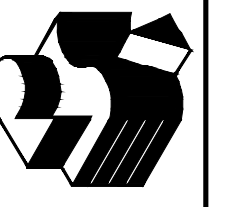


1 M1.1 MECHANICAL FIRST FLOOR ZONE PLAN
1/8" = 1'-0"

C.M.P.
CONFORMED SET-
Not For
Construction



Robertson Sherwood Architects pc
132 East Broadway, Suite 540
Eugene, Oregon 97401
P 541 | 342-8077
F 541 | 345-3302
www.robertsonsherwood.com

1793 Columbia Street
Eugene, OR 97403

UO Housing Central Kitchen & Woodshop



ALLIANT SYSTEMS
1800 NW 85TH PL, STE 530
BEAVERTON, OR 97006
PHONE: 503.619-4000
FAX: 503.239-9238
www.alliant-systems.com
CCB# 153428

MECHANICAL
FIRST FLOOR
ZONE PLAN

Drawn By	JH
Checked	NS
Date	7 NOV 2014
Project	1407

M1.1

DUCT SWITCH SPECIFICATION

ELECTRICALLY INTERLOCK EACH WOODWORKING MACHINE WITH THE DUST COLLECTOR SO THAT, WHEN A MACHINE IS TURNED ON, THE DUST COLLECTOR COMES ON AUTOMATICALLY. INCLUDE MANUAL OVERRIDE, TO PERMIT USE OF FLOOR SWEEPS, WITHOUT HAVING ANY EQUIPMENT ENERGIZED.

PROVIDE A PUSH BUTTON STATION WITH START, E-STOP AND 2-POSITION SELECTOR SWITCH (AUTOMATIC/MANUAL). INCLUDE AN ADJUSTABLE DELAY TIMER THAT WILL KEEP THE DUST COLLECTOR ON FOR 15-30 SECONDS AFTER THE LAST MACHINE IS SWITCHED OFF, TO MINIMIZE DUST COLLECTOR CYCLING AND ALLOW THE DUST IN THE DUCT SYSTEM TO BE EVACUATED.

ALL WIRING SHALL BE CENTRALIZED AT THE CIRCUIT BREAKER PANEL, FOR EASE OF INSTALLATION AND EXPANSION FOR FUTURE MACHINES. THE INTERLOCK SHALL NOT REQUIRE HARD WIRING AT THE MACHINES, MODIFICATION OF THE MOTOR STARTERS OR SPECIAL AUXILIARY CONTACTS.

FURNISH THE STERNVENT DUST SWITCH OR AN APPROVED EQUAL, UL OR ETL LABELED.

COMMERCIAL KITCHEN EXHAUST SYSTEM NOTES

KITCHEN HOODS

- MANUFACTURED KITCHEN HOODS: UL-710 LISTED AND LABELED KITCHEN EXHAUST HOODS TO BE FURNISHED BY KITCHEN EQUIPMENT CONTRACTOR (KEC) FOR INSTALLATION BY MECHANICAL CONTRACTOR
- KITCHEN HOOD AIRFLOW DESIGN: KEC SHALL SPECIFY KITCHEN EXHAUST HOOD AIRFLOW CAPACITIES TO MATCH SPECIFIC HOOD CONFIGURATION (ISLAND, CANOPY, WALL MOUNT) AND STYLE OF COOKING APPLIANCE SERVED (LIGHT-DUTY, MEDIUM-DUTY, HEAVY-DUTY) (OMSC 507.13)
- KITCHEN HOOD STRUCTURAL/SEISMIC: STRUCTURAL SUPPORT AND SEISMIC RESTRAINT CALCULATIONS FOR KITCHEN HOODS TO BE FURNISHED AS A DEFERRED SUBMITTAL FOR CODE REVIEW
- KITCHEN HOOD INSTALLATION: KITCHEN HOOD INSTALLATION SHALL BE PERFORMED IN FULL COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS AND THE REQUIREMENTS OF: NFPA 96 AND OREGON BUILDING (OSBC) AND MECHANICAL (OMSC) CODES
- AUTOMATIC HOOD CONTROLS: HOOD OPERATING CONTROLS SHALL INCLUDE A HEAT SENSOR OR OTHER APPROVED DEVICE TO ENSURE AUTOMATIC OPERATION OF THE KITCHEN HOOD AND MAKEUP AIR SYSTEMS UPON ACTIVE USE OF ANY ASSOCIATED COOKING DEVICES (OMSC 507.2.1.1)
- KITCHEN HOOD DEMAND CONTROL: AS REQUIRED BY DEMAND CONTROL REQUIREMENTS WITHIN THE OREGON ENERGY CODE (OESC), KITCHEN HOODS SHALL BE DESIGNED TO SUCCESSFULLY PROVIDE CAPTURE AND CONTAINMENT OF COOKING COORS AND PARTICULATE AT REDUCTION OF AIRFLOW OF UP TO 50% DESIGN

TYPE-1 GREASE EXHAUST SYSTEM

- ENGINEERED/FACTORY FABRICATED SYSTEM: THE GREASE EXHAUST DUCT SYSTEM PROPOSED FOR THIS PROJECT SHALL HAVE AN ENGINEERED DESIGN AND FACTORY FABRICATION IN COMPLIANCE WITH UL-197B AND UL-2221 STANDARDS (OMSC 506.3.1.1, 506.3.10.3)
- FACTORY FABRICATED DUCT INSTALLATION: FACTORY MANUFACTURED GREASE EXHAUST DUCT SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S AND DESIGNER'S GUIDELINES INCLUDING STANDARDS FOR: MINIMUM DUCT SLOPE, CLEANOUT/ACCESS DOOR LOCATION, DUCT HANGING AND SUPPORT, AND DUCT JOINING MATERIALS AND METHODS
- TYPE-1 GREASE EXHAUST FAN: ROOF MOUNTED EXHAUST FAN PROVIDING TYPE-1 EXHAUST SERVICE SHALL BE MANUFACTURED IN ACCORDANCE WITH UL-782 REQUIREMENTS FOR POWER VENTILATORS FOR RESTAURANT EXHAUST APPLIANCES
- EXHAUST FAN TERMINATION: TYPE-1 GREASE EXHAUST FAN TERMINATION SHALL BE MINIMUM 40' ABOVE ADJACENT ROOF
- EXHAUST SYSTEM AIRFLOW: EXHAUST AIR DUCTWORK SHALL BE CONFIGURED AND BALANCED TO PROVIDE EXHAUST AIRFLOW AS SPECIFIED BY KITCHEN HOOD MANUFACTURER
- GREASE EXHAUST HOOD CONNECTIONS: GREASE EXHAUST CONNECTIONS TO TYPE-1 HOODS SHALL BE MADE WITH RIGID METALLIC DUCT AND INSULATION REQUIREMENTS IN ACCORDANCE WITH OMSC SECTION 506.3
- GREASE DUCT STRUCTURAL/SEISMIC: STRUCTURAL SUPPORT AND SEISMIC RESTRAINT CALCULATIONS FOR GREASE EXHAUST DUCT AND EQUIPMENT TO BE FURNISHED AS A DEFERRED SUBMITTAL FOR CODE REVIEW

MAKEUP AIR SYSTEM

- SYSTEM INTERLOCK REQUIREMENTS: KITCHEN HOOD VENDOR SHALL PROVIDE CONTROL SYSTEM AND DEVICES WITH INTERLOCK DEVICES AND WIRING TO INSURE SIMULTANEOUS OPERATION OF GREASE EXHAUST AND MAKEUP AIR UNITS WHEN HOOD SYSTEM IS ACTIVE (OMSC 508.1)
- MAKEUP AIR SYSTEM AIRFLOW: MAKEUP AIR DUCTWORK SHALL BE CONFIGURED AND BALANCED TO PROVIDE EXHAUST AIRFLOW AS SPECIFIED BY KITCHEN HOOD MANUFACTURER
- MAKEUP AIR SYSTEM STRUCTURAL/SEISMIC: STRUCTURAL SUPPORT AND SEISMIC RESTRAINT CALCULATIONS AS REQUIRED FOR MAKEUP AIR DUCT AND EQUIPMENT TO BE FURNISHED AS A DEFERRED SUBMITTAL FOR CODE REVIEW
- MAKEUP AIR SYSTEM TEMPERATURE: MAKEUP AIR TEMPERATURE SHALL BE CONTROLLED TO MAINTAIN MAXIMUM TEMPERATURE DIFFERENTIAL OF 10° F. FROM CONDITIONED SPACE (OMSC 508.1.1)
- MAKEUP AIR DUCT CONNECTIONS: MAKEUP AIR CONNECTIONS TO TYPE-1 HOODS SHALL BE MADE WITH RIGID METALLIC DUCT AND INSULATION REQUIREMENTS IN ACCORDANCE WITH OMSC SECTION 506.3.1.2

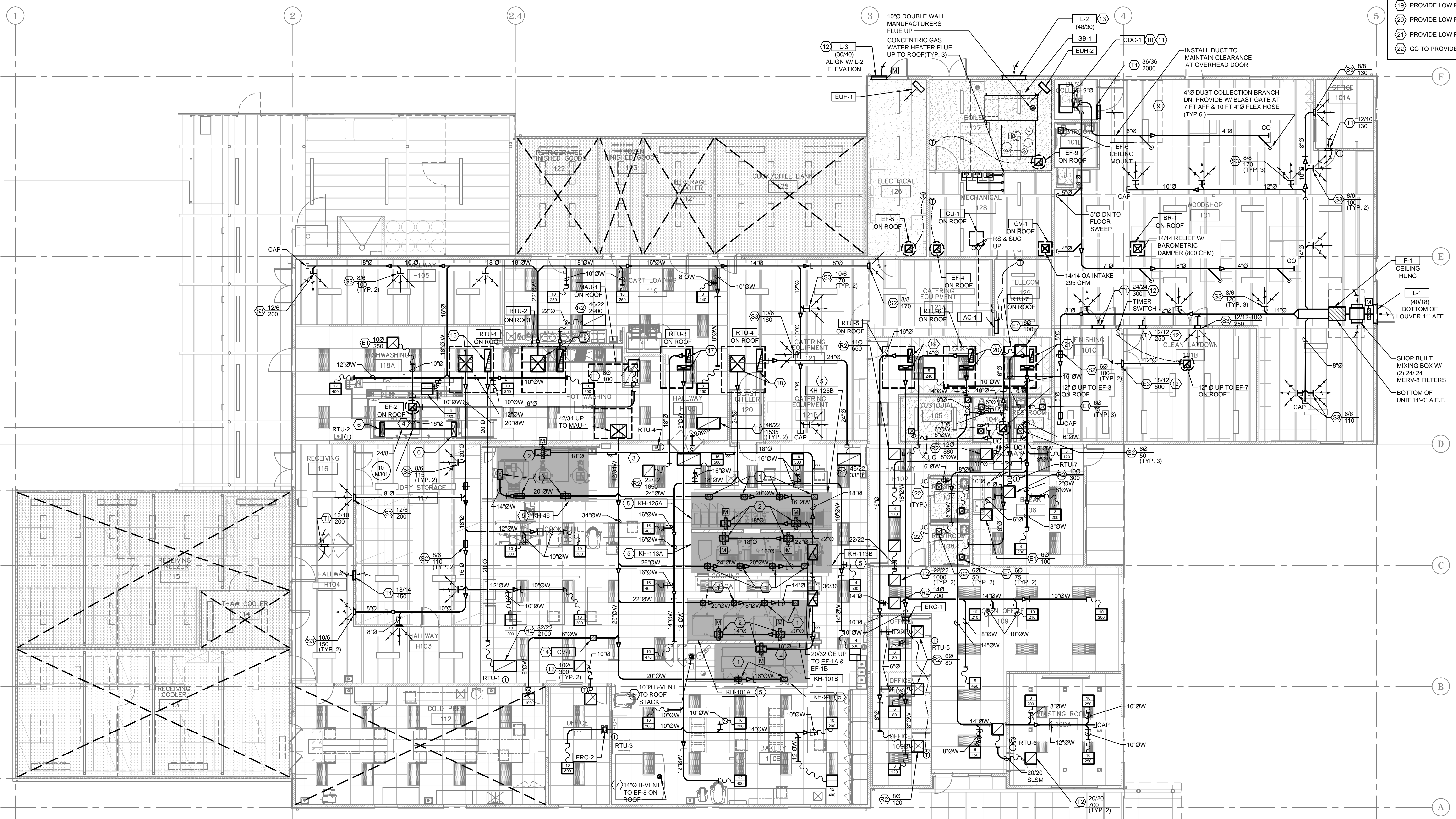
ENERGY CODE REQUIREMENTS

- MAKEUP AIR SYSTEM VOLUME: PER OREGON ENERGY CODE, MAKEUP AIR VOLUME SHALL BE MINIMUM 50% OF CORRESPONDING SYSTEM EXHAUST VOLUME. MAKEUP AIR SHALL BE HEATED TO NO MORE THAN 80° F. AND UNCOOLED (OESC 503.2.5.2)
- DEMAND CONTROL REQUIREMENTS: PER OREGON ENERGY CODE EACH KITCHEN WITH A TOTAL EXHAUST CAPACITY GREATER THAN 5000 CFM SHALL BE EQUIPPED WITH A DEMAND CONTROL VENTILATION SYSTEM ON AT LEAST 75% OF EXHAUST AND MAKEUP AIR. KEC SHALL PROVIDE DEMAND CONTROL SYSTEM WITH AUTOMATIC CONTROLS AND DEVICES TO MODULATE AIR VOLUME IN RESPONSE TO COOKING APPLIANCE OPERATION (OESC 503.2.5.2)

SYSTEM TESTING REQUIREMENTS

- GREASE DUCT TESTING REQUIREMENTS: PRIOR TO USE OR CONCEALMENT OF ANY PORTION OF A GREASE DUCT SYSTEM A LEAKAGE TEST SHALL BE PERFORMED. A LIGHT TEST OR APPROVED EQUIVALENT PRESSURE TEST SHALL BE PERFORMED TO DETERMINE THAT ALL JOINTS ARE LIQUID TIGHT (OMSC 506.3.2.6)
- SYSTEM PERFORMANCE TEST: A PERFORMANCE TEST SHALL BE CONDUCTED UPON COMPLETION AND BEFORE FINAL APPROVAL OF INSTALLATION OF EXHAUST AND MAKEUP AIR SYSTEMS SERVING COMMERCIAL COOKING APPLIANCES. THE TEST SHALL VERIFY THAT THE RATE OF EXHAUST AND MAKEUP AIRFLOW IS IN COMPLIANCE WITH CODE STANDARDS AND MANUFACTURER'S PERFORMANCE REQUIREMENTS (OMSC 507.16)
- CAPTURE AND CONTAINMENT TEST: THE MECHANICAL CONTRACTOR SHALL VERIFY CAPTURE AND CONTAINMENT PERFORMANCE FOR THE ENTIRE SYSTEM WITH ALL APPLIANCES AND HOODS OPERATING. THE TEST SHALL UTILIZE VISUAL VERIFICATION OF PERFORMANCE BY OBSERVING SMOKE AND STEAM CREATED BY REAL OR SIMULATED COOKING (OMSC 507.16.1)

