



GAS LOAD TABLE					
⊖	INPUT(MBH)	REQUIRED PRESSURE	REQUIRED REGULATOR	SYSTEM PRESSURE	NOTES
F-1	66	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-2	66	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-3	66	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-4	66	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-5	66	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-6	66	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-7	66	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-8	66	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-9	66	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-10	44	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-11	44	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-12	66	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-13	66	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-14	44	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-15	44	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
F-16	44	7"	MAXITROL 325-3L	2 PSI	1,2,3,5
RTU-1	260	7"	MAXITROL 325-5LB	2 PSI	1,2,4,5
TOTAL LOAD	1206 MBH				

NOTES:

- INSTALL AND VENT REGULATOR PER MANUFACTURER'S RECOMMENDATIONS.
- COORDINATE WITH MECHANICAL CONTRACTOR FOR EQUIPMENT LOCATIONS AND REQUIRED CONNECTION.
- PROVIDE INDOOR VENT LIMITER MAXITROL 12A09.
- PROVIDE EXTERIOR VENT PROTECTOR MAXITROL 13A15-5.
- GAS PIPING DESIGNED FOR PRESSURE OF 2 PSI WITH PRESSURE DROP OF 1 PSI AND TOTAL LENGTH OF 1000 FEET.

GENERAL PLUMBING NOTES	
1. THESE DRAWINGS SHALL NOT BE SCALED. SEE ARCHITECTURAL/CIVIL DRAWINGS FOR DIMENSIONAL INFORMATION. THIS ENGINEER WILL NOT BE LIABLE FOR MISCALCULATED PRODUCT TAKE-OFFS DUE TO SCALING OF DRAWINGS.	
2. ALL SANITARY PIPING SHALL HAVE A 1/8" PER FOOT SLOPE UNLESS OTHERWISE NOTED. 2" SANITARY OR SMALLER SHALL HAVE A 1/4" PER FOOT SLOPE.	
3. VALVES AND FITTINGS SHALL BE OF SAME SIZE AS THE LINE ON WHICH THEY ARE LOCATED, UNLESS OTHERWISE INDICATED ON DRAWINGS.	
4. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES.	
5. CONTRACTOR SHALL FIELD VERIFY ALL GIVEN MEASUREMENTS PRIOR TO LAYING AND CONNECTING ALL SANITARY AND WASTE PIPING AND NOTIFY ENGINEER OF ANY DISCREPANCIES.	
6. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FIRE RATING AND WEATHERPROOFING INTEGRITY OF ALL PIPING AND PENETRATIONS.	
7. ALL WATER SUPPLY AND SANITARY LINES SHALL BE RUN AS CLOSE TO PLANS AS POSSIBLE WITH NO CHANGES IN SIZING.	
8. CHANGES IN THE DIRECTION OF SANITARY DRAIN PIPING SHALL NOT BE MADE WITH FITTINGS WHICH WILL CAUSE EXCESSIVE REDUCTION IN THE VELOCITY OF FLOW OR CREATE ANY OTHER ADVERSE EFFECT UNLESS PHYSICALLY IMPOSSIBLE (I.E.: USE OF SANITARY TEE IN A HORIZONTAL CONNECTION, USE OF A DOUBLE SANITARY TEE IN A VERTICAL STACK, IN GENERAL, USE OF SHORT-RADIUS FITTINGS FOR BRANCH TO HOUSE DRAIN OR STACK CONNECTION).	
9. CONTRACTOR SHALL GIVE 48 HOURS HOUR EMERGENCY LOCATE NOTICE TO APPLICABLE UTILITY COMPANY PRIOR TO PERFORMING WORK INVOLVING UTILITIES.	
10. ALL DRAINAGE PIPING SHALL BE MARKED WITH THE SEAL OF APPROVAL OF THE NATIONAL SANITATION FOUNDATION.	
11. ROUTE ALL PIPING CONCEALED ABOVE CEILINGS, WITHIN WALLS, OR IN CHASES. PIPING EXPOSED SHALL BE SLOPED AND PAINTED TO MATCH ARCHITECTURAL FINISHES. PIPING IN MECHANICAL ROOMS MAY BE EXPOSED.	
12. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF SEWERS TO WHICH NEW SEWER LINES ARE TO BE CONNECTED BEFORE INSTALLATION OF NEW SEWER LINE.	
13. ALL VENTS THROUGH ROOF SHALL BE MIN. 10'-0" FROM ANY AIR INTAKES.	
14. CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT CONNECTIONS OF DISSIMILAR METALS.	
15. CONTRACTOR SHALL ROUGH-IN ALL WASTES AND SUPPLIES TO SPECIAL EQUIPMENT ACCORDING TO MANUFACTURER'S SHOP DRAWINGS AND MAKE FINAL CONNECTIONS. ALL SUPPLIES SHALL BE VALVED. INSTALL VACUUM BREAKERS WHERE REQUIRED BY CODE.	
16. DO NOT PENETRATE WALL FOOTINGS WITH PIPING, COORDINATE WITH GENERAL CONTRACTOR TO DROP FOOTINGS AS REQUIRED TO CLEAR PLUMBING SERVICES WHERE ABSOLUTELY NECESSARY. ALL PIPING PENETRATING A BEARING WALL OR FOOTING MUST BE SLEEVED AND LOCATION APPROVED BY STRUCTURAL ENGINEER. PROVIDE LINK-SEALS IN ALL PENETRATIONS OF EXTERIOR WALLS.	
17. ALL PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE IN PROVIDED CEILING SPACE.	
18. COORDINATE PIPING INSTALLATION AS TO NOT INTERFERE WITH HVAC EQUIPMENT ACCESS.	
19. ANY ERRORS OR AMBIGUITIES IN THE PLANS AND/OR SPECIFICATIONS THAT ARE DISCOVERED BY THE CONTRACTOR SHALL BE REPORTED TO THE ARCHITECT/ENGINEER BEFORE WORK IS STARTED. OMISSION OF PARTICULAR REFERENCE TO ANY ITEM NECESSARY FOR COMPLETE INSTALLATION AND PROPER OPERATION THEREOF SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF FURNISHING THE SAME AT NO EXTRA COST. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING ALL CONSTRUCTION DOCUMENTS FOR INFORMATION PRIOR TO BID.	
20. VERIFY WITH ARCHITECT ON ALL EQUIPMENT AND FIXTURES REQUIRING PLUMBING PRIOR TO BID. COORDINATE EXACT LOCATIONS AND CONNECTIONS.	
21. ALL WORK SHALL BE IN COMPLIANCE WITH STATE AND LOCAL CODES.	
22. CONTRACTOR SHALL PAY ALL FEES, PERMITS, LICENSES, ETC. NECESSARY FOR PROPER COMPLETION OF WORK.	
23. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.	

