

ISSUED FOR	DATE
PERMITS	7-15-25

ARCHITECTURAL
DESIGN

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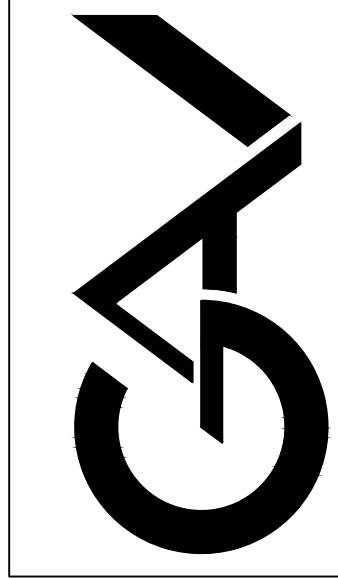
G.A.V. ASSOCIATES, INC

24091 ORCHARD LAKE RD., STE. 100A

FARMINGTON, MICHIGAN 48336

PH: (248) 985-9101

WEB: WWW.GAVASSOCIATES.COM



ADDITIONS AND RENOVATIONS TO:

ISLAMIC ASSOC. OF GREATER DETROIT

879 WEST AUBURN ROAD

ROCHESTER HILLS, MICHIGAN

DRAWN: J.K.

DESIGNED: J.K.

CHECKED: J.M.

SCALE :

FILE NAME : M.000

JOB #: 25025

SHEET TITLE

MECHANICAL

LEGEND, SYMBOLS

& SHEET INDEX

SHEET #

M.000



ABBREVIATIONS

A.L.	ACOUSTICAL LINING
B.V.	BALANCING VALVE
C.D.	CEILING DIFFUSER
C.F.M.	CUBIC FEET PER MINUTE
C.I.	CAST IRON
C.O.	CLEAN OUT
DPR.	DAMPER
D.F.	DRINKING FOUNTAIN
D.W.S.	DRINKING WATER SUPPLY
D.W.R.	DRINKING WATER RETURN
E.F.	EXHAUST FAN
ER-#	EXHAUST REGISTER
EW.C	ELECTRIC WATER COOLER
F.D.	FLOOR DRAIN
F.DPR.	FIRE DAMPER
H.B.	HOSE BIBB
H.O.	HUB OUTLET
I.E.	INVERT ELEVATION
I.W.	INDIRECT WASTE
LAV.	LAVATORY
LD-#	LINEAR SUPPLY AIR DIFFUSER
LR-#	LINEAR RETURN AIR DIFUSER
O.A.	OUTSIDE AIR
O.B.D.	OPPOSED BLADE DAMPER
O.E.D.	OPEN END DUCT
P.H.	PHYSICAL HANDICAPPED
P.REL.V.	PRESSURE RELIEF VALVE
P-1	PUMP #1
R.A.	RETURN AIR
R.C.	RAIN CONDUCTOR
RG -#	RETURN AIR GRILLE
R.P.B.P.	REDUCED PRESSURE BACKFLOW PREVENTER
RR-#	RETURN AIR REGISTER
R.S.	ROOF SUMP
S.A.	SUPPLY AIR
SD-#	SUPPLY DIFFUSER
SR-#	SUPPLY REGISTER
SAN.	SANITARY
S.S.	SERVICE SINK
ST.	STORM
S.W.S.	SAFE WASTE SINK
T.A.D.	TRANSFER AIR DUCT
T.W.	TEMPERED WATER
U/GRD.	UNDERGROUND
U.H.	UNIT HEATER
UR.	URINAL
V.	VENT
V.T.R.	VENT THRU ROOF
V.V.B.	VARIABLE VOLUME AIR TERMINAL BOX
W.C.	WATER CLOSET
W.H.	WATER HEATER
W.	WASTE