- HVAC NOTES BY SYMBOL**
- SUPPLY DUCT FROM MAU-1 TO BE CONNECTED TO TYPE-I HOOD CONNECTION. FIELD VERIFY CONNECTION SIZE AND LOCATION.
 - FACTORY FABRICATED TYPE-1 GREASE EXHAUST DUCT FROM EE-1 TO BE CONNECTED TO TYPE-I HOOD CONNECTION W/ MODULATING VOLUME CONTROL DAMPER. FIELD VERIFY CONNECTION SIZE AND LOCATION.
 - TYPE-1 GREASE EXHAUST DUCT SYSTEM TO BE ENGINEERED AND FACTORY FABRICATED IN COMPLIANCE W/ UL 197B STANDARDS. INSTALL PER MANUF. REQUIREMENTS. PROVIDE ACCESSIBLE CLEANOUTS AT EACH CHANGE OF DIRECTION > 90° AND MAX 20FT ON CENTER. GREASE DUCT TO SLOPE MINIMUM OF 1/4" PER FOOT TOWARDS GREASE RESERVOIR.
 - DISHWASHER DUCTWORK TO BE SS DUCT CONNECTION BELOW CEILING AND CONTINUE WITH ALUMINUM DUCT ABOVE CEILING UP TO FAN DISCHARGE. PROVIDE AND INSTALL DUCT WITH SLOPE OF 1% PER FOOT.
 - TYPE-I KITCHEN EXHAUST HOOD FURNISHED BY OTHERS, INSTALLED BY MECHANICAL CONTRACTOR. SEE DETAIL 12/M3.0.
 - 24"x4" SS EXH FROM DUCT ON TO CONNECT TO DISHWASHER EXH OUTLETS AS REQUIRED, UNLESS OTHERWISE NOTED ON PLAN. FIELD VERIFY CONNECTION SIZE AND LOCATION. SEE DETAIL 10/M3.0.
 - INTERLOCK OPERATING CONTROLS FROM EF-8 W/ PICARD OVEN. FIELD VERIFY CONNECTION SIZE AND LOCATION.
 - COORDINATE FLUE CONNECTION W/ OVEN. FIELD VERIFY CONNECTION SIZE AND LOCATION. SEE DETAIL 10/M3.1.
 - EXHAUST DUCT CONNECTED TO EF-6 TO BE EXTENDED UP TO 3 FT ABOVE ROOF. SEE DETAIL 9/M3.1.
 - FURNISH AND INSTALL ONE SELF-CONTAINED ENCLOSURELESS STERNVENT DUST COLLECTOR AS SCHEDULED PER MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE WALL MOUNTED SPRINKLER HEAD FROM BUILDING SPRINKLER SYSTEM FACING THE DUST COLLECTOR.
 - PROVIDE FILTER FRAME AND 2" MERV-8 DISPOSABLE FILTER AT INTERIOR SIDE OF LOUVER OR GRILLE.
 - COMBUSTION AIR INTAKE (PER OMSC C304.6.2). PROVIDE MIN 667 SO IN FREE AREA. INSTALL W/ TOP OF LOUVER MAX 12" FROM INTERIOR CEILING
 - PROVIDE CV-1 PRESSURE INDEPENDANT CONSTANT VOLUME AIR VALVE.
 - PROVIDE LOW PRESSURE DROP TRANSITION FROM 20"Ø UP TO RTU-1 ON ROOF.
 - PROVIDE LOW PRESSURE DROP TRANSITION FROM 22"Ø UP TO RTU-2 ON ROOF.
 - PROVIDE LOW PRESSURE DROP TRANSITION FROM 18"Ø UP TO RTU-3 ON ROOF.
 - PROVIDE LOW PRESSURE DROP TRANSITION FROM 24"Ø UP TO RTU-4 ON ROOF.
 - PROVIDE LOW PRESSURE DROP TRANSITION FROM 16"Ø UP TO RTU-5 ON ROOF.
 - PROVIDE LOW PRESSURE DROP TRANSITION FROM 14"Ø UP TO RTU-6 ON ROOF.
 - PROVIDE LOW PRESSURE DROP TRANSITION FROM 16"Ø UP TO RTU-7 ON ROOF.
 - GC TO PROVIDE 3/4" UNDERCUT DOOR TO MAKE UP AIR EXHAUST.



MECHANICAL FIRST FLOOR HVAC PLAN
1/8"=1'-0"

Robertson Sherwood Architects pc
132 East Broadway, Suite 540
Eugene, Oregon 97401
P 541 | 342-8077
F 541 | 345-4302
www.robertsonsherwood.com

UO Housing Central Kitchen & Woodshop
1793 Columbia Street
Eugene, OR 97403

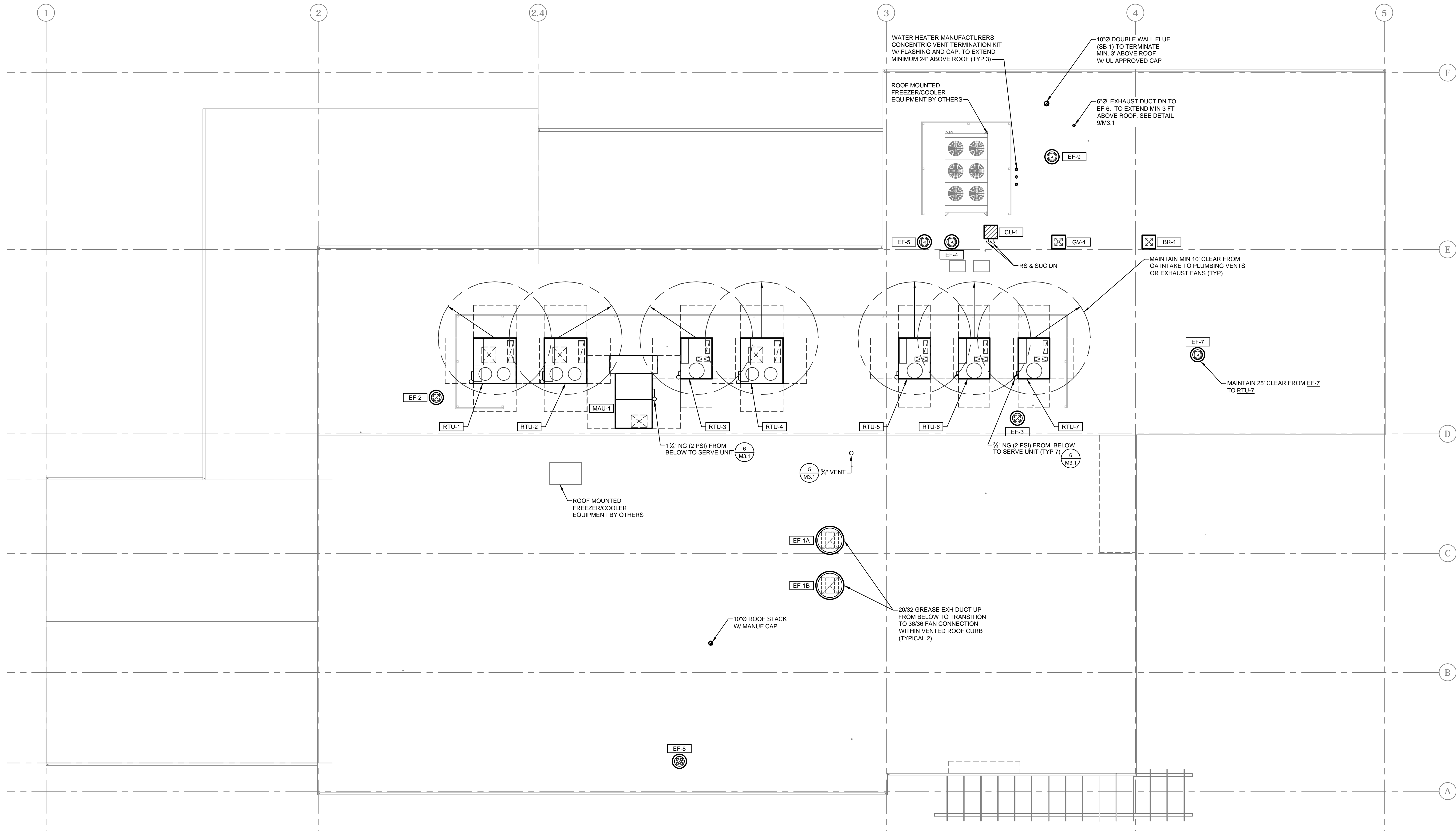
C.M.P. CONFORMED SET- Not For Construction

ALLIANT SYSTEMS INC.
1800 NW 85TH PL, STE 530
BEAVERTON, OR 97006
PHONE: 503.616-4000
FAX: 503.230-9238
WWW.ALLIANTSYSTEMS.COM
CCSB-153420

MECHANICAL FIRST FLOOR HVAC PLAN

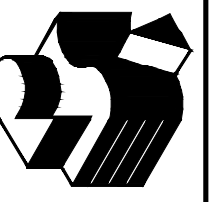
Drawn By	JH
Checked	NS
Date	7 NOV 2014
Project	1407

M2.1



1 MECHANICAL ROOF HVAC PLAN
 M2.R 1/8" = 1'-0"

C.M.P.
 CONFORMED SET-
 Not For
 Construction



Robertson Sherwood Architects pc
 132 East Broadway, Suite 540
 Eugene, Oregon 97401
 P 541 | 342.8077
 F 541 | 345.3302
 www.robertsonsherwood.com

1793 Columbia Street
 Eugene, OR 97403

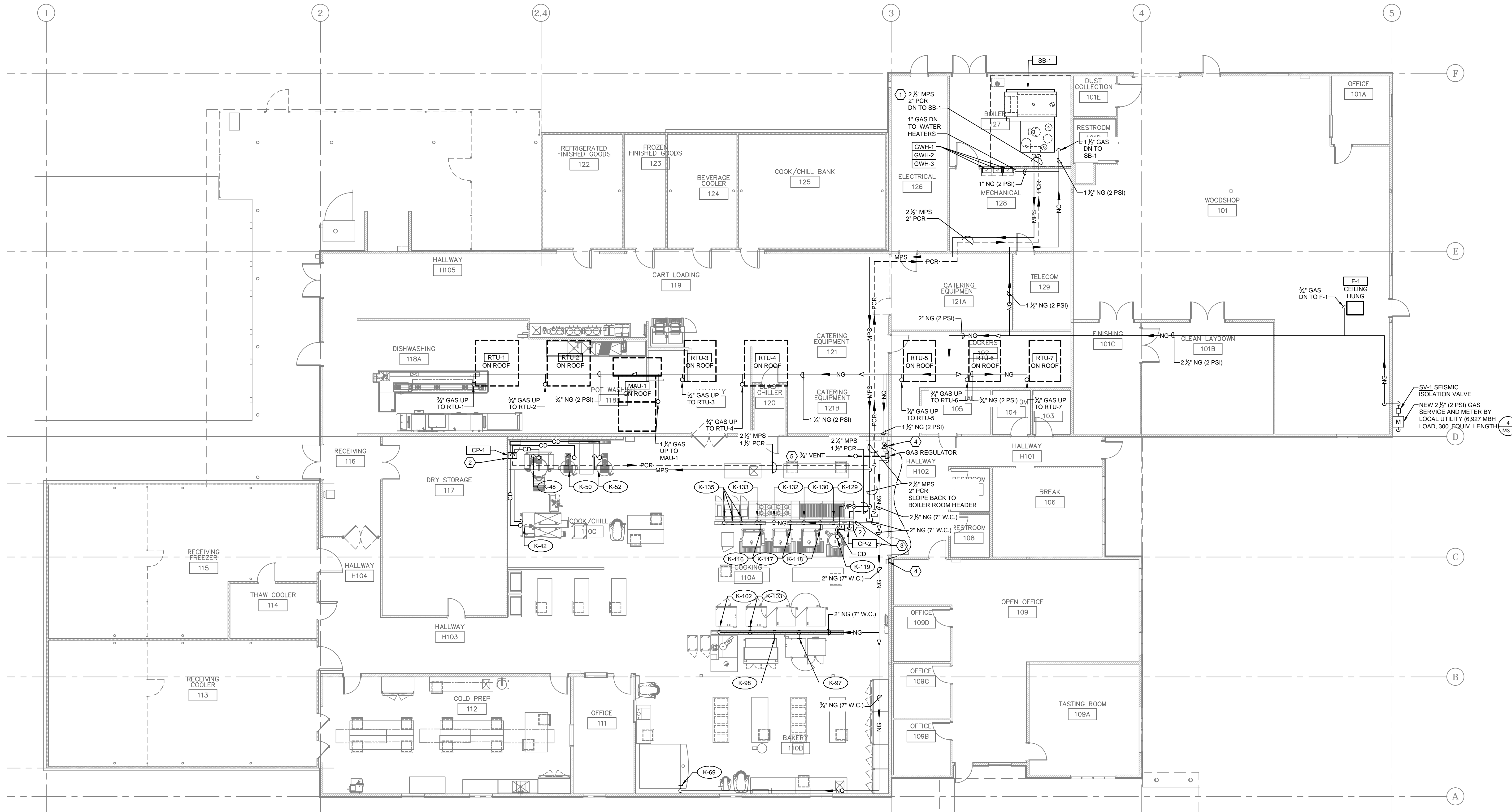
UO Housing Central Kitchen & Woodshop

ALLIANT
 MECHANICAL SYSTEMS
 1800 NW 85TH PL, STE 530
 BEAVERTON, OR 97006
 PHONE: 503.618-4000
 FAX: 503.230-9238
 WWW.ALLIANTSYSTEMS.COM
 CCB# 153428

MECHANICAL
 ROOF
 HVAC PLAN

Drawn By	JH
Checked	NS
Date	7 NOV 2014
Project	1407

M2.R



MECHANICAL PIPING NOTES BY SYMBOL	
①	SEE DETAIL 1/M3.1 FOR STEAM SYSTEM AND PIPING AT BOILER ROOM.
②	SEE DETAIL 3/M3.1 FOR STEAM SYSTEM AND PIPING AT KITCHEN EQUIPMENT.
③	SEE DETAIL 7/M3.1 FOR NATURAL GAS PIPE SIZING AT KITCHEN EQUIPMENT.
④	1 1/2" NG SOLENOID VALVE FOR KITCHEN EMERGENCY SHUT-OFF. PROVIDE EMERGENCY SHUT-OFF BUTTON AT KITCHEN EGRESS TO CONTROL SOLENOID VALVE.
⑤	NATURAL GAS REGULATOR VENT UP THRU ROOF.