PLUMBING PIPING LINETYPES	
LINETYPE	DESCRIPTION
----	DEMOLITION
—G—	GAS
=====	SANITARY ABOVE GRADE
-----	SANITARY BELOW GRADE
=====	STORM ABOVE GRADE
-----	STORM BELOW GRADE
-----	VENT ABOVE GRADE
-----	VENT BELOW GRADE
=====	COLD WATER
-----	COLD WATER BELOW GRADE
=====	HOT WATER
-----	HOT WATER BELOW GRADE
-----	RECIRC WATER
-----	RECIRC WATER BELOW GRADE

PLUMBING PIPING LEGEND	
	CIRCUIT SETTER
	BALL VALVE OR SHUT-OFF VALVE
	SPRING CHECK VALVE
	END CAP
	NEW TO EXISTING PIPE CONNECTION
	FLOW DIRECTION ARROW
	NEW TO EXISTING POINT OF CONNECTION SYMBOL
	PIPE CONNECTION
	HAMMER ARRESTOR (PISTON TYPE)
	HAMMER ARRESTOR (BELLOWS TYPE)
	PIPING LINEWEIGHT: NEW/DEMOLITION
	PIPING LINEWEIGHT: EXISTING

PLUMBING ABBREVIATIONS			
AG	ABOVE GRADE	MAU	MAKE-UP AIR UNIT
ADD	ADDENDUM	MC	MECHANICAL CONTRACTOR
ADDL	ADDITIONAL	MECH	MECHANICAL
ADJ	ADJUSTABLE	MIN	MINIMUM
AFF	ABOVE FINISH FLOOR	NC	NATURAL GAS
AFG	ABOVE FINISH GRADE	NTS	NOT TO SCALE
ALT	ALTERNATE	NPCW	NON POTABLE COLD WATER
BG	BELOW GRADE	ORD	OVERFLOW ROOF DRAIN
CO	CLEANOUT	OS	OPEN SITE
COL	COLUMN	OSD	OVERFLOW STORM DRAIN
CW	COLD WATER	PC	PLUMBING CONTRACTOR
DN	DOWN	PLBG	PLUMBING
DS	DOWNSPOUT	PRES	PRESSURE
EC	ELECTRICAL CONTRACTOR	QTY	QUANTITY
ECO	EXTERIOR CLEANOUT	RD	ROOF DRAIN
EQ	EQUAL	RTU	ROOFTOP UNIT
FCO	FLOOR CLEANOUT	SAN	SANITARY
FD	FLOOR DRAIN	SCH	SCHEDULE
FLR	FLOOR	SD	STORM DRAIN
FS	FLOOR SINK	SPEC	SPECIFICATIONS
FT	FOOT (FEET)	SS	STAINLESS STEEL
F	FURNACE	TEMP	TEMPERATURE
GAL	GALLON	TYP	TYPICAL
GC	GENERAL CONTRACTOR	UR	URNAL
GPM	GALLONS PER MINUTE	V	VENT
GI	GREASE INTERCEPTOR	VTR	VENT THRU ROOF
GW	GREASE WASTE	W/	WITH
HW	HOT WATER	WCO	WALL CLEANOUT
HWR	HOT WATER RETURN	WC	WATER CLOSET

PLUMBING SHEET INDEX	
P000	PLUMBING TITLE SHEET
P100	OVERALL PLUMBING PLAN
P101	PLUMBING PLAN
P201	PLUMBING ROOF PLAN
P501	PLUMBING DETAILS



