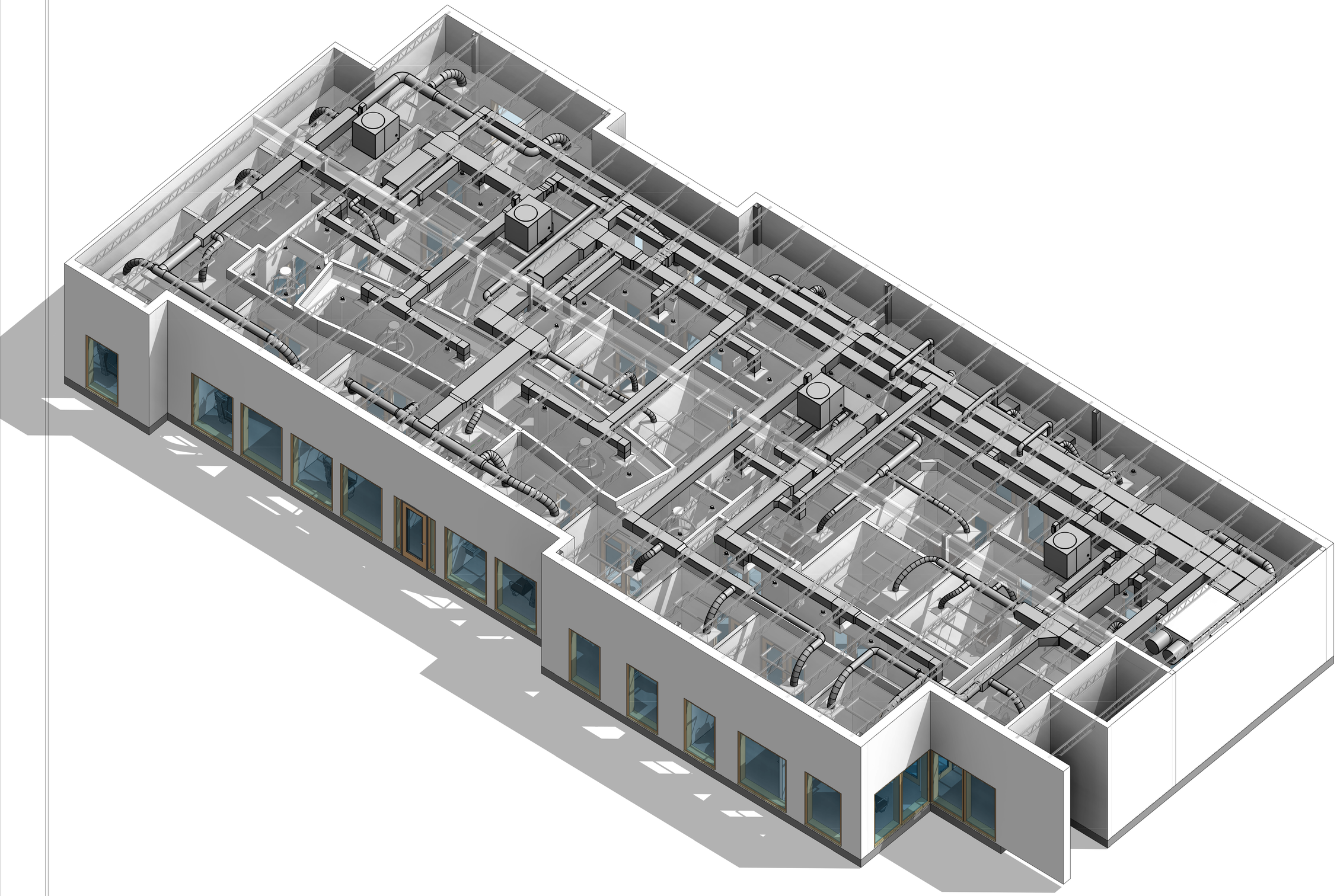

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4104 TAYLORSVILLE ROAD
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PLUMBING SPECIFICATIONS

1. CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE AND VERIFYING ALL EXISTING FIELD CONDITIONS PRIOR TO SUBMISSION OF BID.

2. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK WITH THE WORK OF ALL OTHER TRADES AND MAKING ANY NECESSARY MODIFICATIONS TO WORK AT NO ADDITIONAL COST, INCLUDING ALL OFFSETS.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION OF ANY EXISTING MINOR INTERFERENCES. INCLUDING CONDUIT, HANGERS, ETC., AT NO ADDITIONAL COST.

4. CONTRACTOR SHALL REMOVE EXISTING EQUIPMENT AND MATERIALS PERTAINING TO CONTRACT AS SPECIFIED OR AS REQUIRED WHETHER SHOWN ON THE DRAWINGS OR NOT TO PREPARE FOR THE NEW WORK.

5. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL CODES. THESE CODES SHALL BE FOLLOWED AS MINIMUM PROVIDING HIGHER GRADES OF MATERIAL AND WORKMANSHIP WHERE REQUIRED BY THESE DOCUMENTS. PROVIDE ALL TESTS REQUIRED BY LOCAL CODES.

6. ALL PERMITS. FEES. LICENSES. APPROVALS AND OTHER ARRANGEMENTS FOR WORK SHALL BE OBTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE.

7. SUBMIT ASSEMBLED PRINTED INSTRUCTIONS FOR THE OPERATION AND MAINTENANCE OF EACH ITEM INSTALLED ALONG WITH EQUIPMENT CUTS AND CONTROL WIRING DIAGRAMS.

8. SUBMIT COORDINATED SHOP DRAWINGS FOR REVIEW. THE SHOP DRAWINGS SHALL INDICATE WORK OF OTHER TRADES AND MUST BE SUBMITTED PRIOR TO FABRICATION AND INSTALLATION.