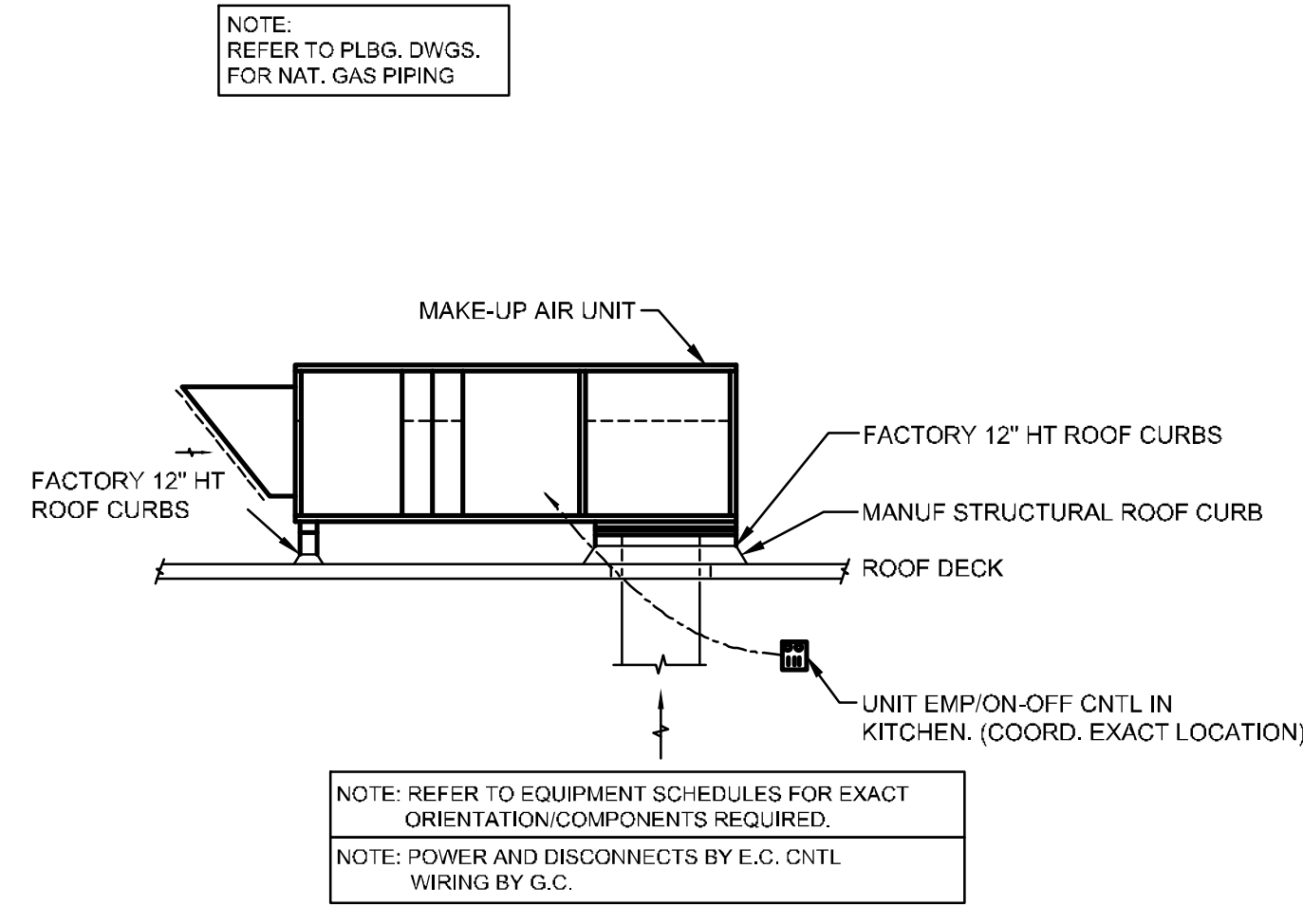
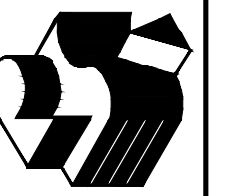
Robertson Sherwood Architects pc
 122 East Broadway, Suite 540
 Eugene, Oregon 97401
 P 541 | 342-8077
 F 541 | 345-3302
 www.robertsonsherwood.com

UO Housing Central Kitchen & Woodshop
 1793 Columbia Street
 Eugene, OR 97403

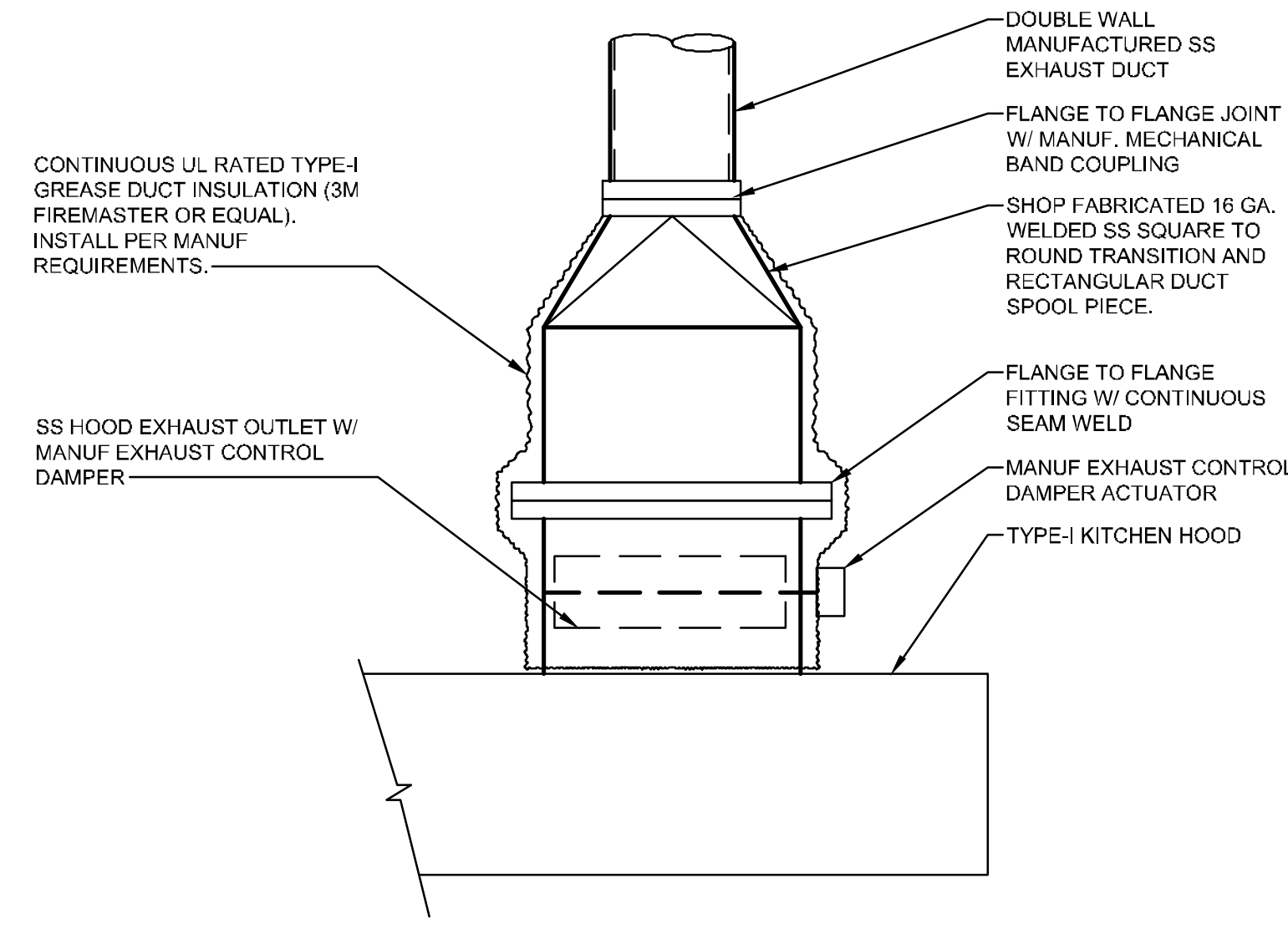
ALLIANT
 MECHANICAL SYSTEMS
 1480 NW 85TH PL, STE 530
 BEAVERTON, OR 97006
 PHONE: 503.619.4000
 FAX: 503.239.9238
 WWW.ALLIANTSYSTEMS.COM
 CCB# 153428

Drawn By	JH
Checked	NS
Date	7 NOV 2014
Project	1407

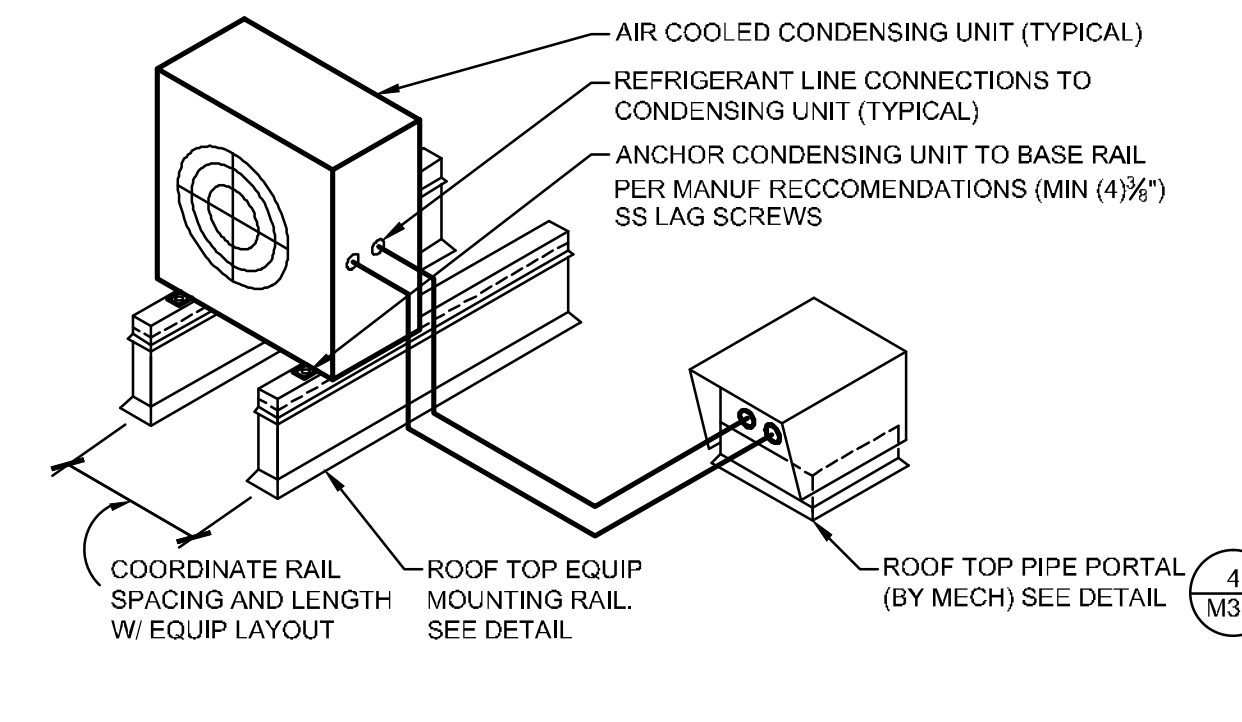
MP2.1



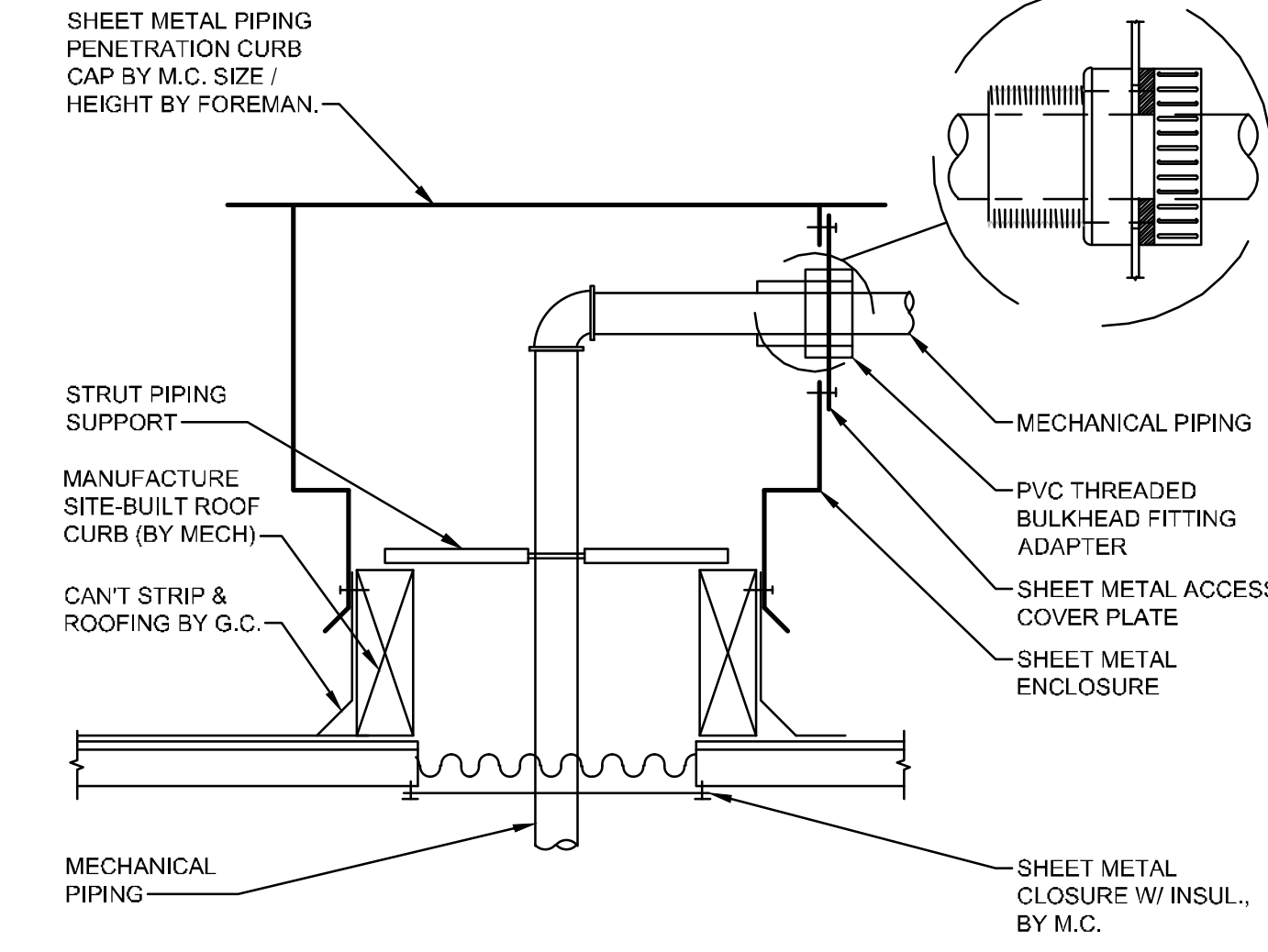
1 DIRECT GAS-FIRED ROOFTOP KITCHEN MAKE-UP UNIT
M3.0 NO SCALE