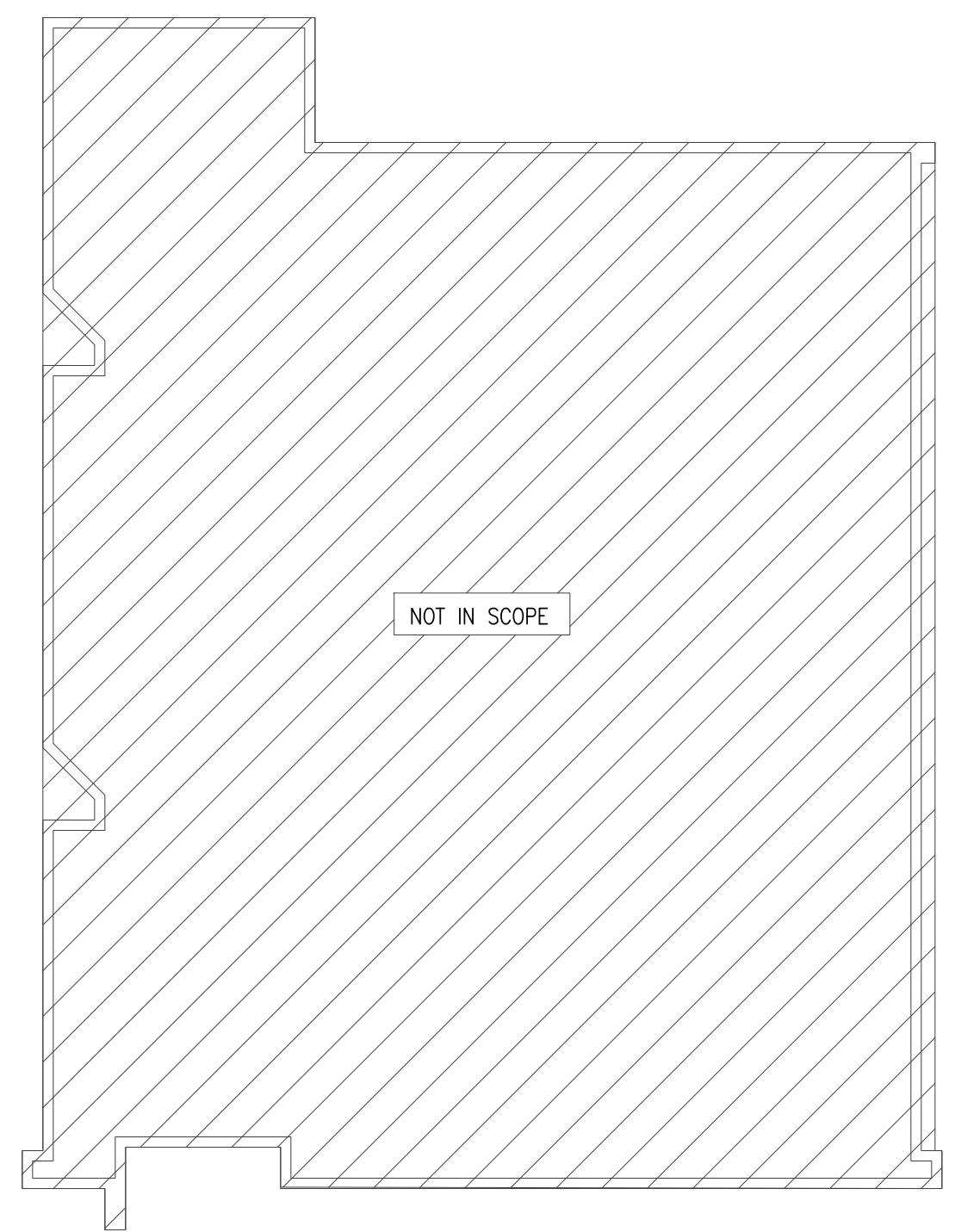
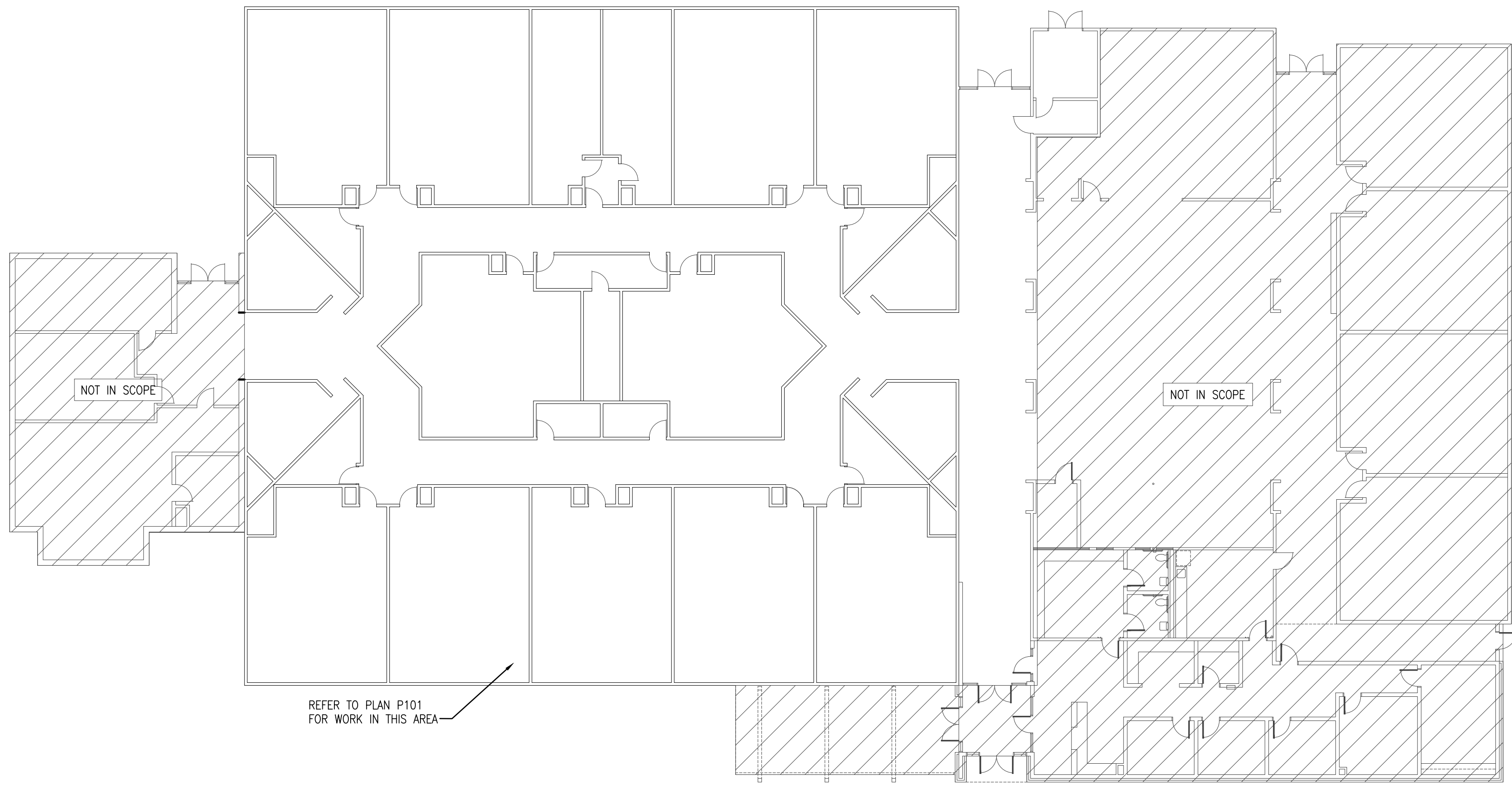
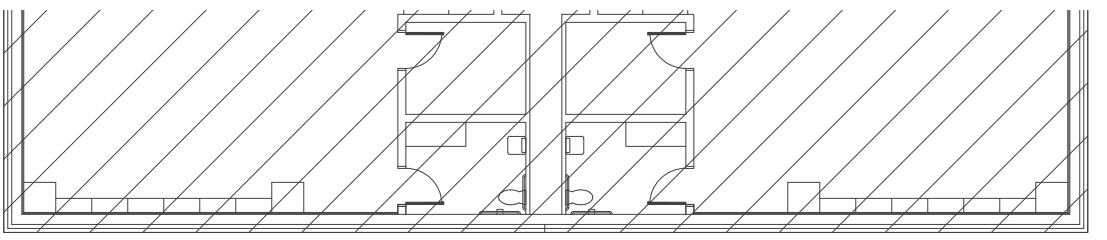
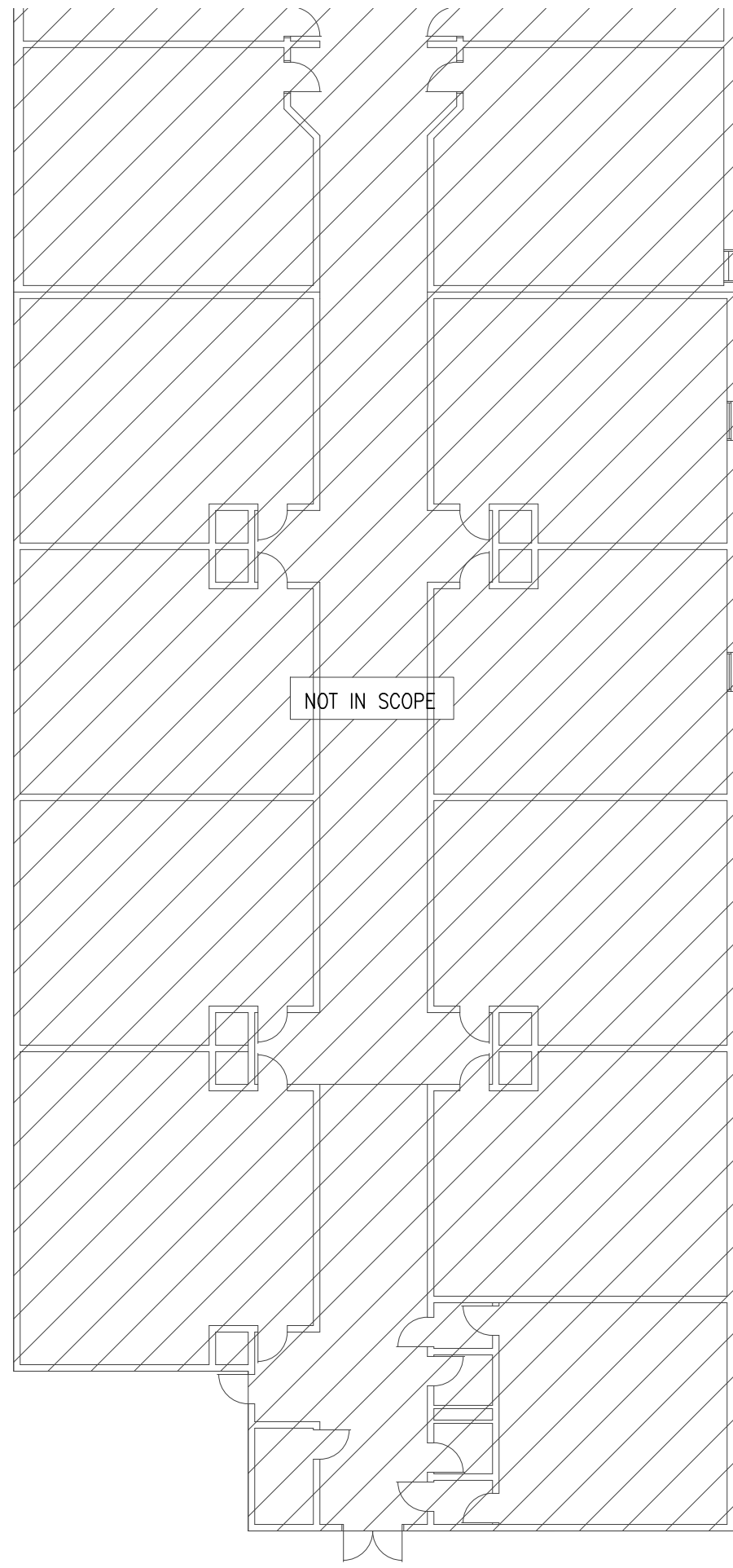
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KP	_____
checked by	_____
AUGUST 2024	_____
date	_____
revisions	_____
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## HOUCHIN ELEMENTARY HVAC UPGRADE