PLUMBING & PIPING SYMBOLS

	DOMESTIC COLD WATER (C.W.)
	DOMESTIC HOT WATER (H.W.)
	DOMESTIC HOT WATER RETURN (H.W.R.)
	NATURAL GAS
	SANITARY SEWER-UNDER GROUND
	SANITARY SEWER-ABOVE GROUND
	FLOOR CLEAN-OUT
	WALL CLEAN-OUT
	STORM SEWER
	VENT
	GATE VALVE
	CHECK VALVE
	BALANCING VALVE
	THERMOMETER
	STRAINER
	UNION
	FLEXIBLE CONNECTOR
	BALL VALVE
	NEW CONNECTION
	VALVE
	GLOBE VALVE
	NEEDLE VALVE
	GAS COCK VALVE
	VALVE WITH HANDWHEEL
	MODULATING VALVE
	DAMPER
	STOP CHECK STRAIGHT VALVE
	CHECK VALVE
	PNEUMATIC CONTROL VALVE
	PRESSURE REGULATOR
	BACK PRESSURE REGULATOR
	DIFFERENTIAL REGULATOR
	SOLENOID VALVE (NORM. OPEN)
	SOLENOID VALVE (NORM. CLOSED)
	MOTOR ACTUATOR BALL VALVE
	PRESSURE GAUGE TO MATCH EXISTING
	TURBINE FLOW METER
	FLEX COUPLING (2 FT MIN)
	SPARK PLUG
	PUMP
	STEAM TRAP
	CURRENT / PNEUMATIC POSITIONER
	ELECTRIC MOTOR / ACTUATOR
	INSTRUMENT - NON-ACCESSIBLE

GENERAL MECHANICAL NOTES:

- COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSULATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- ALL NEW MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
- NEW MECHANICAL EQUIPMENTS, DUCTWORK, AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
- INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
- OVERHEAD HANGERS AND SUPPORTERS FOR EQUIPMENT, DUCTWORK, AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
- COORDINATE LOCATION OF EQUIPMENT SUPPORTERS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
- SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS, AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL, AND DUCT INSTALLATION REQUIREMENTS.
- ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS, AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
- LOCATE AND SET THERMOSTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECTS PRIOR TO INSTALLATION. INSTALL DEVICES WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. MECHANICAL CONTROLS CONTRACTOR SHALL INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 16. AT A MINIMUM, PROVIDE CONDUIT IN THE WALL FROM THE JUNCTION BOX TO 6" ABOVE THE CEILING.
- COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH PRESENTATION BOARD, DISPLAY CABINETS, SHELVES, OR OTHER COMPONENTS SHOWN ON THE ARCHITECTURAL DRAWINGS THAT ARE TO BE INSTALLED UNDER OTHER DIVISIONS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.
- PROVIDE A MANUAL BALANCING DAMPER IN EACH BRANCH DUCT TAKEOFF FROM MAIN SUPPLY, RETURN, AND EXHAUST AIR DUCTS.

H.V.A.C. SYMBOLS

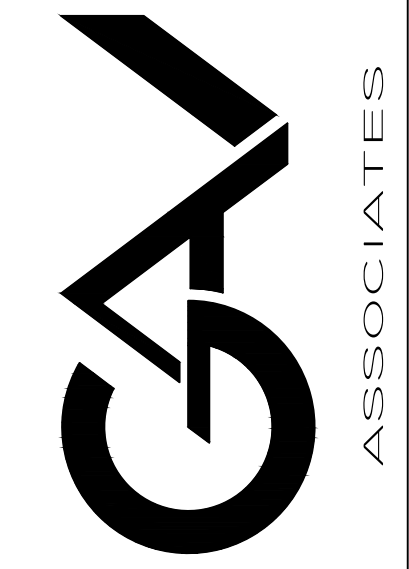
	SPIN-IN FITTING W/DAMPER
	FLEXIBLE DUCT
	RETURN AIR GRILLE
	SUPPLY AIR DIFFUSER
	HORIZONTAL FIRE DAMPER
	VERTICAL FIRE DAMPER
	RADIANT TYPE DIFFUSERS IN GYP. BD. CEILING AREA
	VOLUME DAMPER
	RECTANGULAR TO ROUND TRANSITION
	THERMOSTAT
	DAMPER

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DRAWN:	DESIGNED:	CHECKED:
J.K.	J.K.	J.M.