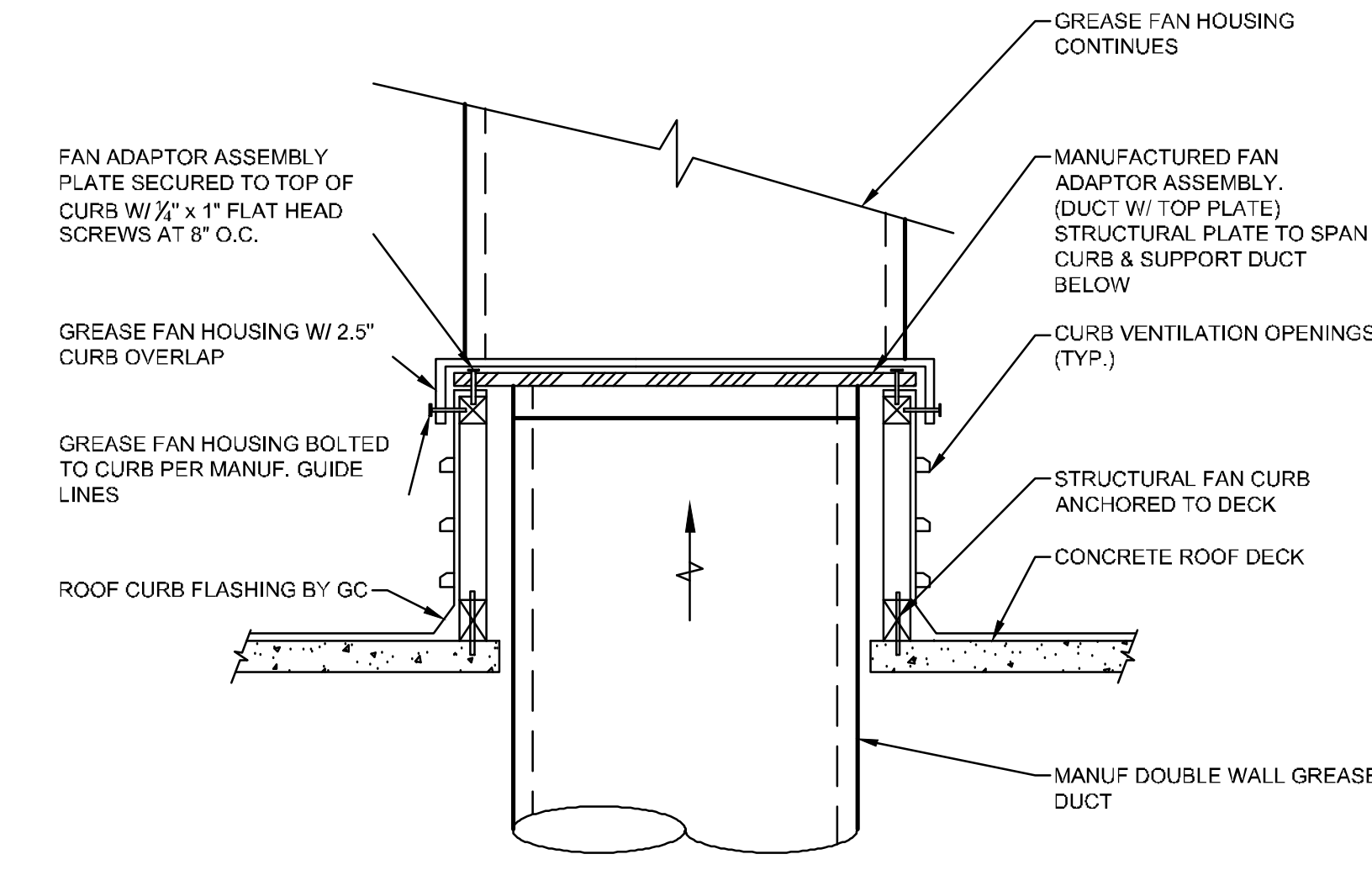
2 TYPE-1 GREASE DUCT TO HOOD CONNECTION DETAIL
M3.0 NO SCALE



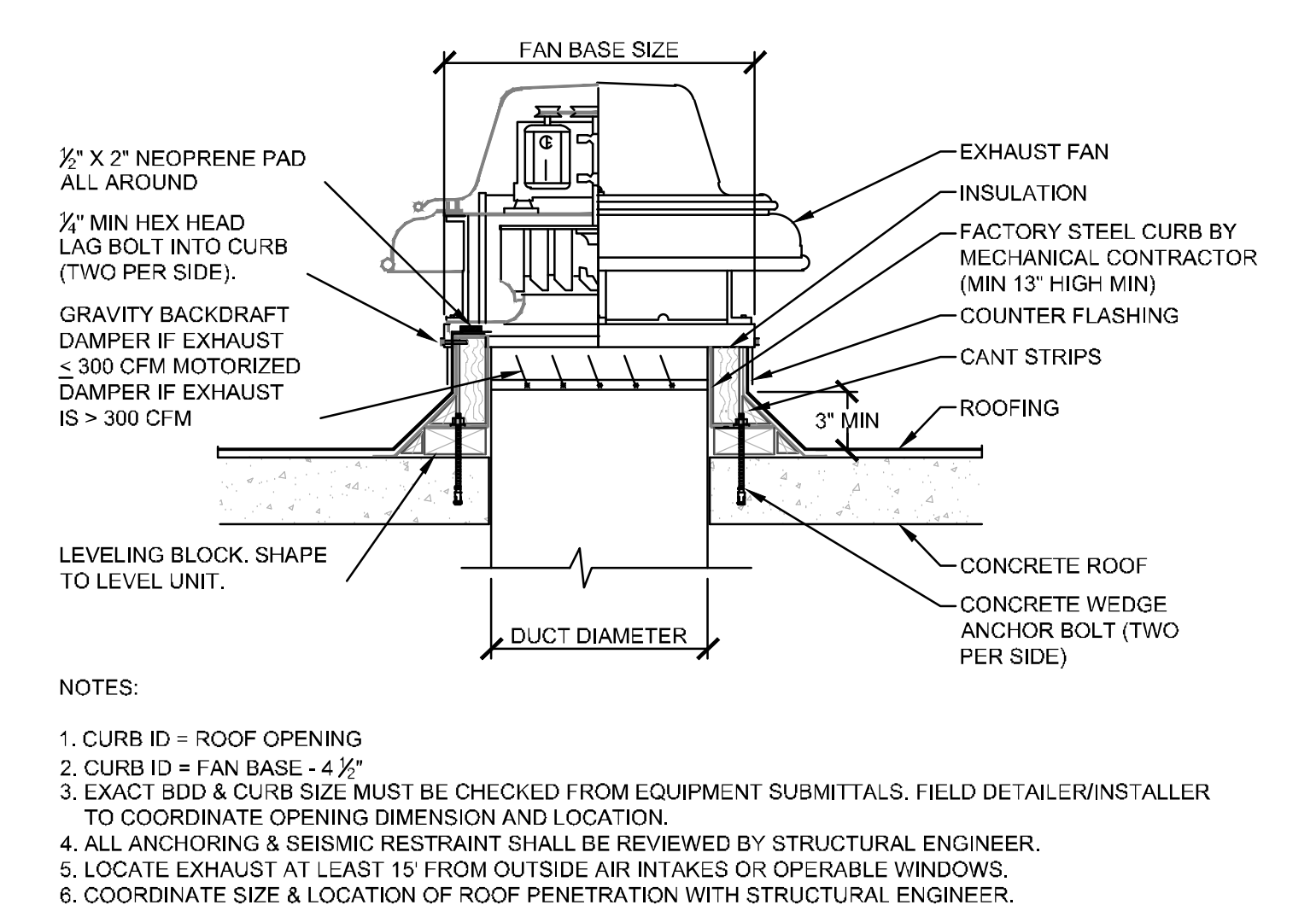
3 ROOF TOP CONDENSING UNIT DETAIL
M3.0 NO SCALE



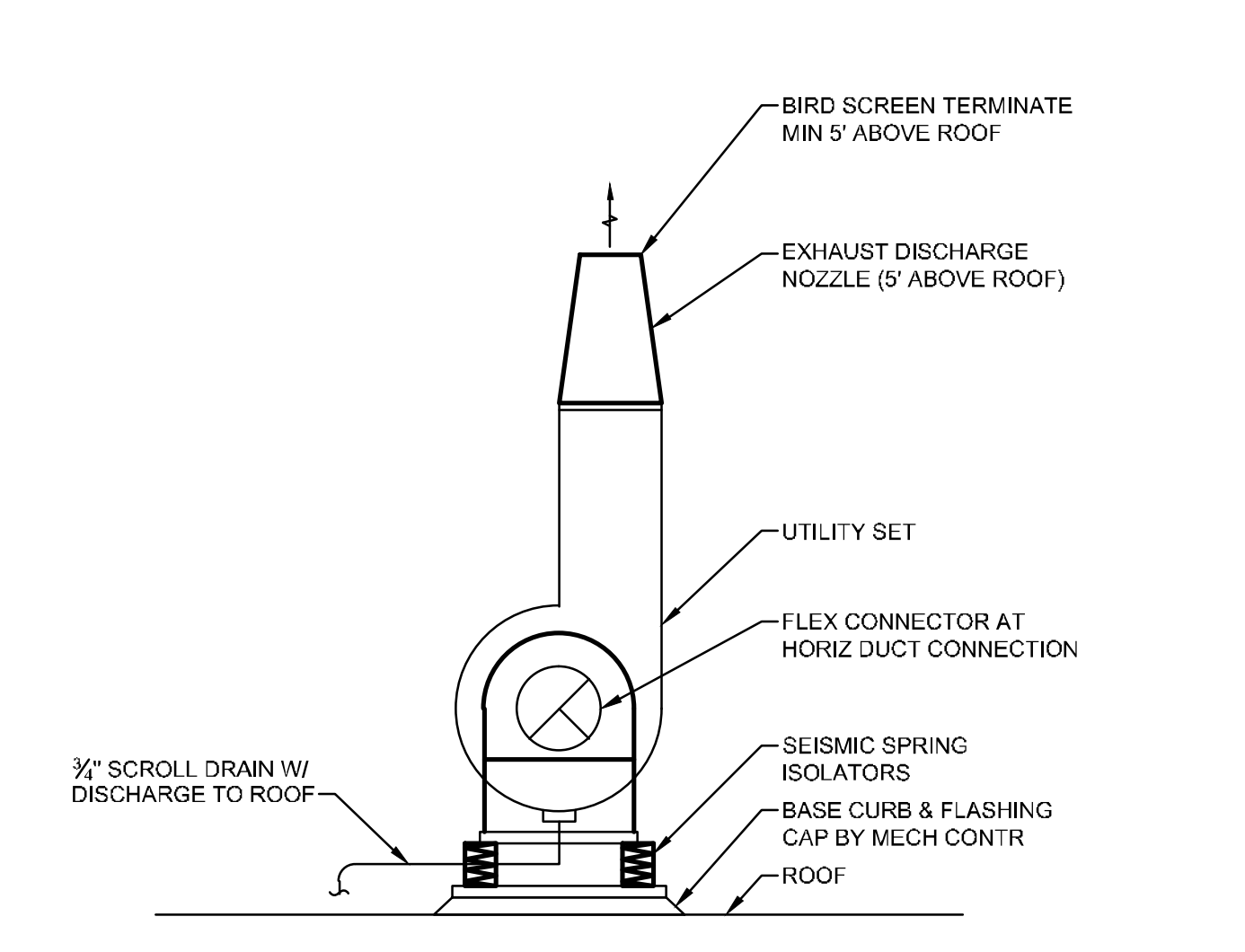
4 ROOF TOP PIPING PENETRATION PORTAL DETAIL
M3.0 NO SCALE



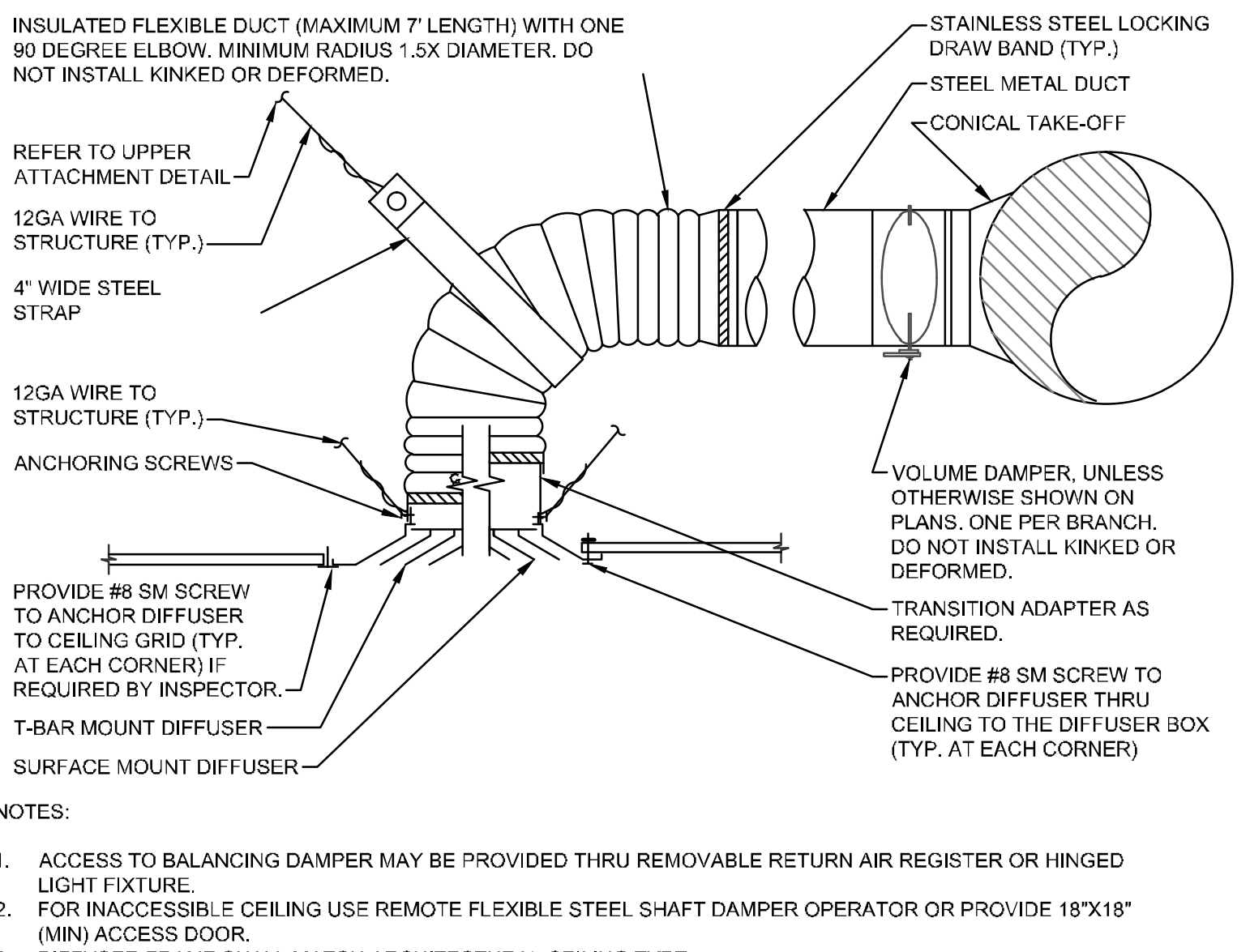
5 MANUF GREASE DUCT TERMINATION AT ROOF FAN
M3.0 NO SCALE