sheet no:  
**P100**

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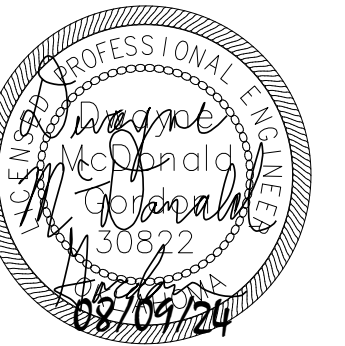


# 1 OVERALL PLUMBING PLAN

SCALE: 1/16" = 1'-0"



**Salas O'Brien**  
2900 S. Telephone Road, Suite 120  
Moore, OK 73160  
Salas O'Brien Registration: CA# 7058  
Expiration Date: 6/30/2025  
Salas O'Brien Project Number: 2024-03104-00



KS	drawn by
KP	checked by
AUGUST 2024	date
	revisions



HOUCHIN ELEMENTARY  
HVAC UPGRADE

sheet no:

## P101

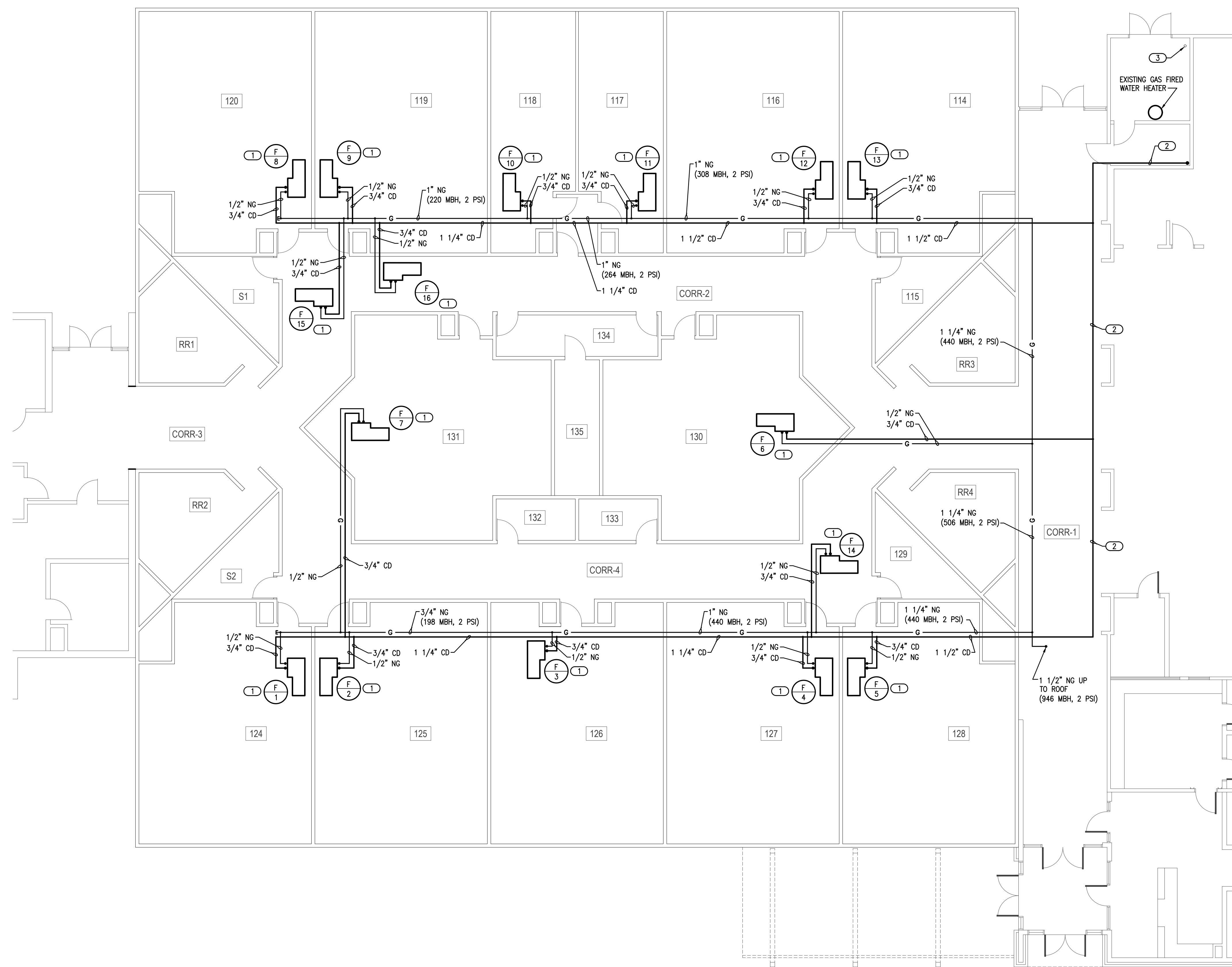
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### GENERAL NOTES

- COORDINATE WORK WITH ALL OTHER TRADES ON SITE.
- FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
- SUPPORT PIPING PER LOCAL PLUMBING CODES.
- INSULATE ALL CONDENSATE PIPING.