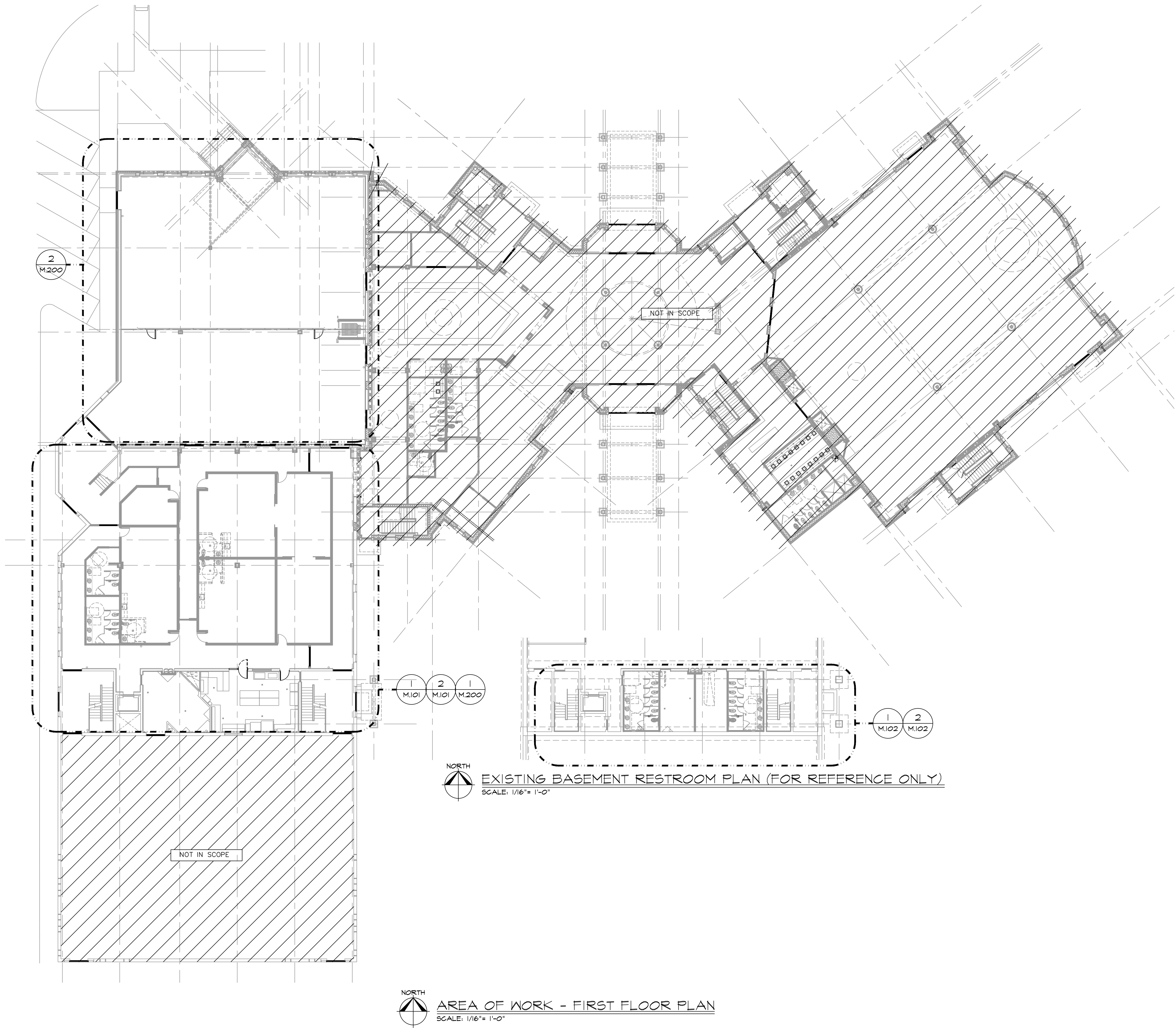
SCALE :

FILE NAME : M.100

JOB # : 25025

SHEET TITLE
AREA OF WORK
- FIRST FLOOR
PLAN
SHEET #

M.100



PLUMBING GENERAL NOTES:

1. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE TO OBSERVE THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.

2. PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE ARCHITECT REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS, REFER TO SPECIFICATIONS.

3. PROVIDE TO THE ARCHITECT A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS, REFER TO SPECIFICATIONS.

4. INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

5. PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.

6. VERIFY LOCATION AND DEPTH OF UTILITIES AT POINTS OF CONNECTION BEFORE START OF PIPING INSTALLATION.
7. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.

8. DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.

9. INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE. INSTALL EXPOSED PIPING TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS.

10. VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.

11. PIPING IN FINISHED AREAS SHALL BE ROUTED CONCEALED; EXPOSED PIPING, WHERE NECESSARY, SHALL BE ROUTED AS HIGH AS POSSIBLE AND TIGHT TO WALLS.

12. INSTALL NO PLASTIC PIPE OF ANY KIND ABOVE SLAB INSIDE THE BUILDING. INSTALL NO PLASTIC PIPE IN THE CEILING RETURN AIR PLENUM ONLY CODE APPROVED PIPING WITH FLAME SPREAD AND SMOKE DEVELOPED INDICES WHEN TESTED ACCORDING TO ASTM E 84 OR UL 723 IS ALLOWED.

13. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.

14. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
15. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 25' MINIMUM CLEARANCE FROM ALL AIR INTAKES. MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT.

16. PROVIDE "HEAVY-DUTY" NO-HUB COUPLINGS ON SANITARY PIPING 3" AND LARGER, SOIL STACKS 4" AND LARGER AND CONNECTIONS TO SOIL STACKS. SEE DIVISION 22 SPECIFICATION SECTION "SANITARY DRAINAGE AND VENT AND PIPING SPECIALTIES" FOR MORE INFORMATION.

17. PROVIDE TRANSITION ADAPTER COUPLINGS FOR CONNECTION OF PVC DWV TO CAST IRON SANITARY, WASTE, AND VENT PIPE AT SLAB ON GRADE. SEE DIVISION 22 SPECIFICATION SECTION "SANITARY DRAINAGE AND VENT PIPING AND SPECIALTIES" FOR MORE INFORMATION.

18. VERIFY EXISTING EQUIPMENT, INCLUDING ACCESSORIES, IS NOT DAMAGED AND IS IN GOOD WORKING ORDER. REPORT ANY DEFICIENCIES TO THE ARCHITECT.

19. INSULATE LAST 25 LINEAL FEET OF NEW AND EXISTING VENT PIPING INSIDE BUILDING PER SPECIFICATIONS AT VENT THRU ROOF PENETRATIONS WITHIN SCOPE.

20. RUN SANITARY LINE WITH 1/8" SLOPE.



MEP Engineers LLC

Mechanical | Electrical | Plumbing | Energy

380 North Main Street

Clawson, MI 48017

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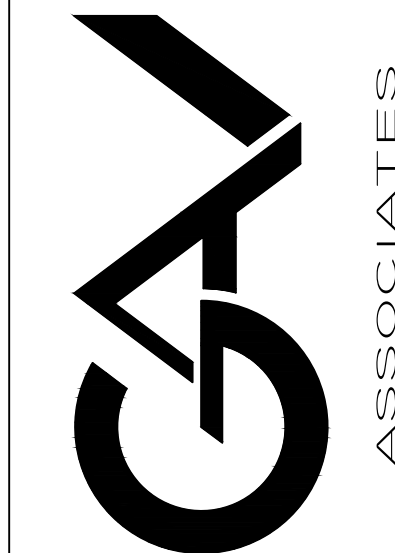
Web: www.mepmi.com Email: mep@mepmi.com