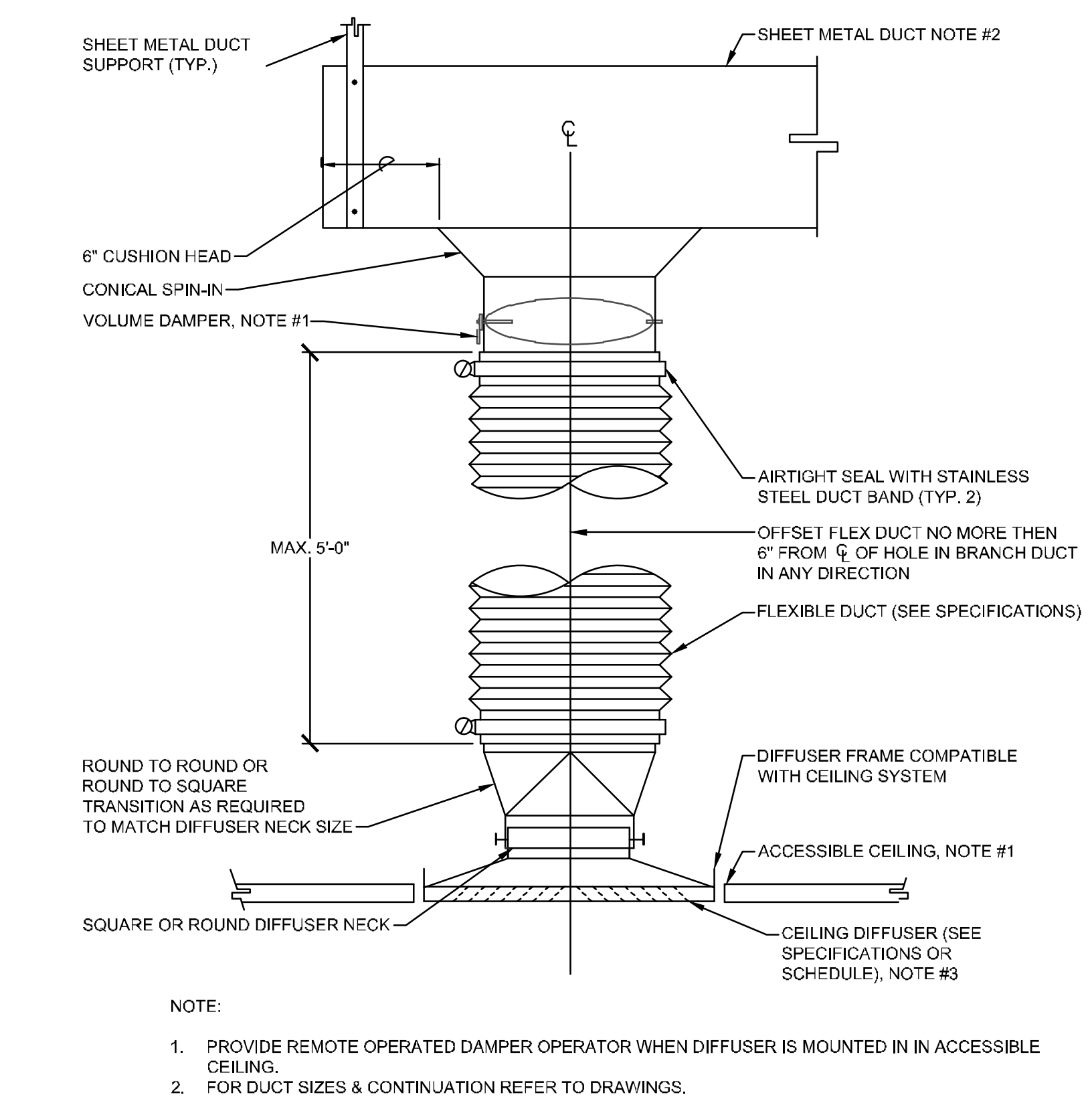
6 ROOF EXHAUST FAN INSTALLATION DETAIL
M3.0 NO SCALE



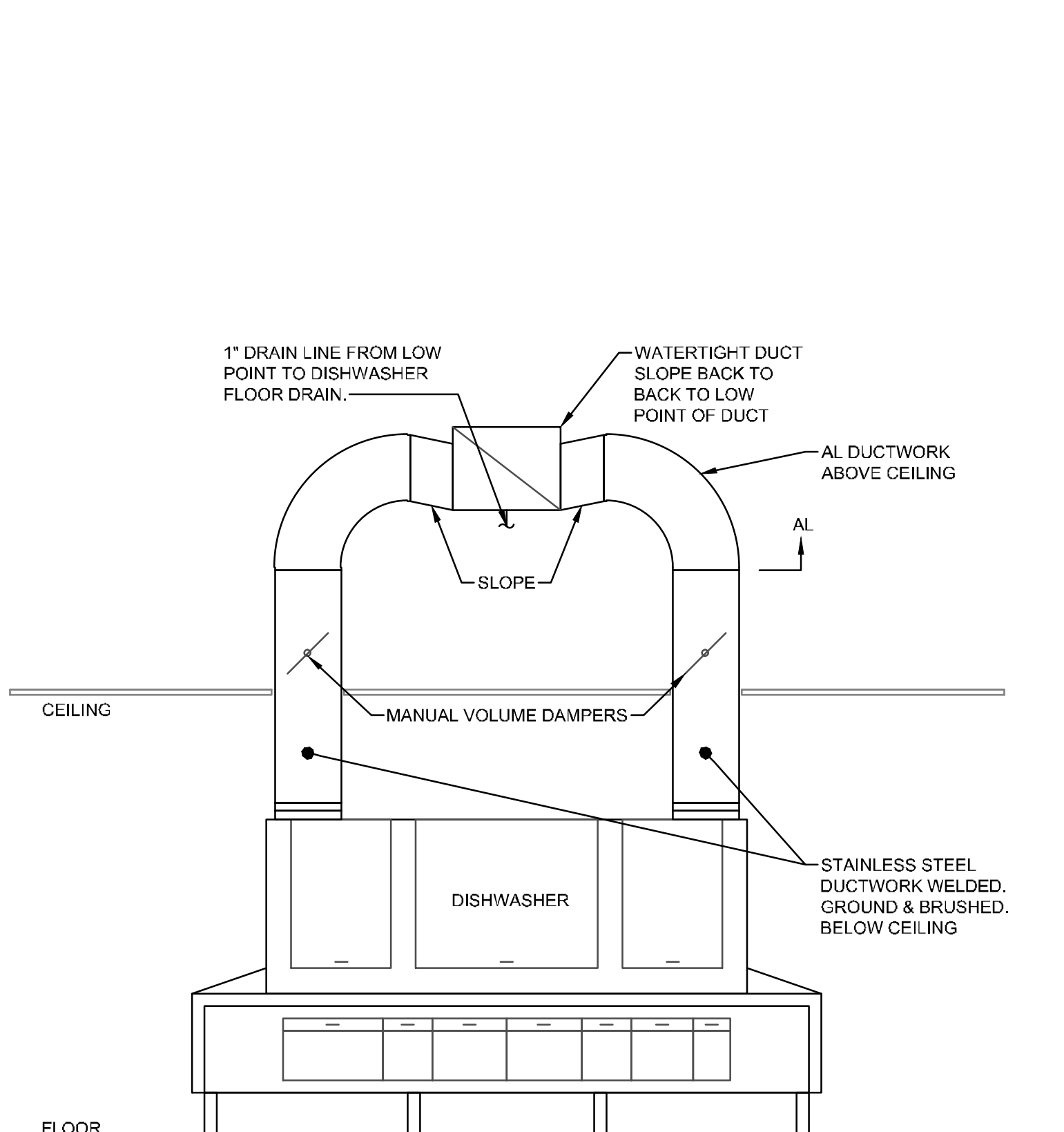
7 KITCHEN GREASE EXHAUST FAN DETAIL
M3.0 NO SCALE



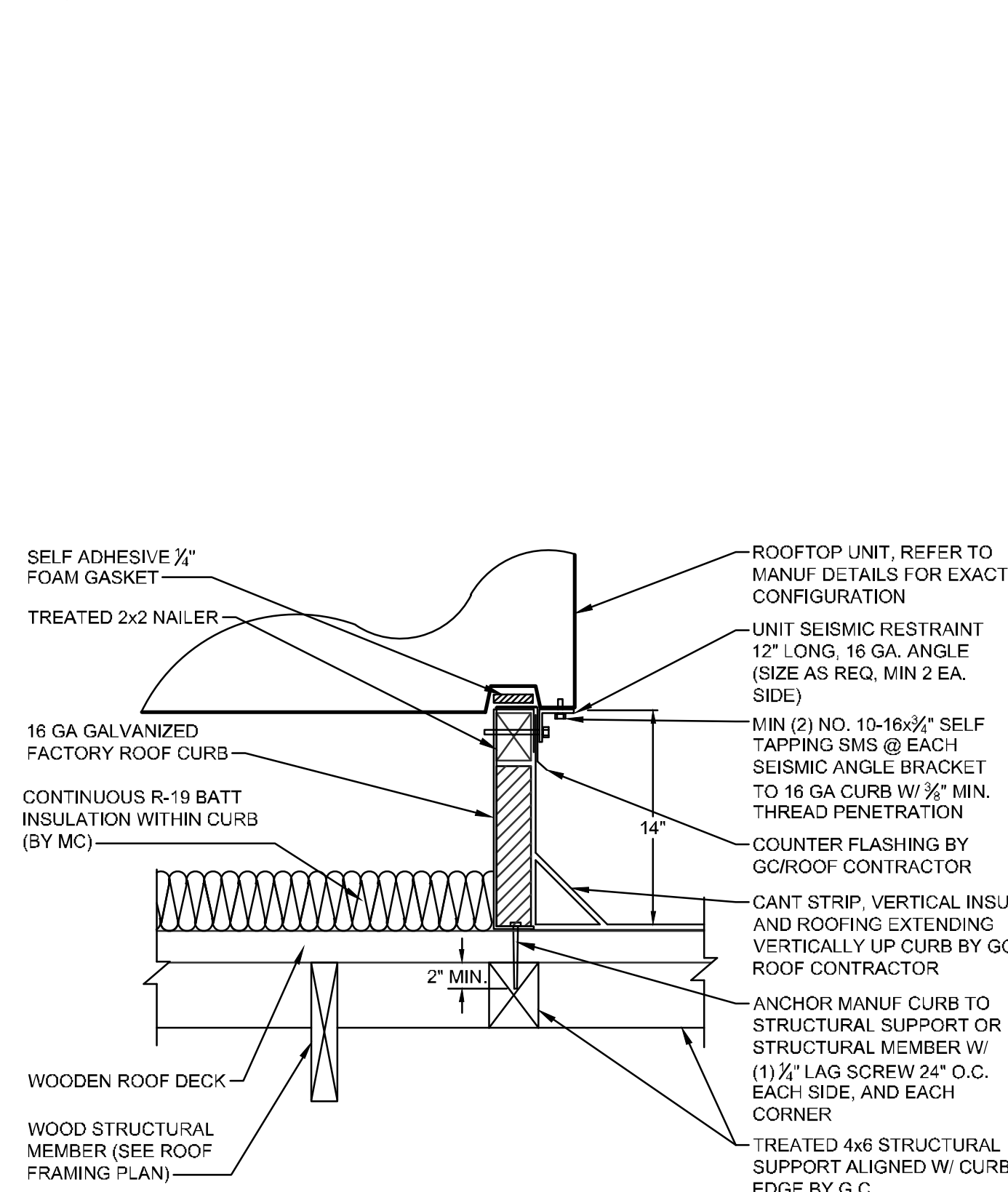
8 DIFFUSER MOUNTING DETAIL
M3.0 NO SCALE



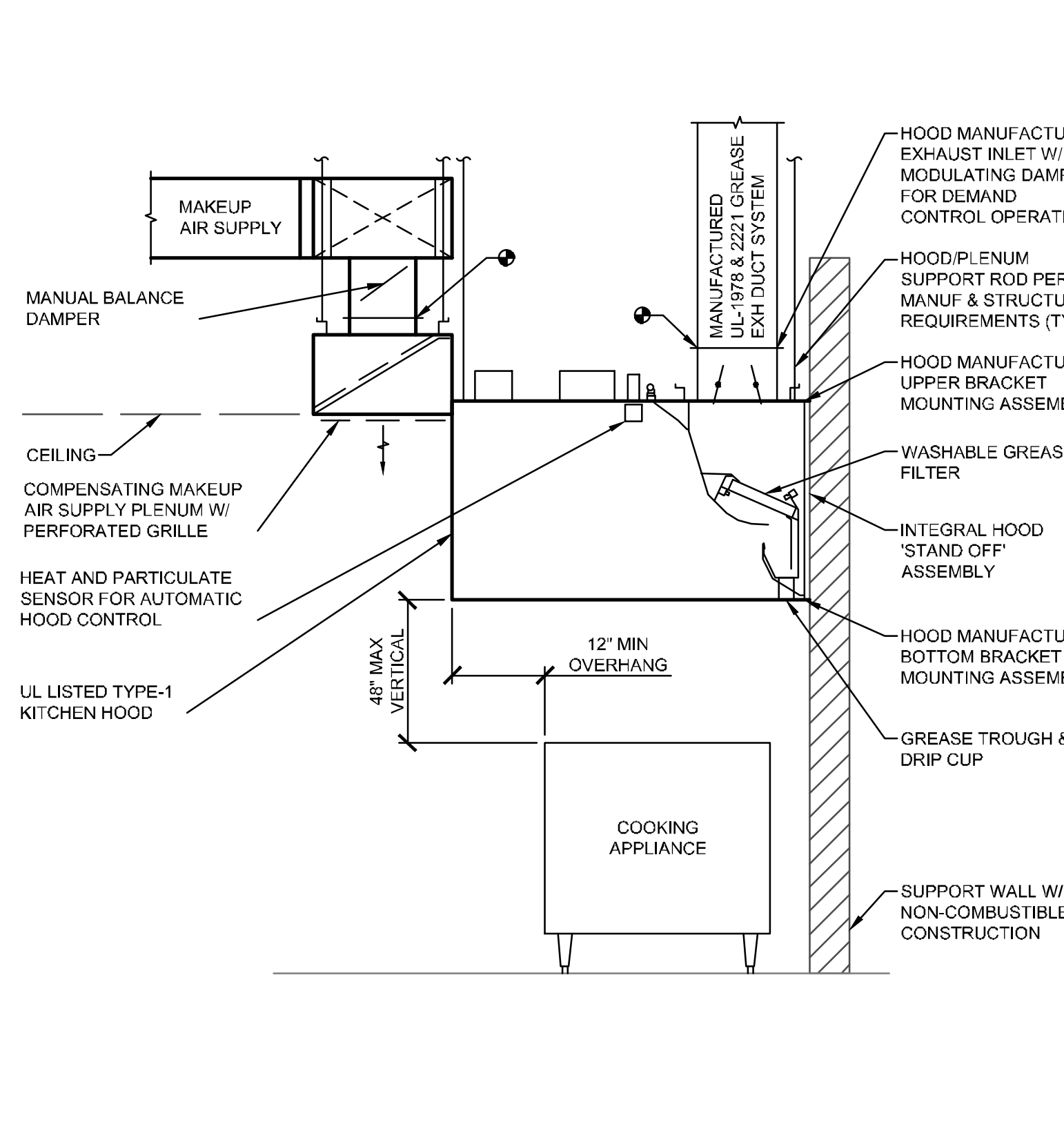
9 CEILING DIFFUSER CONNECTION
M3.0 NO SCALE



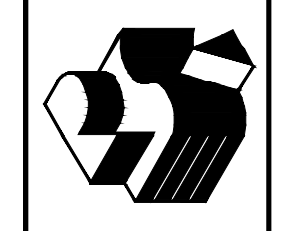
10 EXHAUST DUCTWORK AT DISHWASHER DETAIL
M3.0 NO SCALE