### KEYED NOTES

- INSTALL 1/2" NATURAL GAS (2 PSI) TO FURNACE WITH SHUTOFF VALVE, DRIP LEG, PRESSURE REGULATOR AND FINAL UNIT CONNECTION. ROUGH-IN AND COORDINATE FINAL CONNECTION WITH MC. SEE DETAIL 2/P501.
- REMOVE EXISTING CONDENSATE DRAIN LINE AND REPLACE WITH NEW CD LINE. FIELD VERIFY ROUTING.
- REMOVE GAS PIPING FROM BOILER AND CAP PIPE AFTER BRANCH CONNECTION TO EXISTING WATER HEATER. EXISTING WATER HEATER GAS SERVICE TO REMAIN IN SERVICE.

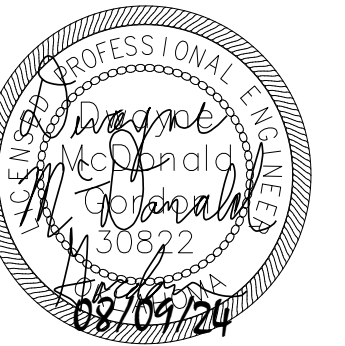


## 1 PLUMBING PLAN

SCALE: 1/8" = 1'-0"



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Salas O'Brien Registration: CA# 7058  
Expiration Date: 6/30/2025  
Salas O'Brien Project Number: 2024-03104-00