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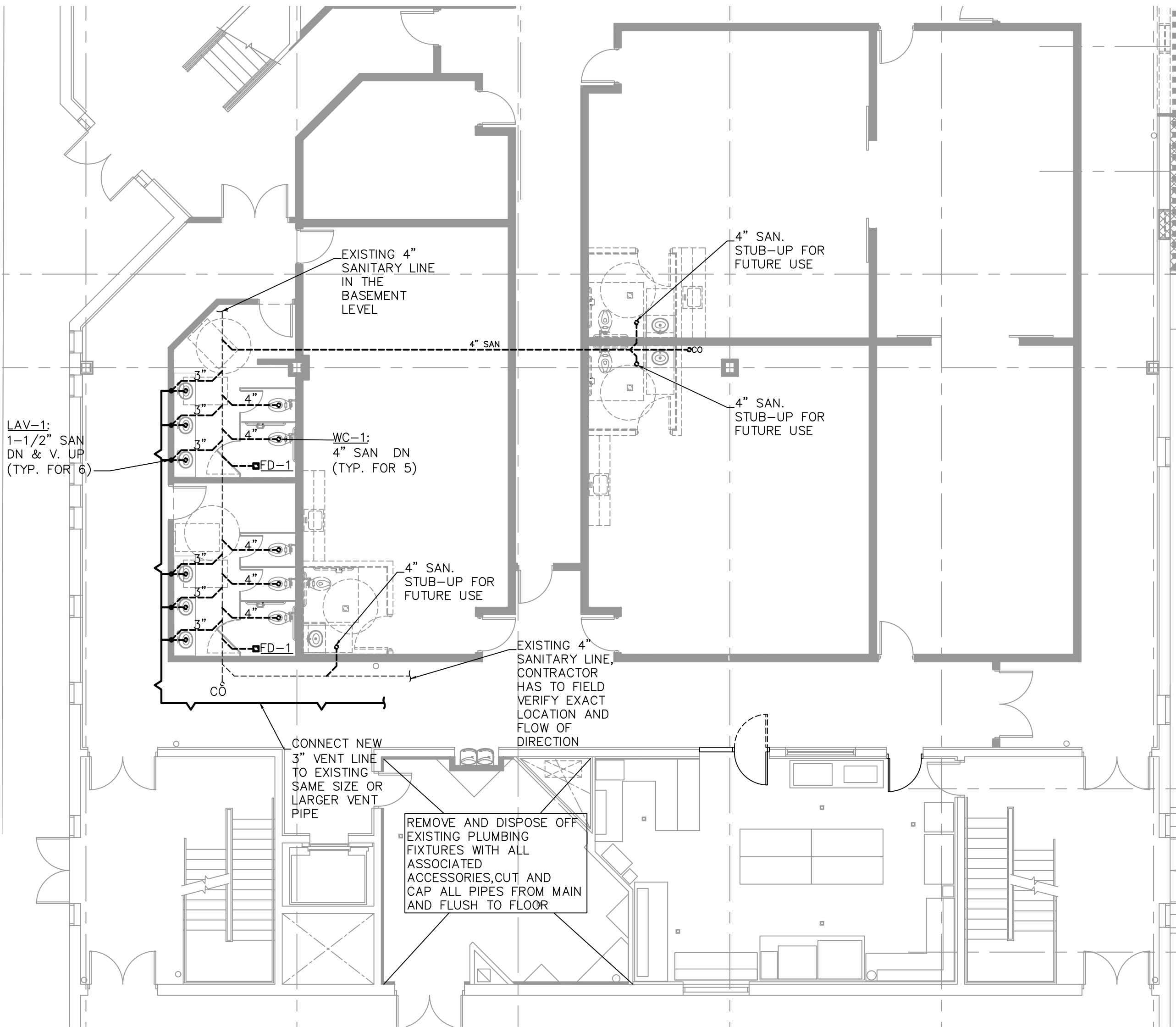
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ROCHESTER HILLS, MICHIGAN

DRAWN: J.K. DESIGNED: J.K. CHECKED: J.M.