11 PACKAGED ROOFTOP UNIT CURB ANCHORAGE
M3.0 NO SCALE



12 CANOPY TYPE-1 GREASE EXHAUST HOOD DETAIL
M3.0 NO SCALE



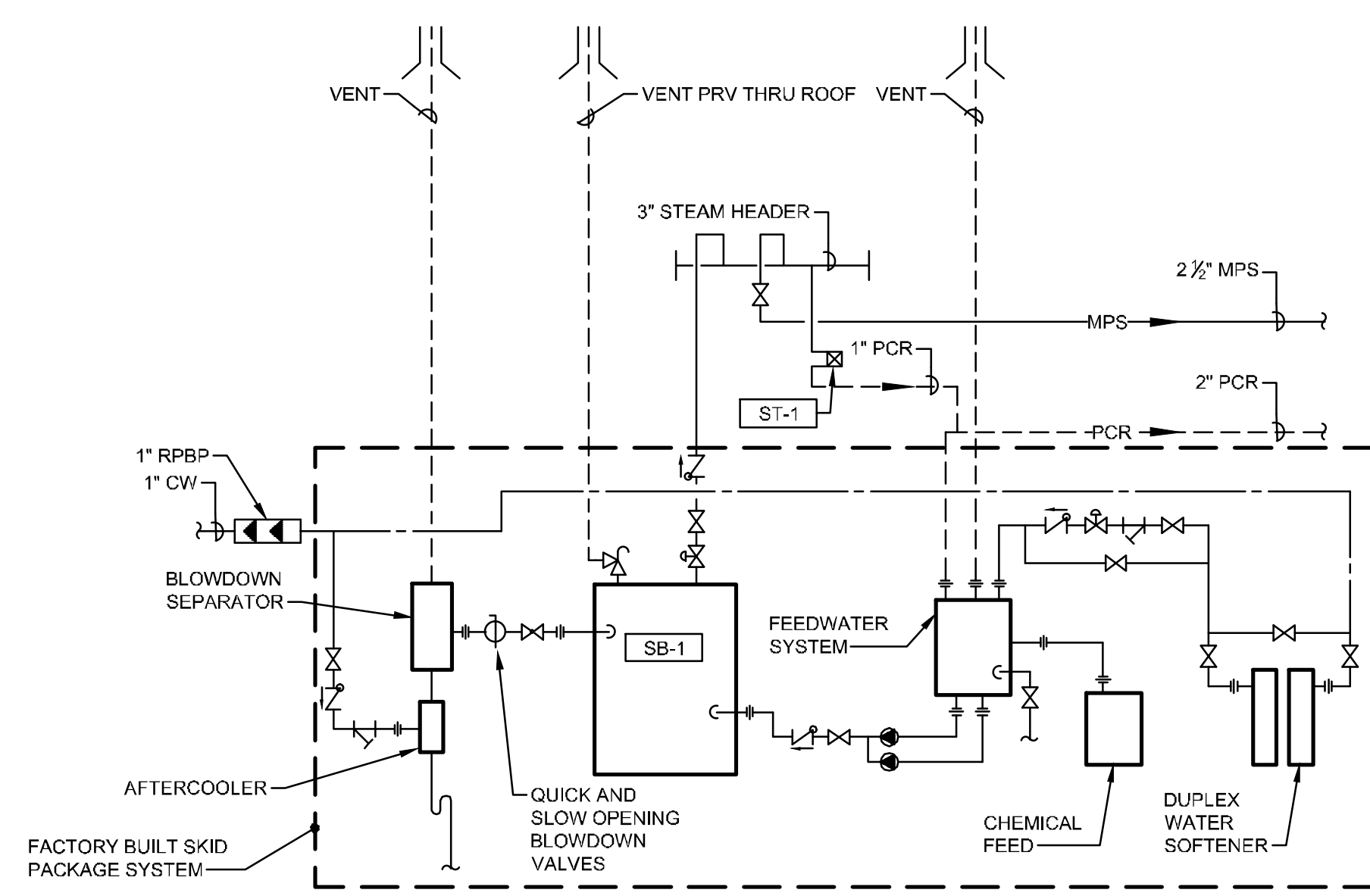
Robertson Sherwood Architects pc
www.robertsonsherwood.com
P 541 | 342-8077
F 541 | 345-3302
122 East Broadway, Suite 540
Eugene, Oregon 97401
UO Housing Central Kitchen & Woodshop
1793 Columbia Street
Eugene, OR 97403

ALLIANT
MECHANICAL SYSTEMS
1480 NW 95TH PL, STE 530
BEAVERTON, OR 97006
PHONE: 503.616-4000
FAX: 503.230-9238
WWW.ALLIANTSYSTEMS.COM
CCBA 153420

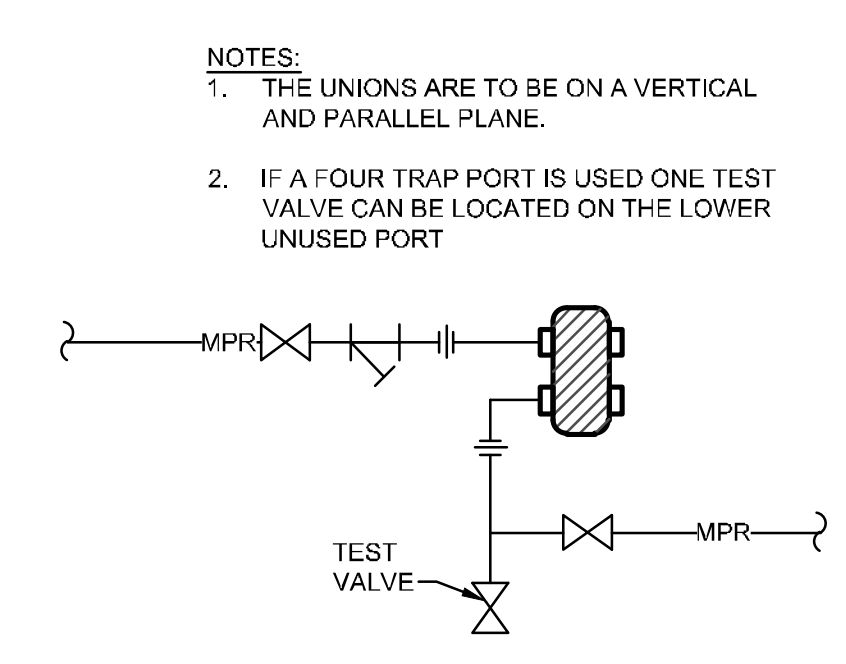
MECHANICAL
DETAILS

Drawn By: JH
Checked: NS
Date: 7 NOV 2014
Project: 1407

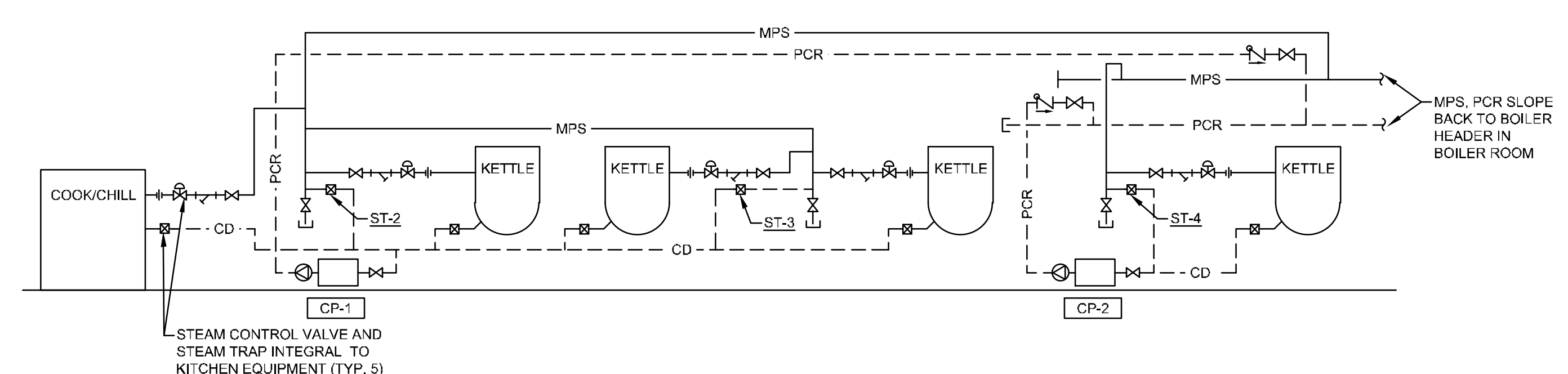
M3.1



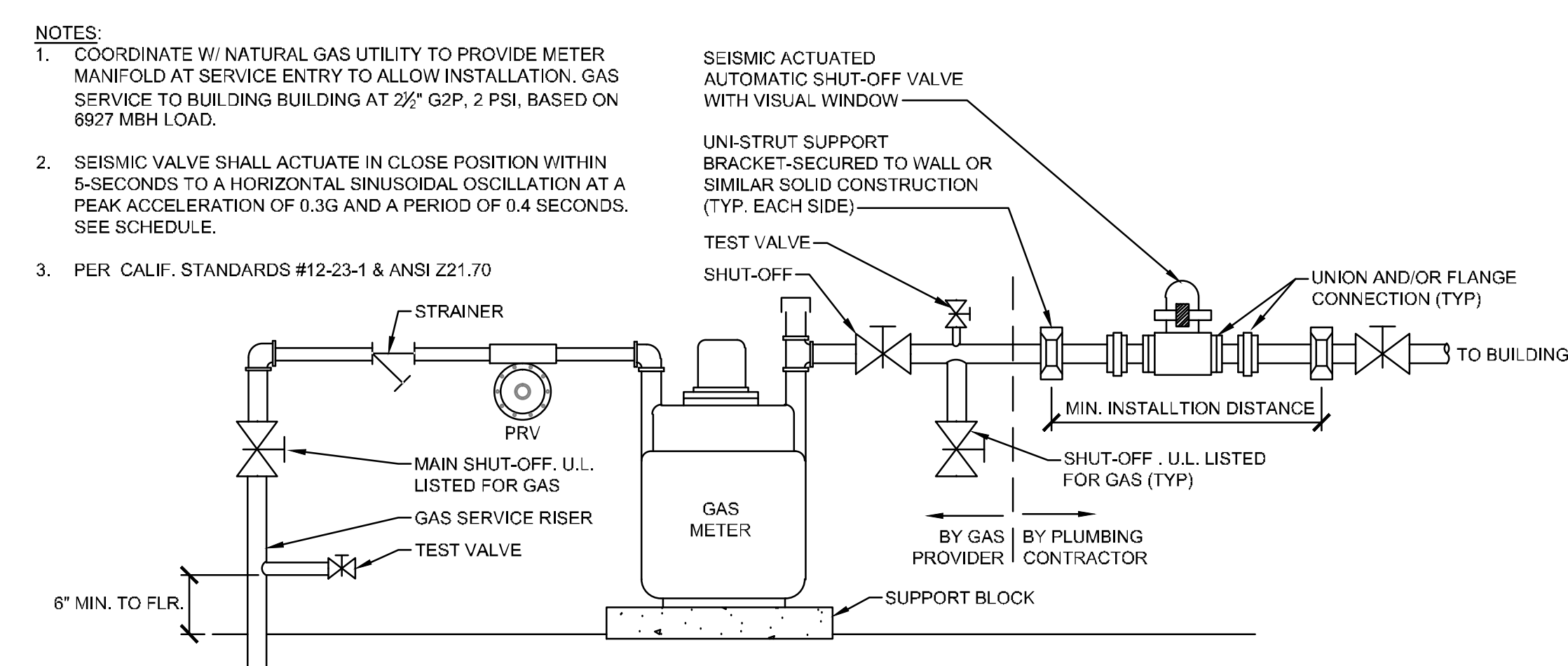
1 STEAM BOILER SYSTEM SCHEMATIC
M3.1 NO SCALE