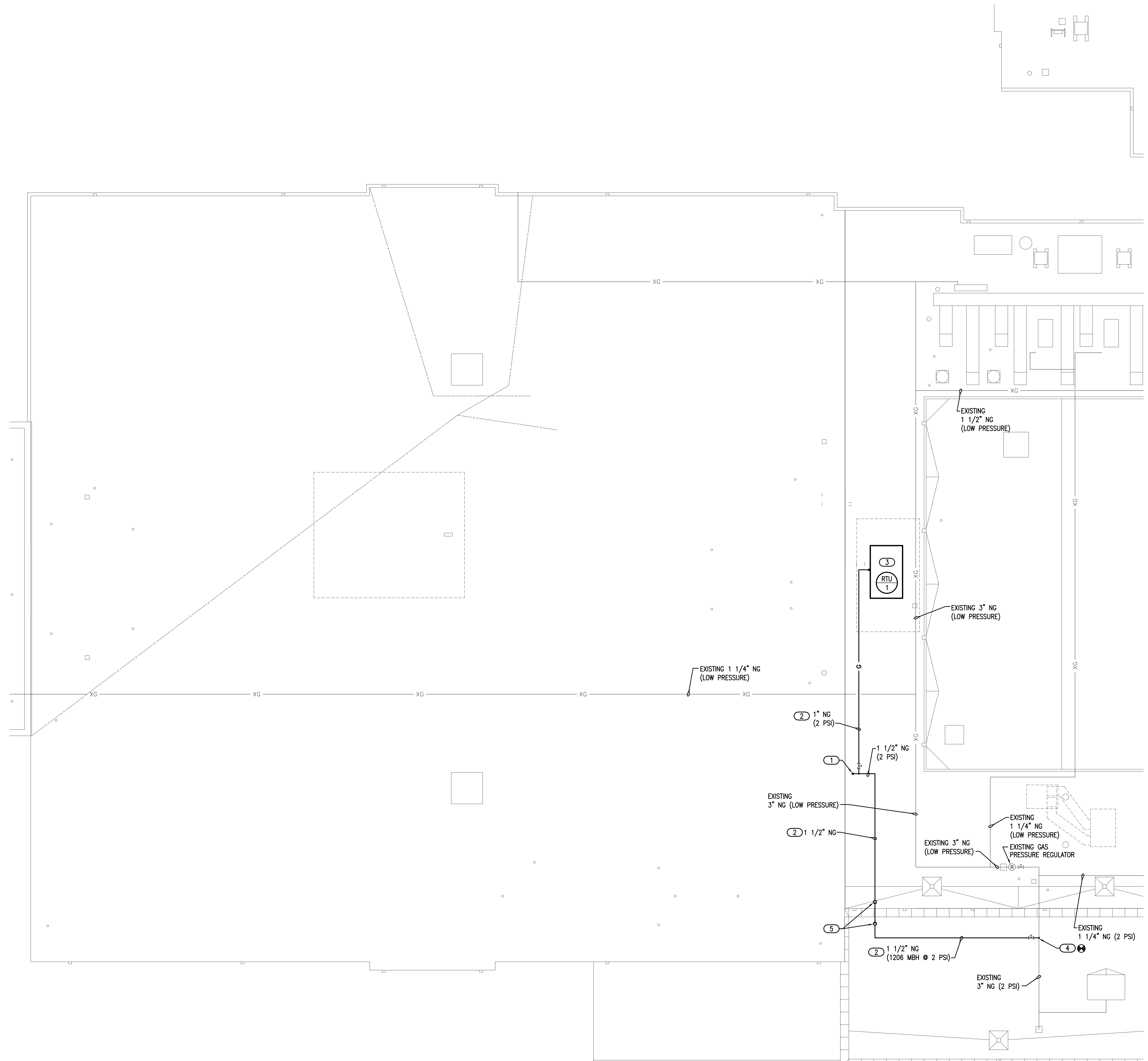


**GENERAL NOTES**

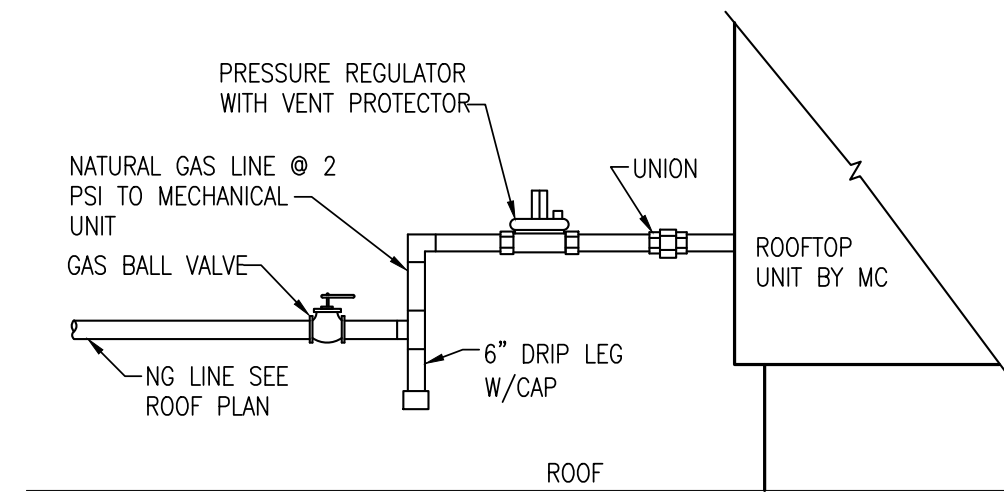
- COORDINATE WORK WITH ALL TRADES ON SITE.
- FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
- ALL ABOVE GRADE EXTERIOR NATURAL GAS PIPE SHALL BE CLEANED AND DEGREASED PRIOR TO BEING PRIMED THEN PAINTED YELLOW WITH WEATHER RESISTANT ZINC RICH PAINT.
- PIPE IDENTIFICATION SHALL BE THE WORD "NATURAL GAS" IN BLACK LETTERS AT 5 FT INTERVALS USING PLASTIC PIPE MARKERS OR STENCILED PAINTED LETTERS.
- ALL GAS PIPE SHALL COMPLY WITH IFGC. BRANCH LINES SHALL TAP OFF TOP OF GAS MAINS AND INSTALL SHUT-OFF VALVE ON BRANCH LINE.
- MAINTAIN MINIMUM OF 10'-0" CLEAR BETWEEN EXHAUST AND INTAKE VENTS WITH MECHANICAL EQUIPMENT AND OTHER ROOF OPENINGS.

**KEYED NOTES**

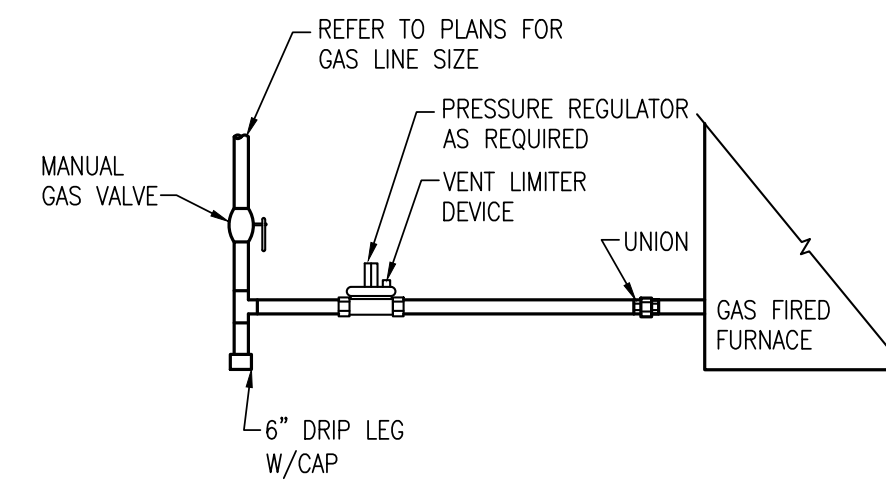
- ROUTE NEW 1 1/2" NATURAL GAS LINE (2 PSI) DOWN THRU ROOF. PROVIDE NEW BOOT JACK AT ROOF PENETRATION AND SEAL WATERTIGHT. COORDINATE INSTALLATION WITH ROOFING CONTRACTOR. SEE PLAN P101 FOR CONTINUATION.
- ROUTE NATURAL GAS LINE (2 PSI) ON ROOF. PROVIDE MIRO INDUSTRIES MODEL 3-RAH-7 ROOF TOP SUPPORTS OR APPROVED EQUAL. INSTALL AT MAXIMUM OF 10'-0" APART (CENTER TO CENTER) ON ALL 1 1/4" NATURAL GAS PIPING OR LARGER. INSTALL AT 8'-0" APART ON 1" OR 3/4" NATURAL GAS PIPING. INSTALL AT 6'-0" APART ON 1/2" NATURAL GAS PIPING. REFER TO GENERAL NOTES FOR PAINTING GAS LINE. SEE PIPE SUPPORT DETAIL 1/P501.
- INSTALL 1" NATURAL GAS (260 MBH, 2 PSI) LINE TO ROOFTOP UNIT. PROVIDE SHUTOFF VALVE, PRESSURE REGULATOR, DRIP LEG AND FINAL UNIT CONNECTION. ROUGH-IN AND COORDINATE FINAL CONNECTION WITH MC. SEE DETAIL 3/P501.
- CONNECT NEW 1 1/2" NATURAL GAS LINE (2 PSI) INTO TOP OF EXISTING 3" NATURAL GAS LINE @ 2 PSI. INSTALL GAS BALL VALVE IN NEW 1 1/2" GAS LINE. FIELD VERIFY CONNECTION POINT.
- ROUTE NATURAL GAS LINE OVER ROOF PARAPET. FIELD VERIFY ROUTING.