9. SUBMIT EQUIPMENT SPECIFICATIONS FOR REVIEW BEFORE PURCHASE.

10. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIAL FOR ONE YEAR AFTER COMPLETION AGAINST ALL DEFECTS OF MATERIAL, EQUIPMENT, AND WORKMANSHIP.

11. PROVIDE COMPETENT OPERATING TECHNICIAN TO INSTRUCT THE OWNER IN THE OPERATION AND MAINTENANCE OF THE INSTALLED EQUIPMENT.

12. PROVIDE ACCESS PANELS FOR ALL VALVES OR ANY PIECE OF EQUIPMENT WHEN NECESSARY TO LOCATE ABOVE NON-ACCESSIBLE CEILINGS. PROVIDE SUBMITTAL DRAWINGS FOR APPROVAL OF THE ARCHITECT. NO EQUIPMENT SHALL BE LOCATED DIRECTLY ABOVE WALLS.

13. PROVIDE ALL HOLES, SLEEVES, AND CAULKING FOR INSTALLATION OF THIS WORK. CAULKING TO CONFORM TO FIRE RATING OF WALLS.

14. PIPING SHALL BE ABOVE CEILING AND CLEAR ANY EXISTING PIPING, LIGHTING FIXTURES, DUCTS, ETC.

15. RUN NEW WASTE PIPES AS CLOSE AS POSSIBLE TO UNDERSIDE OF FLOOR SLAB AND VENT PIPING AS CLOSE AS POSSIBLE TO SLAB ABOVE.

16. RUN ALL PIPING OCTAGONAL & PARALLEL TO CLOSEST WALL OR PRIMARY STRUCTURAL ELEMENTS.

17. CONTRACTOR SHALL SUBMIT SKETCH TO THE STRUCTURAL ENGINEER FOR APPROVAL, PRIOR TO MAKING REQUIRED BEAM PENETRATIONS.

18. DISRUPTION OF ANY EXISTING SERVICE SHALL BE COORDINATED WITH THE OWNER AND SHALL BE PERFORMED AT A TIME AND MANNER SO AS TO CAUSE THE OWNER A MINIMUM OF INCONVENIENCE.

19. FOR EXACT LOCATION OF PLUMBING FIXTURES, REFER TO ARCHITECTURAL PLANS AND ELEVATIONS.

20. INSULATION: DOMESTIC HOT AND COLD WATER PIPING SHALL BE INSULATED WITH 1" THICK 4# DENSITY, GLASS FIBER PRE-FORMED, ALL PURPOSE FLAME RETARDANT JACKET WITH BUILT-IN VAPOR BARRIER. PROVIDE INSULATION PIPE HANGERS WHEN NECESSARY, ARMACELL OR ARMAFIX IPH

21. MATERIALS SHALL BE RATED FOR THE OPERATING TEMPERATURE AND PRESSURE OF THE HYDRONIC SYSTEM. MATERIALS SHALL BE SUITABLE FOR THE TYPE OF FLUID IN THE HYDRONIC SYSTEM.

22. PROJECT PREMISES SHALL BE THOROUGHLY CLEANED AND READY FOR OCCUPANCY INCLUDING ALL FINISHES OF EQUIPMENT PROVIDED AS PART OF THE CONTRACTOR'S WORK.

23. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER AND SHALL REPAIR OR REPLACE AT NO ADDITIONAL COST TO THE OWNER ANY PART THEREOF WHICH MAY BECOME DEFECTIVE DURING THE PERIOD OF GUARANTEE, ORDINARY WEAR AND TEAR EXCEPTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND PAY FOR ANY DAMAGES RESULTING FROM OR CAUSED BY DEFECTS IN HIS/HER WORK.

24. PIPING SHOWN IS SCHEMATIC AND DOES NOT INDICATE EVERY OFFSET. ELBOW, UNION, VALVE, TRAP. ACCESS PANEL. ETC., THAT IS REQUIRED FOR A COMPLETE WORKING SYSTEM. PROVIDE ITEMS AND FITTINGS THAT ARE REQUIRED TO INSTALL THE PIPING SYSTEM WITHIN THE SPACE PROVIDED AND THAT ARE REQUIRED FOR A COMPLETE SYSTEM. PIPING SHALL BE PROPERLY SECURED IN ACCORDANCE WITH MSS STANDARD SP-69.

25. MATERIALS SHALL BE RATED FOR THE OPERATING TEMPERATURE AND PRESSURE OF DOMESTIC SYSTEM. MATERIALS SHALL BE SUITABLE FOR THE TYPE OF FLUID IN THE DOMESTIC SYSTEM.

26. PIPE SUPPORTS SHALL BE SELECTED AND INSTALLED IN ACCORDANCE WITH THE MSS SP-69 OR LOCAL CODES, WHICHEVER IS MORE STRINGENT. UTILIZE TRAPEZE HANGERS FOR PARALLEL RUNS OR PIPING. OTHER THAN SPRINKLER AND WASTE PIPING. COPPER PIPING SYSTEMS SHALL BE SUPPORTED ON COPPER OR COPPER-PLATED SUPPORTS. HANG PIPE FROM SUBSTANTIAL BUILDING STRUCTURE, PIPING SHALL NOT BE HUNG FROM OTHER PIPING. ALL RIGID HANGERS SHALL PROVIDE A MEANS OF VERTICAL ADJUSTMENT AFTER ERECTION. SHIELD SHALL BE PROVIDED BETWEEN HANGERS AND INSULATION.

27. PLUMBING FIXTURES:

A. FURNISH AND INSTALL PLUMBING FIXTURES INDICATED. FIXTURES TO BE FIRST QUALITY, CONNECTED, CLEANED, AND READY FOR USE. PIPING TO BE PROPERLY SECURED TO WALLS AND STUDS.
B. PROVIDE TRAPS AND SUPPLIES WITH STOPS. MAKE ALL FINAL CONNECTIONS TO EACH FIXTURE.