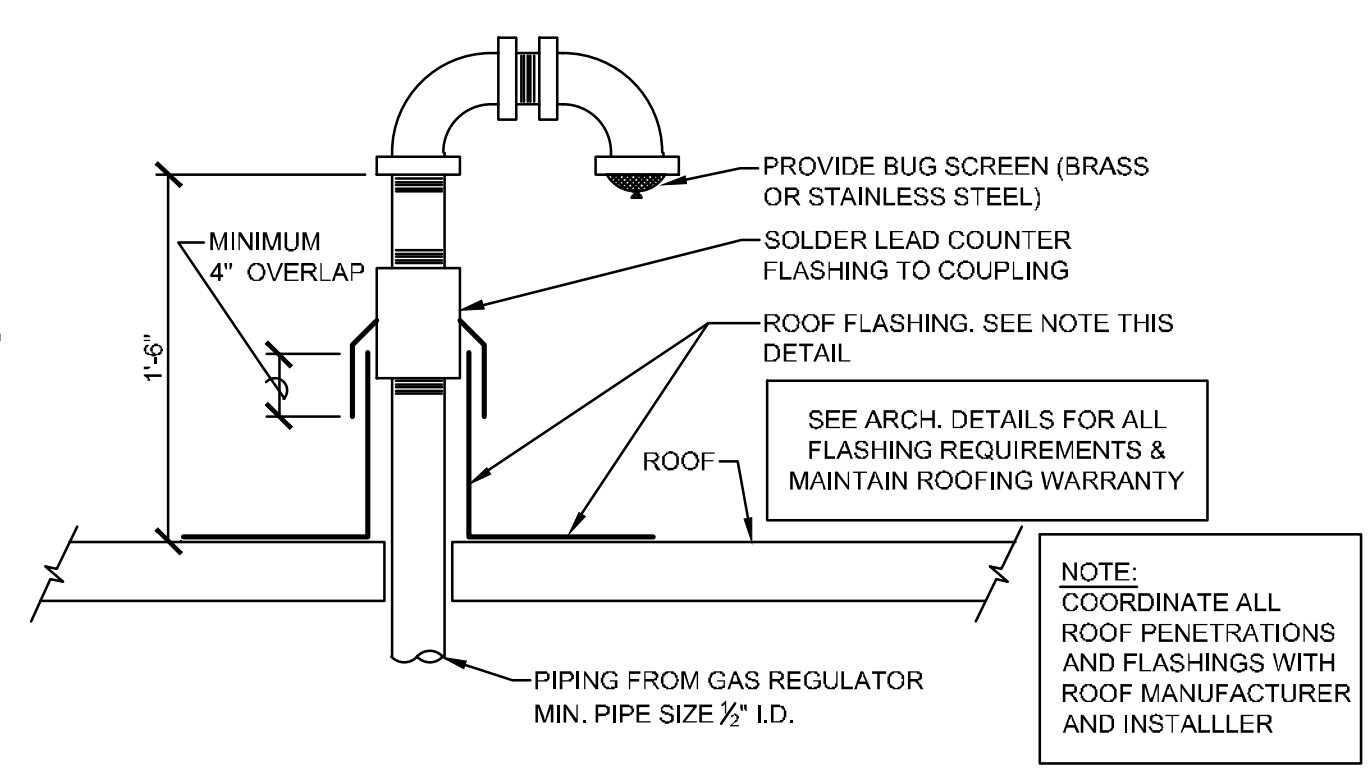
2 F & T STEAM TRAP
M3.1 NO SCALE



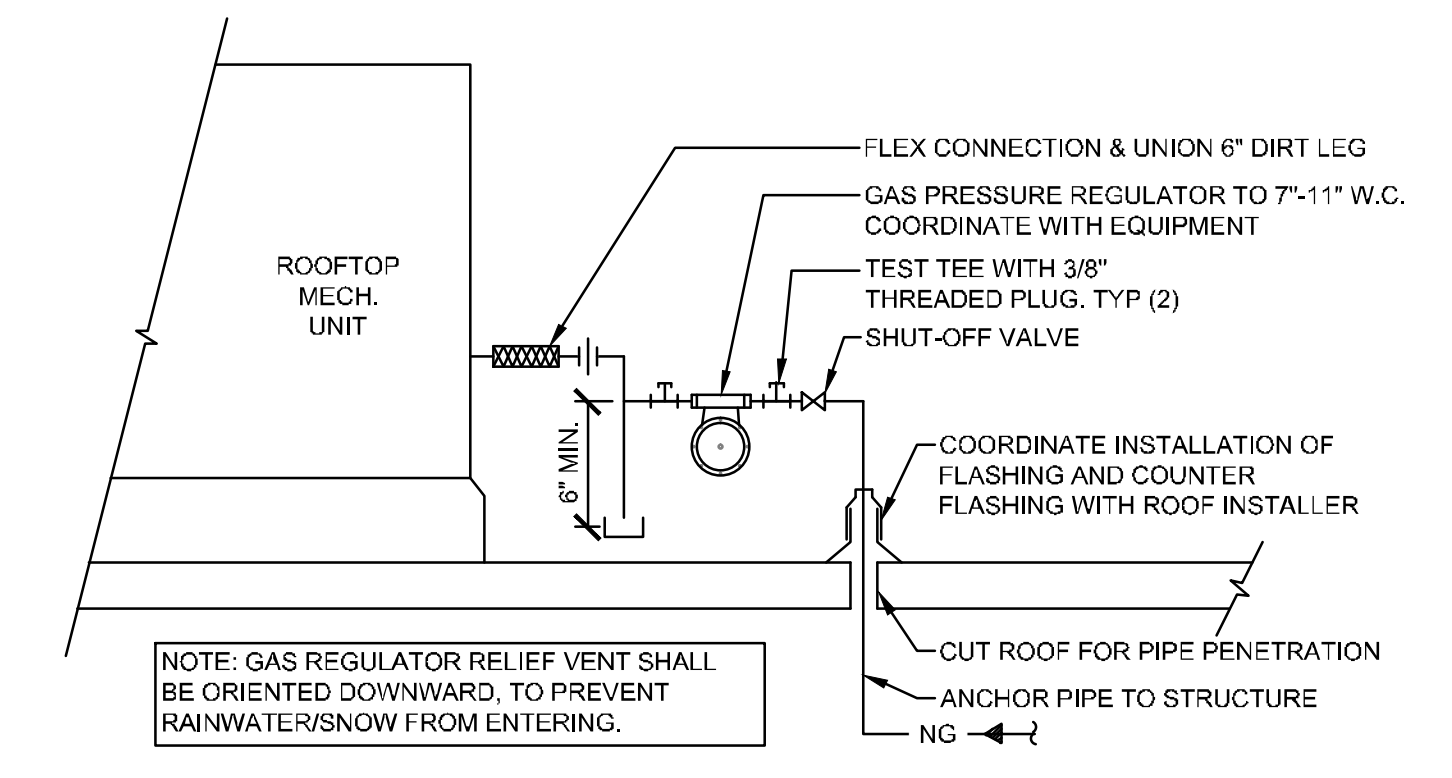
3 STEAM & CONDENSATE PIPING SCHEMATIC
M3.1 NO SCALE



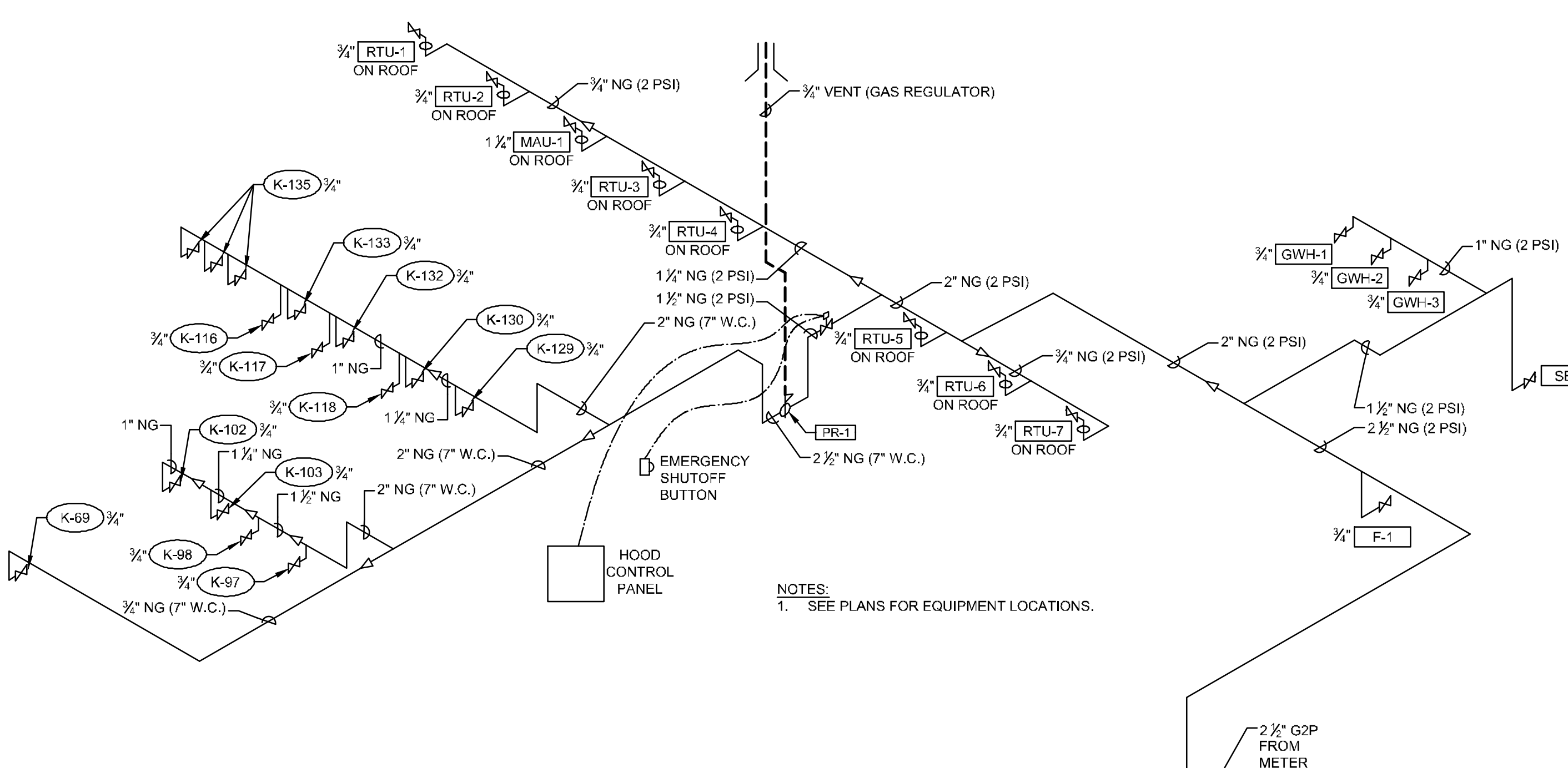
4 NATURAL GAS METER / SERVICE ENTRY
M3.1 NO SCALE



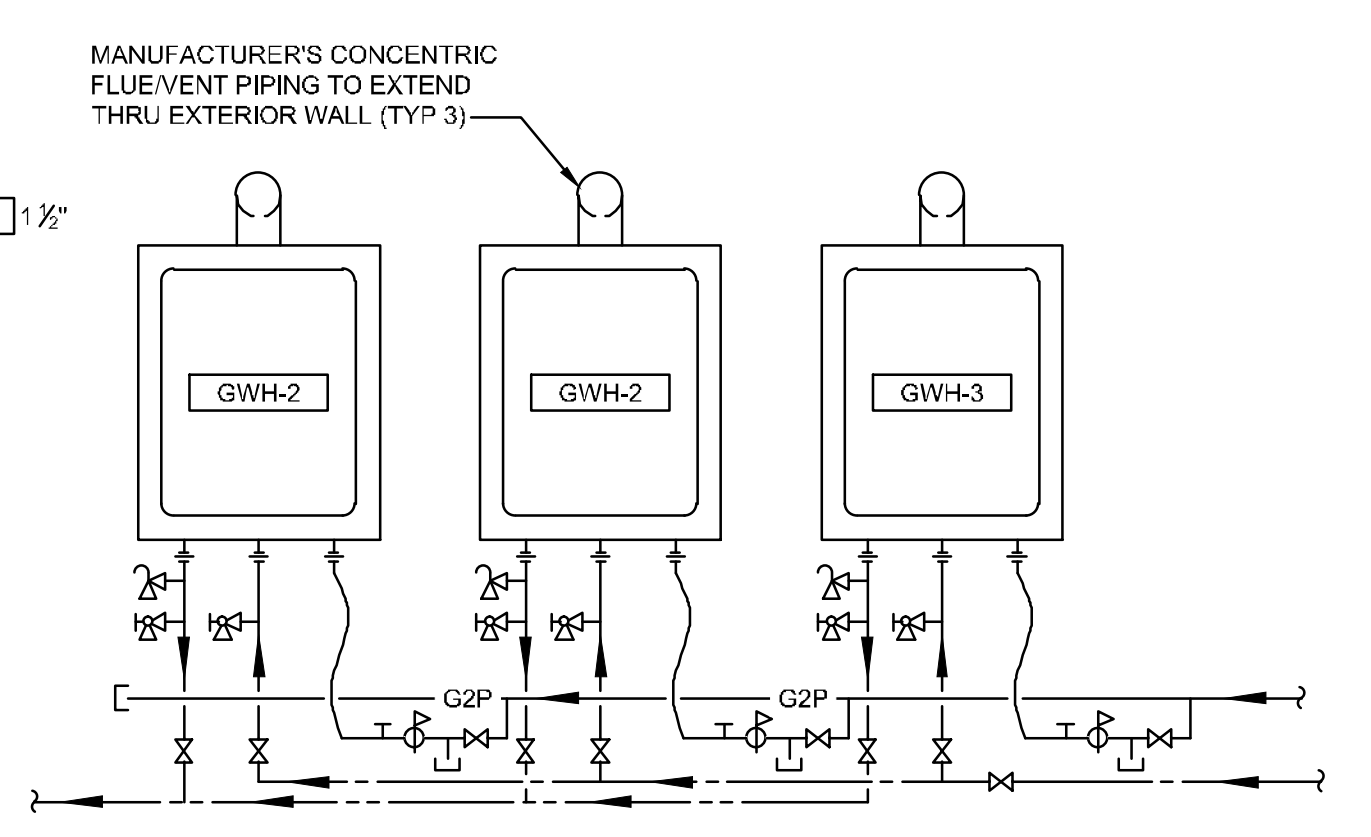
5 GAS REGULATOR VENT PIPING THRU ROOF
M3.1 NO SCALE



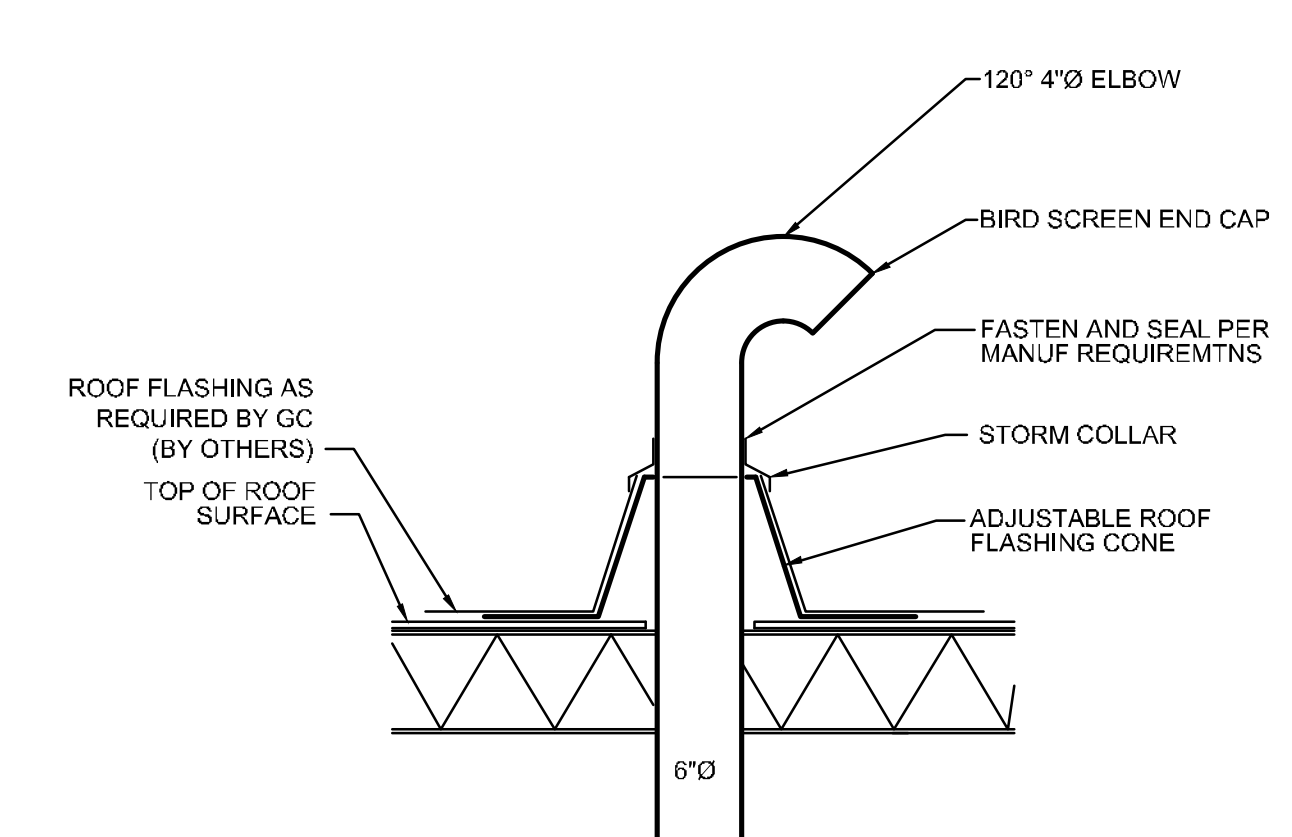
6 ROOFTOP NATURAL GAS EQUIPMENT CONNECTION
M3.1 NO SCALE