- NOTES:**
1. INSTALL PRESSURE REGULATOR PER MANUFACTURERS RECOMMENDATIONS. PROVIDE GAS REGULATOR VENT PROTECTOR. REFER TO GAS LOAD TABLE FOR REGULATOR SIZE.
  2. PROVIDE ROOF PIPE SUPPORTS FOR NATURAL GAS PIPING.
  3. PIPING ABOVE GRADE SHALL BE SCHEDULE 40 BLACK IRON. REFER TO SPECIFICATIONS FOR PAINTING PIPING YELLOW.
  4. COORDINATE FINAL CONNECTION TO UNIT WITH MC.

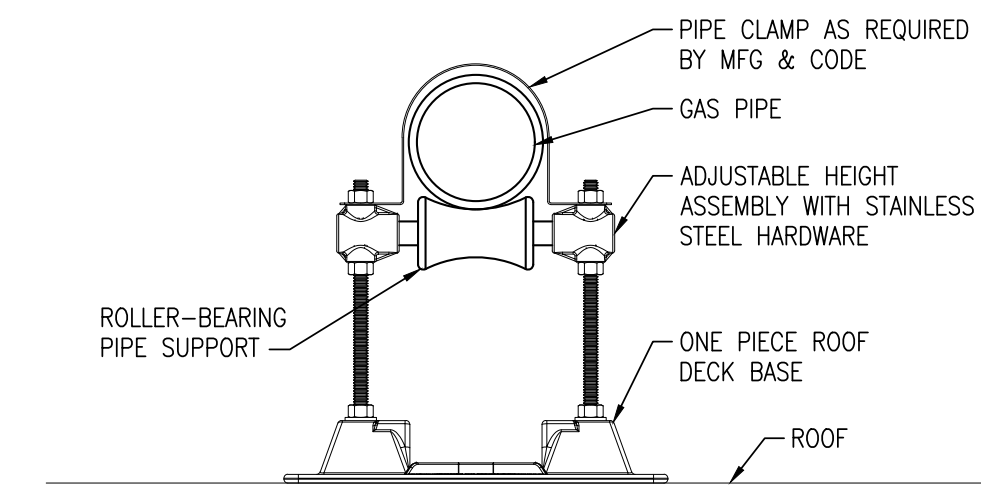
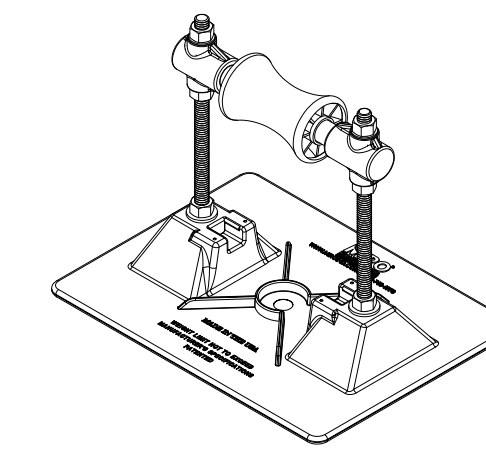


**3** ROOFTOP UNIT GAS CONNECTION DETAIL  
NOT TO SCALE



- NOTES:**
1. VENT GAS REGULATOR RELIEF TO ATMOSPHERE OR PROVIDE APPROVED VENT LIMITING DEVICE AS REQUIRED.
  2. COORDINATE FINAL CONNECTION TO UNIT WITH MC.

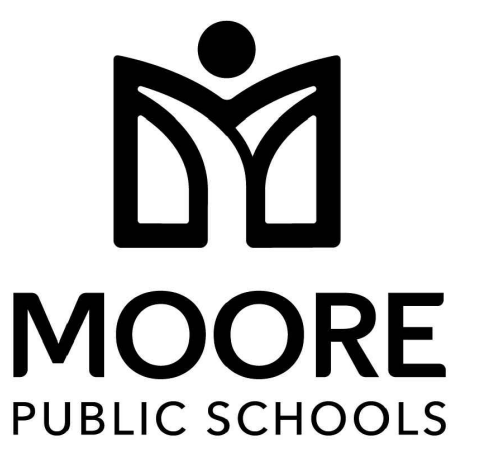
**2** FURNACE GAS CONNECTION DETAIL  
NOT TO SCALE



**1** ROOF PIPE SUPPORT DETAIL  
NOT TO SCALE



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KP  
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revisions



HOUCHIN ELEMENTARY  
HVAC UPGRADE

sheet no:

**P501**

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