28. HANGERS:

A. PIPE HANGERS ON HOT PIPING TO BE ON INSIDE OF INSULATION. PROVIDE WITH SADDLES AND/OR SHIELDS AS REQUIRED.

B. PIPE HANGERS ON COLD PIPING TO BE ON OUTSIDE OF INSULATION. PROVIDE WITH SADDLES AHD/OR SHIELDS AS REQUIRED.

29. PROVIDE ANY AND ALL ITEMS NECESSARY TO COMPLETE THE PLUMBING SYSTEM. THE PLUMBING DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY SHOW ALL VALVES, FITTINGS, TRAPS, CONTROL DEVICE METHODS.

30. INSTALL ALL ADA FIXTURES IN AN ADA COMPLIANT MANNER.

31. INSTALL SKAL + GARD #SC-100B ON SINKS SUPPLIES AND TRAPS FOR HANDICAPPED USE.

GENERAL NOTES:

THE DRAWINGS PREPARED FOR THIS PROJECT ARE AN OUTLINE TO SHOW WHERE PIPES, DUCTS AND APPARATUSES MUST GO IN ORDER TO HARMONIZE WITH THE BUILDING AND INSTALLATION OF THE VARIOUS TRADES. WORK MUST BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS AS MUCH AS POSSIBLE. DRAWINGS SHALL BE CAREFULLY CHECKED DURING THE COURSE OF BIDDING AND CONSTRUCTION. IF DISCREPANCIES, ERRORS OR OMISSIONS ARE DISCOVERED PRIOR TO OR DURING CONSTRUCTION PHASE, NOTIFY THE ENGINEER IMMEDIATELY FOR INTERPRETATION OR CORRECTION. TAKE NECESSARY MEASUREMENTS AND RESPONSIBLE FOR SAME, INCLUDING CLEARANCES FOR EQUIPMENT THAT ARE TO BE FURNISHED. THE ARCHITECT /ENGINEER RESERVE THE RIGHT TO MAKE MINOR LOCATION CHANGES OF PIPING AND EQUIPMENT WHERE SUCH ADJUSTMENTS ARE DEEMED DESIRABLE FROM AN APPEARANCE OR OPERATIONAL STANDPOINT. SUCH CHANGES WILL BE ANTICIPATED SUFFICIENTLY IN ADVANCE OR AVOID EXTRA WORK OR DELAY THE PROGRESS OF THE PROJECT.

EXAMINATION OF EXISTING CONDITIONS:

32. VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE SHE AND/OR PRESENT BUILDINGS AFFECTED BY THIS WORK SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL ATTEND THE EXECUTION Of THE WORK BEFORE SUBMITTING PROPOSALS.

33. SUBMISSION OF A PROPOSAL WILL BE CONSTRUCTED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION HAD BEEN MADE, WILL NOT BE RECOGNIZED.

CONNECTIONS TO EXISTING WORK:

34. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES.

35. PROJECT PREMISES SHALL BE THOROUGHLY CLEANED AND READY FOR OCCUPANCY INCLUDING ALL FINISHES OF EQUIPMENT PROVIDED AS PART OF THE CONTRACTOR'S WORK AT PROJECT CLOSEOUT.

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	WASTE	VENT	CW	HW	GAS	NOTES
BW	WASHBOWL	1 1/2"	1 1/2"	3/4"	3/4"		NOTE 1, 2
DF	DRINKING FOUNTAIN	1 1/2"	1 1/2"	1/2"			
MP	MOP SINK	2"	1 1/2"	1/2"	1/2"		NOTE 2
LAV	LAVATORY	1 1/2"	1 1/2"	1/2"	1/2"		NOTE 1
SK	SINK	1 1/2"	1 1/2"	1/2"	1/2"		NOTE 1
WC	WATER CLOSET	4"	2"	1/2"			
FD	FLOOR DRAIN	3"					
WCO	WALL CLEANOUT	2"					
WH	WATER HEATER	1/2"		1 1/2"	1 1/2"	3/4"	NOTE 3, 199 MBH
W/D	WASHER / DRYER	2"	2"	1/2"	1/2"	1/2"	NOTE 4, 20 MBH

NOTES:
1. PROVIDE WITH THERMOSTATIC MIXING VALVE, SET 100°F
2. PROVIDE WITH BACKFLOW PREVENTION
3. PROVIDE WITH INDIRECT AND INDEPENDENT HARD PLUMBING (COPPER/PVC) TO A FLOOR DRAIN
4. PROVIDE WITH WATER HAMMER ARRESTOR

PLUMBING SYMBOL LIST

- GATE VALVE
- PIPE UP
- PIPE DOWN
- AP — ACCESS PANEL
- BFP — BACKFLOW PREVENTER
- C.O.P — CLEAN OUT PLUG
- CW — COLD WATER
- DW — DISHWASHER MACHINE
- EX. — EXISTING
- HW — HOT WATER
- LAV — LAVATORY
- OSD — OPEN SITE DRAIN
- TPV — TRAP PRIMER VALVE
- TV — TEMPERING VALVE
- S.A. — SHOCK ABSORBER (WATER HAMMER)
- SK — SINK
- V — VENT
- VTR — VENT THROUGH ROOF
- W — WASTE
- WC — WATER CLOSET
- WCO — WALL CLEAN OUT
- PONT OF CONNECTION OF NEW WORK TO EXISTING WORK
- END OF DEMOLITION
- 27 — NEW WORK KEYED NOTES
- W / 2 — REFERENCE WATER RISER TAG NUMBER
- CO — FLOOR CLEANOUT
- FD — FLOOR DRAIN
- WH / 1 — EQUIPMENT NUMBER
- NEW VENT
- EXISTING VENT
- DEMOLISHED VENT
- NEW SANITARY
- EXISTING SANITARY
- DEMOLISHED SANITARY
- NEW HOT WATER
- EXISTING HOT WATER
- DEMOLISHED HOT WATER
- NEW COLD WATER
- EXISTING COLD WATER
- DEMOLISHED COLD WATER
- G — G — GAS
- G — G — DEMOLISHED GAS
- REMOTE MANUAL PULL STATION