7 NATURAL GAS PIPING DIAGRAM
M3.1 NO SCALE

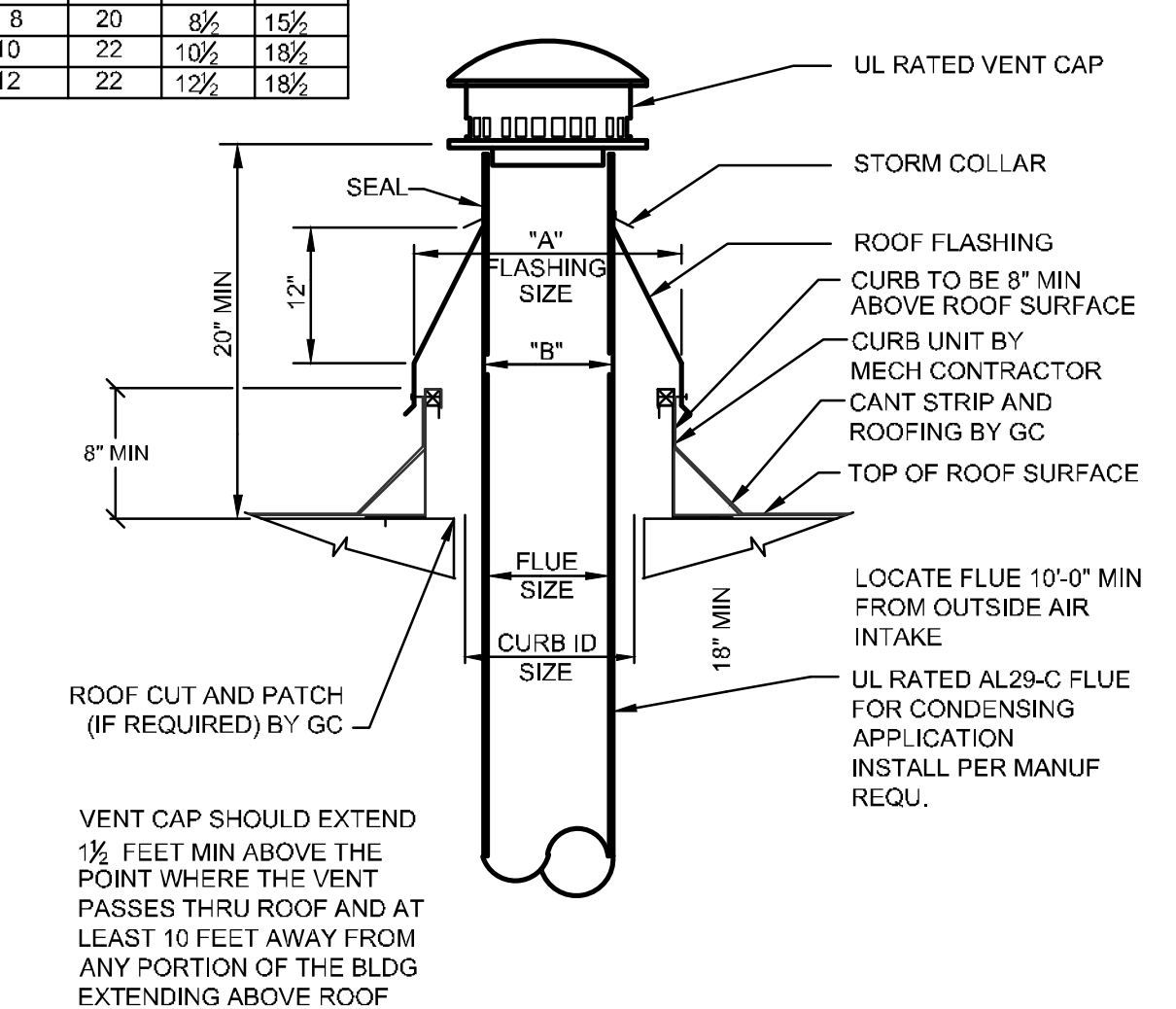


8 GAS-FIRED INSTANTANEOUS WATER HEATER PIPING DAIGRAM
M3.1 NO SCALE

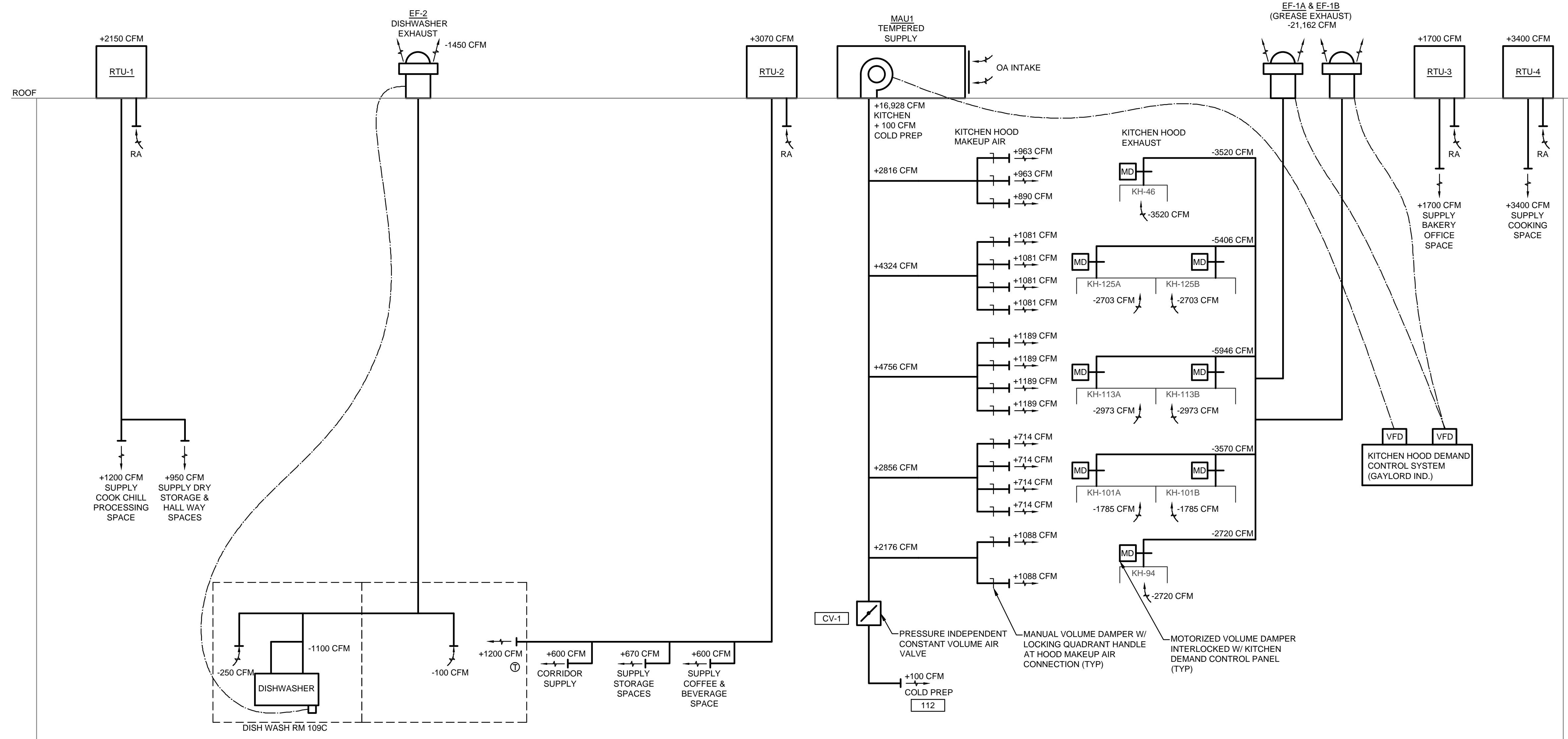


9 EXHAUST FAN FLASHING DETAIL
M3.1 NO SCALE

FLUE SIZE	"A" DIM	"B" DIM	CURB ID SIZE
4	15	4 1/2	10 1/2
5	15	5 1/2	10 1/2
6	15	6 1/2	10 1/2
7	20	7 1/2	15 1/2
8	20	8 1/2	15 1/2
10	22	10 1/2	18 1/2
12	22	12 1/2	18 1/2



10 FLUE INSTALLATION DETAIL
M3.1 NO SCALE



HVAC AIR BALANCE SUMMARY						
TAG	DESCRIPTION	TYPE-1 GREASE EXHAUST (CFM)	TYPE-2 VAPOR EXHAUST (CFM)	GENERAL EXHAUST (CFM)	TEMPERED MAKEUP AIR SUPPLY (CFM) MAU	HOUSE OA COMPONENT OF SUPPLY (CFM)
KITCHEN EXHAUST HOODS						
KH-46	TYPE-1 COMPENSATING HOOD	-3520	--	--	2816	--
KH-125A	TYPE-1 COMPENSATING HOOD	-2703	--	--	2162	--
KH-125B	TYPE-1 COMPENSATING HOOD	-2703	--	--	2162	--
KH-113A	TYPE-1 COMPENSATING HOOD	-2973	--	--	2378	--
KH-113B	TYPE-1 COMPENSATING HOOD	-2973	--	--	2378	--
KH-101A	TYPE-1 COMPENSATING HOOD	-1785	--	--	1428	--
KH-101B	TYPE-1 COMPENSATING HOOD	-1785	--	--	1428	--
KH-94	TYPE-1 COMPENSATING HOOD	-2720	--	--	2176	--
ADDITIONAL KITCHEN EXHAUST REQUIREMENTS						
BAKERY RM	BAKERY EXHAUST	--	-1000	--	--	--
DISTRIBUTED EXH	GENERALHOUSE EXHAUST	--	--	-350	--	--
WARE WASH RM	DISHWASHER EXHAUST	--	-1100	--	--	--
SUBTOTAL KITCHEN AIRFLOW REQUIREMENTS						
TYPE-1 GREASE EXHAUST		-21162	--	--	--	--
TYPE-2 VAPOR EXHAUST		--	-1100	--	--	--
GENERAL EXHAUST		--	--	-350	--	--
BAXTER OVEN EXHAUST		--	-1000	--	--	--
TEMPERED MUA SUPPLY AIR		--	--	--	16928	--
KITCHEN AIRFLOW SOURCES						
EF-1	TYPE-1 GREASE EXHAUST FOR KITCHEN HOODS	-21162	--	--	--	--
EF-2	DISHWASHER EXHAUST/GENERAL EXHAUST	--	-1450	--	--	--
EF-8/EF-2	BAXTER OVEN EXHAUST	--	-1000	--	--	--
MUA-1	TEMPERED MAKEUP AIR UNIT FOR COMPENSATING HOODS	--	--	--	16928	--
RTU-1,2, 3, 4	HOUSE HVAC (E) PACKAGED VAV ROOFTOP UNIT (10320 CFM @ MIN. 60% OA)	--	--	--	--	6690
CALCULATION: TRANSFER AIR REQUIREMENT						
TOTAL EXHAUST		-23612	CFM			
TEMPERED MAKEUP AIR (FROM MAU-1)		16928	CFM			
HOUSE OUTSIDE AIR (FROM RTU-1, 2, 3, 4)		-6684	CFM			
CALCULATION: MAKEUP AIR AS % OF KITCHEN EXHAUST						
KITCHEN EXHAUST		-21162	CFM			
MAKEUP AIR		16928	CFM			
%MAKEUP AIR					80%	

1 KITCHEN AIR FLOW SCHEMATIC
M5.0 NO SCALE

UO Central Kitchen/Woodshop - HVAC Controls Points List										
Equipment	Points Type/Description/Control System Name	INPUTS			OUTPUTS		Digital Transfer Points		Sub Totals	Other Notes
		Digital Input	Analog Input	Universal Input	Digital Output	Analog Output	BACnet Transferred Point	Modbus Transferred Point		
RTU's Typical of 7	RTU's Typical of 7 Points									
RTU	RTU enable/disable					7				
	Heating enable/disable					7				
	Cooling enable/disable					7				
	Emergency heat enable/disable					7				
	Economizer enable/disable					7				
	RTU status	7								
	Filter status	7								
	Discharge air temp		7							
	Space temp		7							
Points Count Sub-Totals	Points Count Sub-Totals	14	14	0	35	0	0	0	63	
MAU-1, EF-1 & EF-2	MAU-1, EF-1 & EF-2 Points									
MAU-1, EF-1 & EF-2	MAU start/stop					1				
	OSA damper position					1				
	EF-2 start/stop					1				
	EF-1 (Kitchen Hood) status	1								
	Dish washer door status	1								
	EF-2 Status	1								
	MAU filter status	1								
	MAU heating control							1		
	EF-2 speed							1		
	MAU space temp		1							
	MAU discharge air temp		1							
Points Count Sub-Totals	Points Count Sub-Totals	4	2	0	3	2	0	0	11	
Dust Collector	Dust Collector Points									
DC-1	DC-1 start/stop								1	
	DC-1 Status	1								
	Equipment monitoring	6								
	AC-1 status	1								
Points Count Sub-Totals	Points Count Sub-Totals	8	0	0	1	0	0	0	9	
ERC's	ERC's Points									
ERC	Space Temperature		2							
	H/C SCR Control							2		
	H/C Enable							2		
	Discharge Air temp		2							
Points Count Sub-Totals	Points Count Sub-Totals	0	4	0	2	2	0	0	8	
Heating Water System	Heating Water System Points									
Steam Boiler	HWST		1							
	HWRT		1							
	CP-1 status	1								
	HWG-1 status	1								
Points Count Sub-Totals	Points Count Sub-Totals	2	2	0	0	0	0	0	4	

UO Central Kitchen/Woodshop - HVAC Controls Points List										
Equipment	Points Type/Description/Control System Name	INPUTS			OUTPUTS		Digital Transfer Points		Sub Totals	Other Notes
		Digital Input	Analog Input	Universal Input	Digital Output	Analog Output	BACnet Transferred Point	Modbus Transferred Point		
Freezer Monitoring	Freezer Monitoring Points									
Freezer Alarm	Catering Receiving Freezer temp		1							
	Catering Receiving Cooler temp		1							
	Central Receiving Freezer temp		1							
	Central Receiving Cooler temp		1							
	Thaw Cooler temp		1							
	Central Refrigerated Finished Goods/Cold Holding temp		1							
	Central Frozen Finished Goods temp		1							
	Alcoholic Beverage Cooler temp		1							
	Central Cook Chill Bank temp		1							
	Blast Chilling temp		1							
Alarm points to security system	Catering Receiving Freezer Alarm								1	
	Catering Receiving Cooler Alarm								1	
	Central Receiving Freezer Alarm								1	
	Central Receiving Cooler Alarm								1	
	Thaw Cooler Alarm								1	
	Central Refrigerated Finished Goods/Cold Holding Alarm								1	
	Central Frozen Finished Goods Alarm								1	
	Alcoholic Beverage Cooler Alarm								1	
	Central Cook Chill Bank Alarm								1	
	Blast Chilling Alarm								1	
Points Count Sub-Totals	Points Count Sub-Totals	0	10	0	10	0	0	0	20	
EF's Typical of 5	EF's Typical of 5 Points									
EF's	EF start/stop								4	
	EF Status	4								
	EF Space Temp (EF-4 & EF-5)		2							
	Picard Oven Status	1								
Points Count Sub-Totals	Points Count Sub-Totals	5	2	0	4	0	0	0	11	
Furnaces	Furnaces Points									
Furnaces	Furnace enable/disable								1	
	Heating stage 1								1	
	Heating stage 2								1	
	OSA Damper								1	
	Furnace status	1								
	Space temp		1							
	Discharge air temp		1							
Points Count Sub-Totals	Points Count Sub-Totals	1	2	0	4	0	0	0	7	
Misc. systems/Global points	Misc. systems/Global points Points									
Misc.	OSA temp		1							
Points Count Sub-Totals	Points Count Sub-Totals	0	1	0	0	0	0	0	1	

s. 88% Robertson | Sherwood | Architects

MECHANICAL SCHEMATICS
 Drawn By: JH
 Checked: NS
 Date: 7 NOV 2014
 Project: 1407

M5.0

Robertson Sherwood Architects pc
 132 East Broadway, Suite 540
 Eugene, Oregon 97401
 P: 541 | 342-8077
 F: 541 | 345-3302
 www.robertsonsherwood.com

UO Housing Central Kitchen & Woodshop
 1793 Columbia Street
 Eugene, OR 97403

C.M.P.
 CONFORMED SET-
 Not For Construction