DISREGARD SYMBOLS WHICH ARE NOT APPLICABLE TO THIS PROJECT

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PLUMBING NOTES

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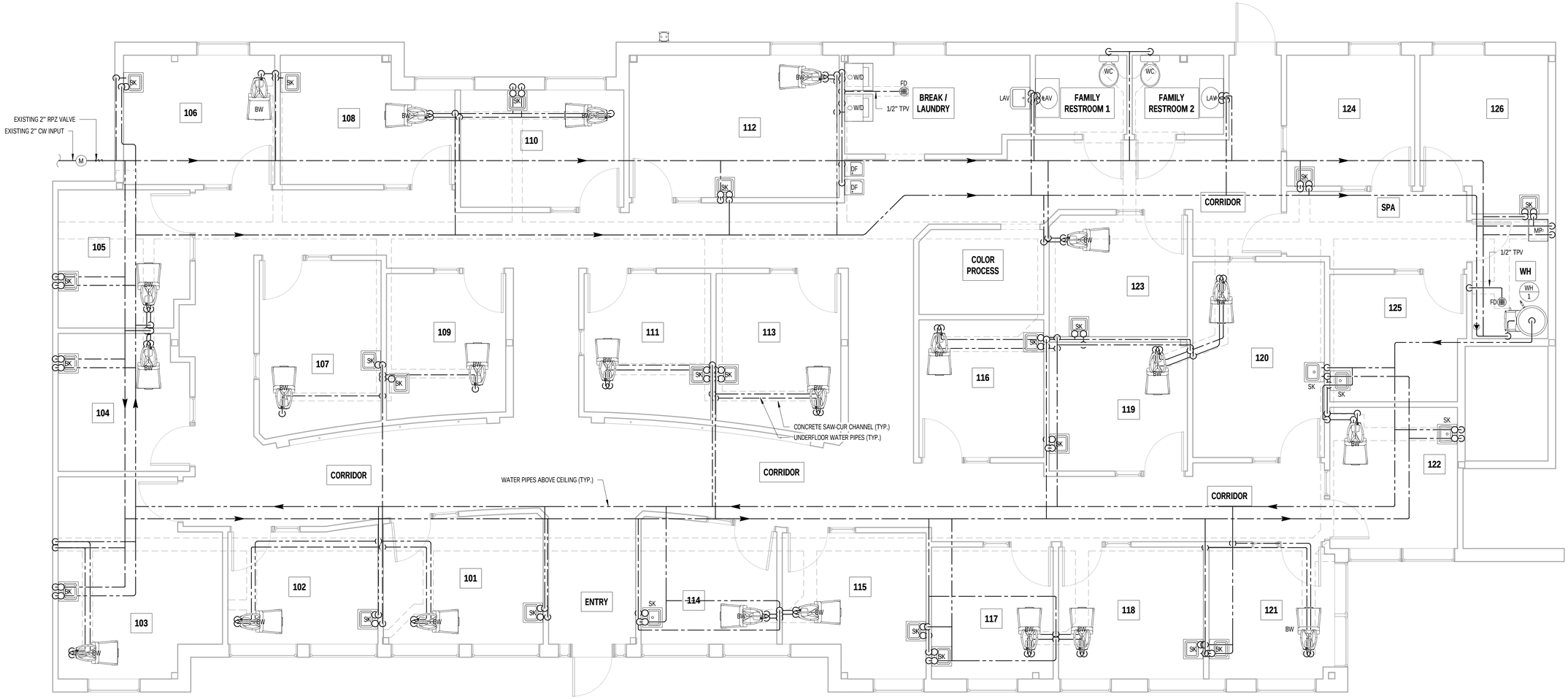
GENERAL NOTES

1. FOR WATER PIPE SIZES, REFER TO WATER RISER DIAGRAM.
2. ALL HOT WATER LINES SHALL BE INSULATED WITH 1/2" ARMAFLEX OR EQUAL



1 WATER SUPPLY PLAN
1/4" = 1'-0"

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FIRST FLOOR WATER PLAN

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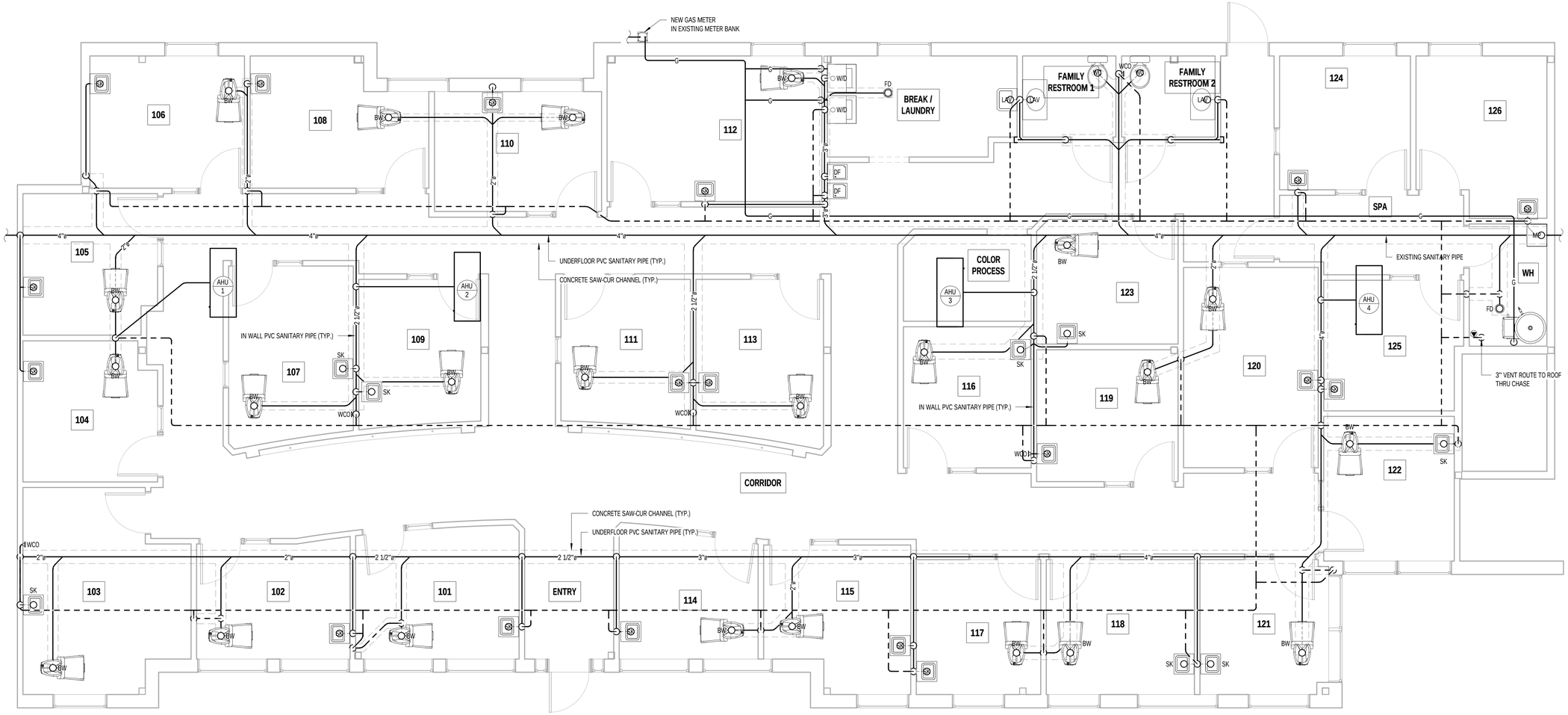
GENERAL NOTES

1. FOR SANITARY AND VENT PIPE SIZES, REFER TO SANITARY AND VENT RISER DIAGRAM.
2. ALL SANITARY LINES ARE LOCATED BELOW THE FLOOR OR IN WALLS AND VENTS ARE LOCATED ABOVE THE CEILING UNLESS OTHERWISE NOTED



1 SANITARY, VENT AND GAS PLAN
1/4" = 1'-0"

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FIRST FLOOR SANITARY, VENT AND GAS PLAN

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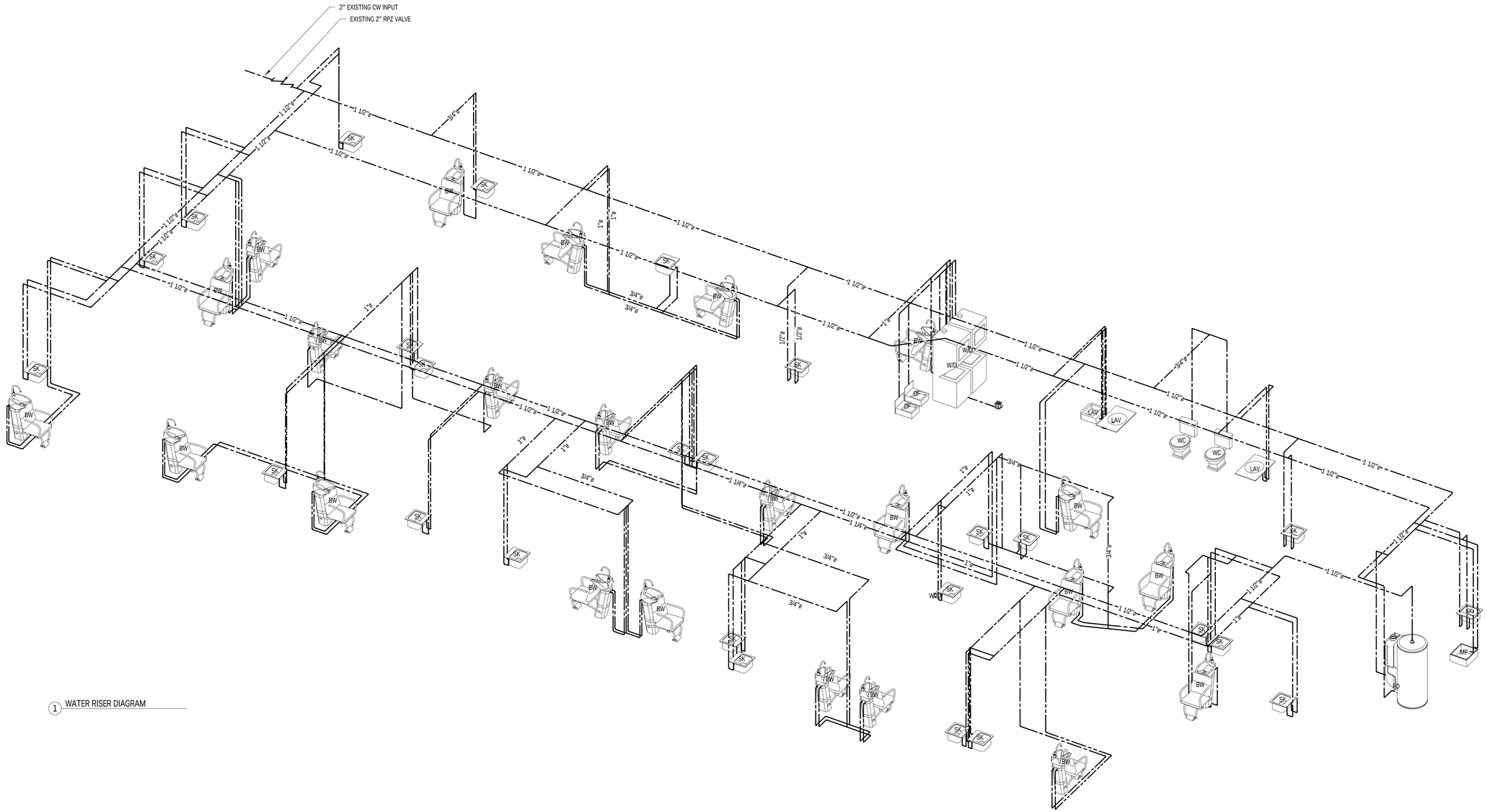
P002



1 WATER RISER DIAGRAM

THE HIVE SALON STUDIOS
4104 TAYLORSVILLE ROAD
LOUISVILLE, KENTUCKY 40220

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WATER RISER DIAGRAM

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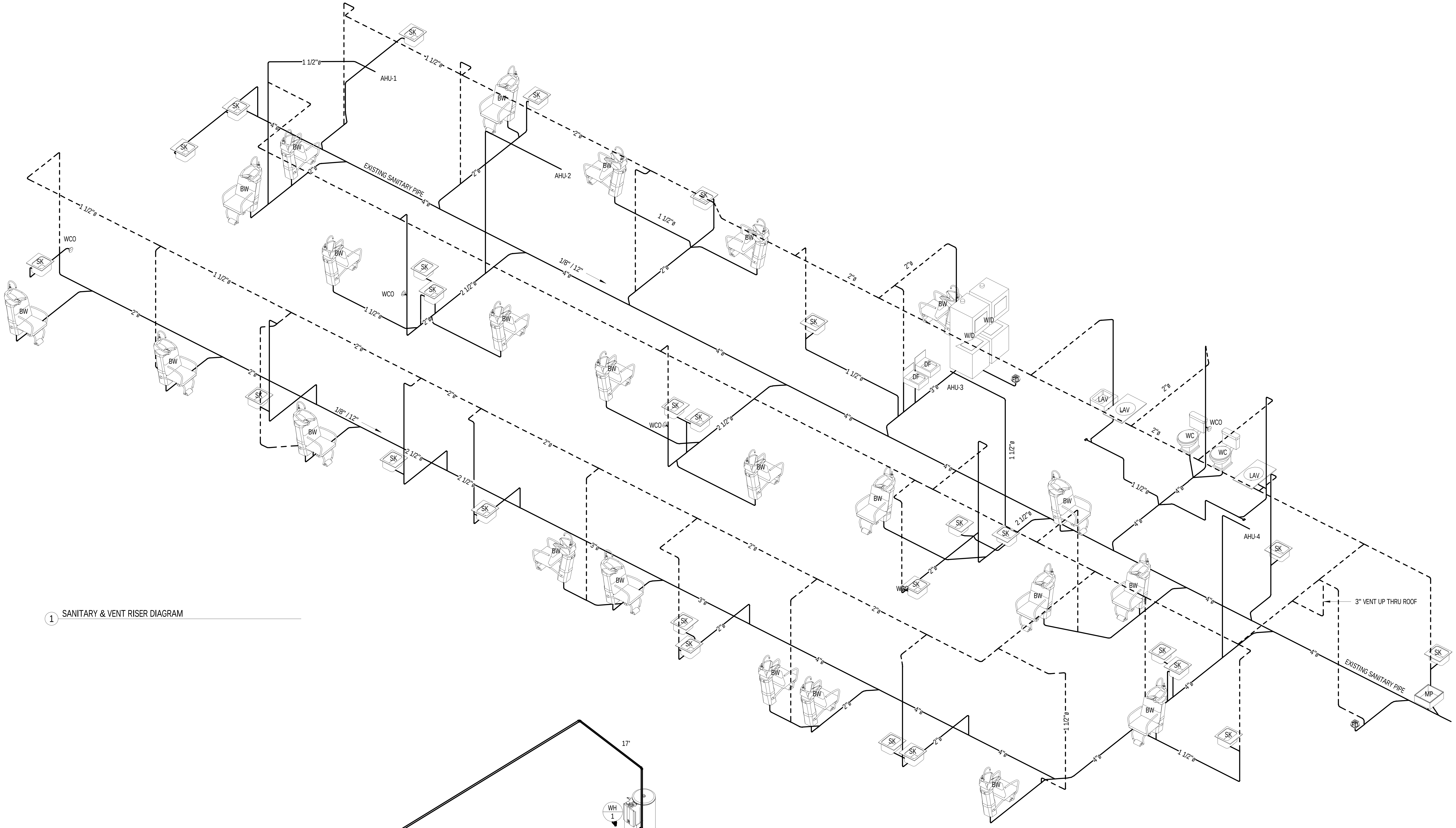
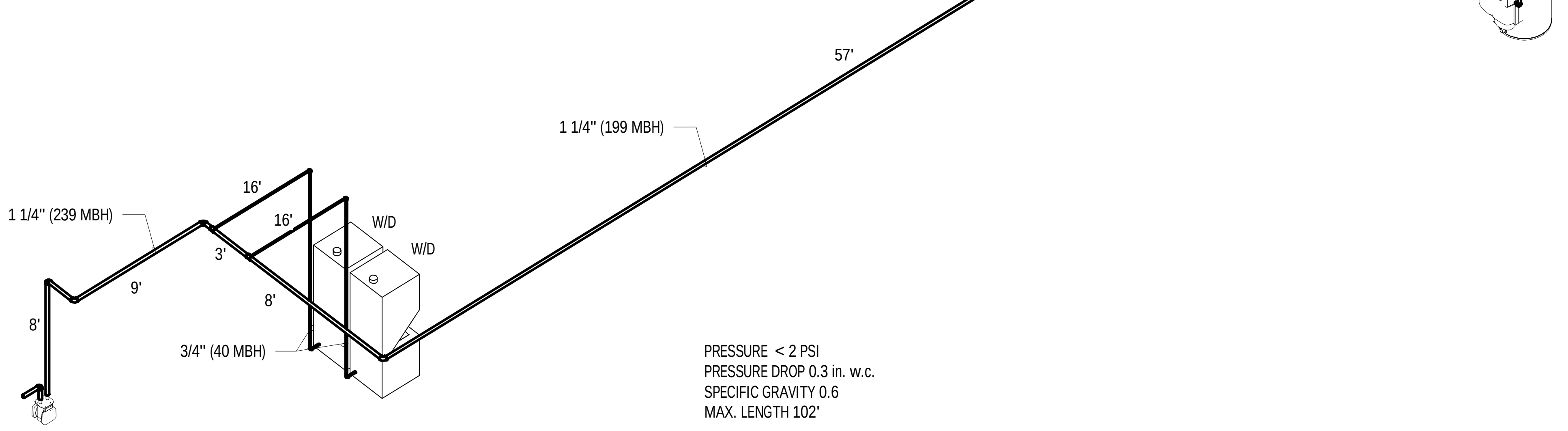
P003



1 SANITARY & VENT RISER DIAGRAM



PRESSURE < 2 PSI
PRESSURE DROP 0.3 in. w.c.
SPECIFIC GRAVITY 0.6
MAX. LENGTH 102'

2 GAS RISER DIAGRAM

THE HIVE SALON STUDIOS
4104 TAYLORSVILLE ROAD
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SANITARY AND GAS RISER DIAGRAMS

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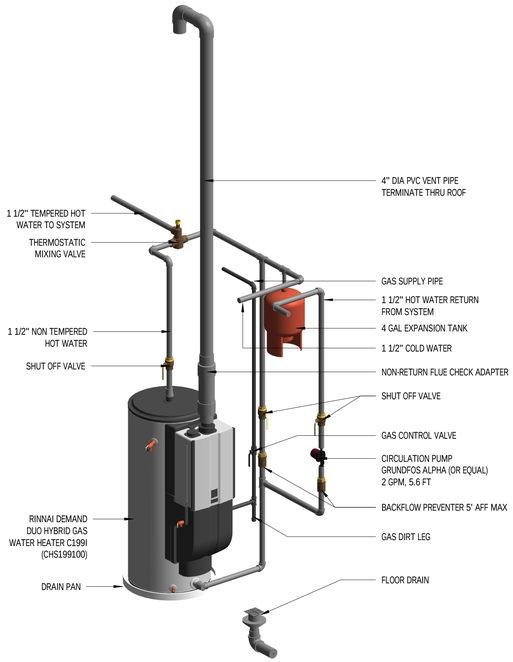
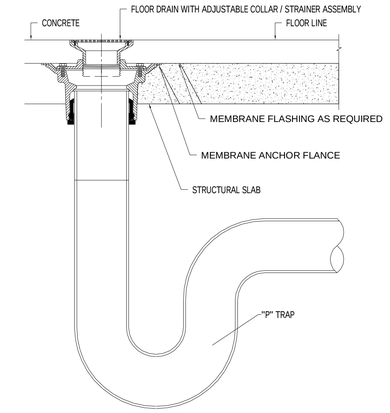
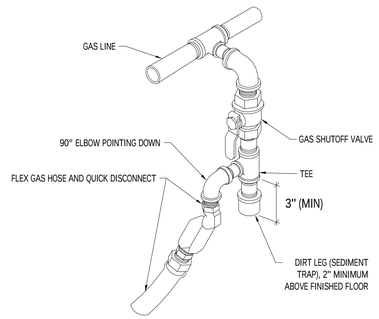


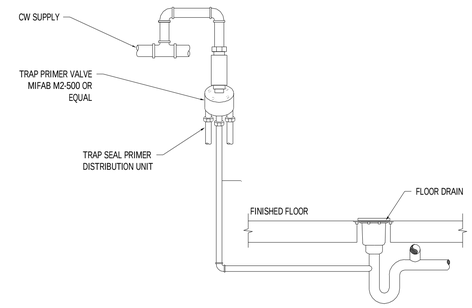
1 WATER HEATER DETAIL
NOT TO SCALE



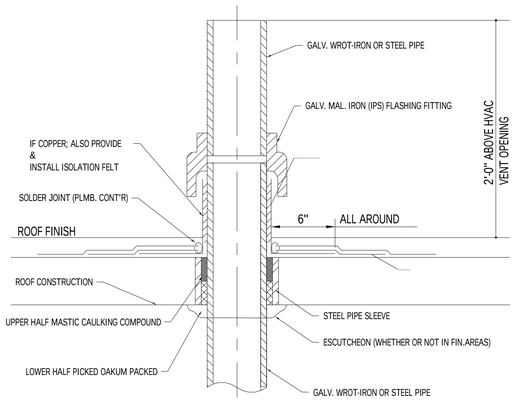
2 FLOOR DRAIN DETAIL
NOT TO SCALE



3 GAS CONNECTION
NOT TO SCALE



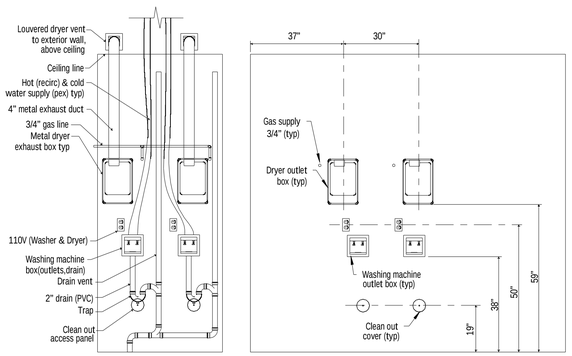
4 TRAP SEAL PRIMER DETAIL
NOT TO SCALE



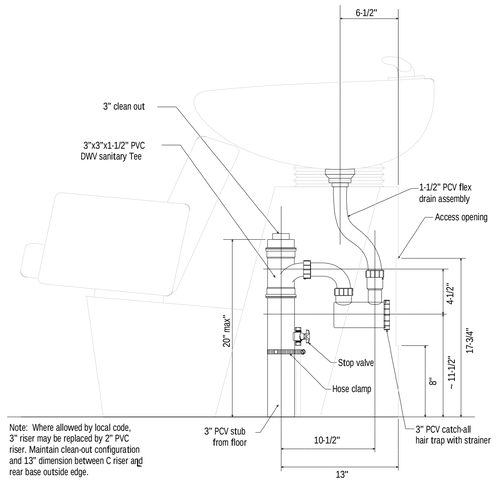
5 VENT STACK DETAIL
NOT TO SCALE

7 FLOOR CLEANOUT
NOT TO SCALE

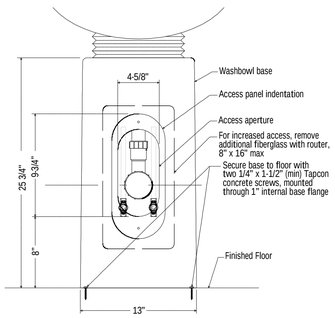
6 RPZ BACKFLOW PREVENTER INSTALLATION
NOT TO SCALE



8 DRYER INSTALLATION
NOT TO SCALE



Note: Where allowed by local code, 3" riser may be replaced by 2" PVC riser. Maintain clean-out configuration and 13" dimension between C riser and rear base outside edge.



9 WASHBOWL INSTALLATION
NOT TO SCALE

THE HIVE SALON STUDIOS
4104 TAYLORSVILLE ROAD
LOUISVILLE, KENTUCKY 40220

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PLUMBING DETAILS

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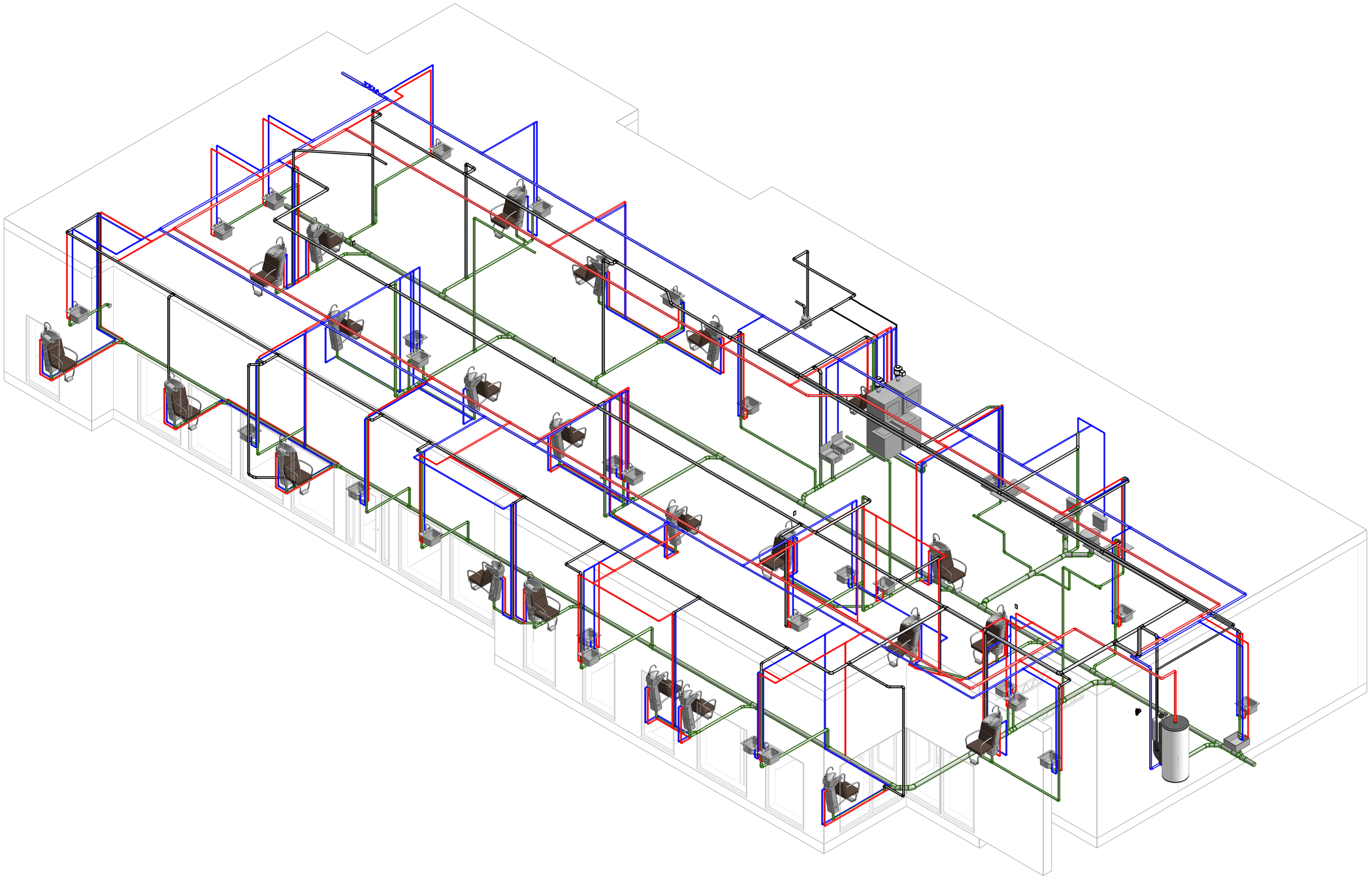
P005



THE HIVE SALON STUDIOS
4104 TAYLORSVILLE ROAD
LOUISVILLE, KENTUCKY 40220

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PLUMBING 3D VIEW

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P006