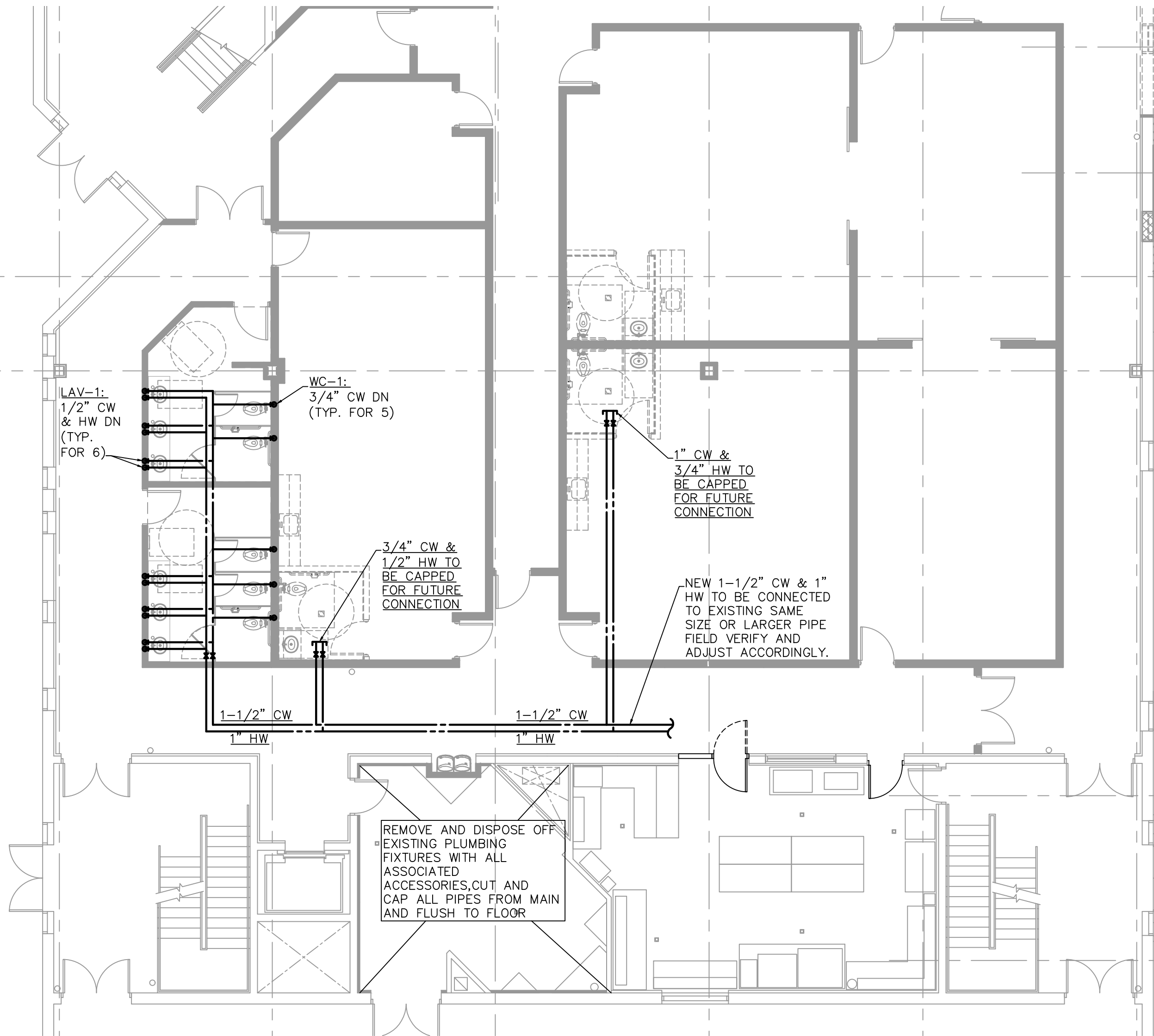
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JOB # : 25025

SHEET TITLE
ENLARGED PLUMBING FLOOR PLAN
SHEET #
M.I.OI



NORTH
1
M.I.OI
ENLARGED SANITARY & VENT PLUMBING FIRST FLOOR PLAN
SCALE: 1/8"= 1'-0"

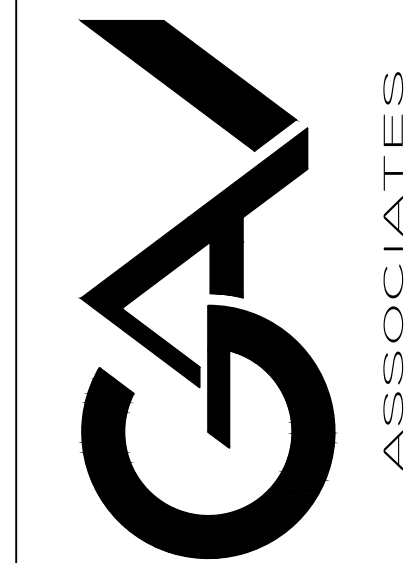


NORTH
2
M.I.OI
ENLARGED DOMESTIC WATER PIPING FIRST FLOOR PLAN
SCALE: 1/8"= 1'-0"

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DRAWN:	DESIGNED:	CHECKED:
J.K.	J.K.	J.M.

SCALE :

FILE NAME : M.102

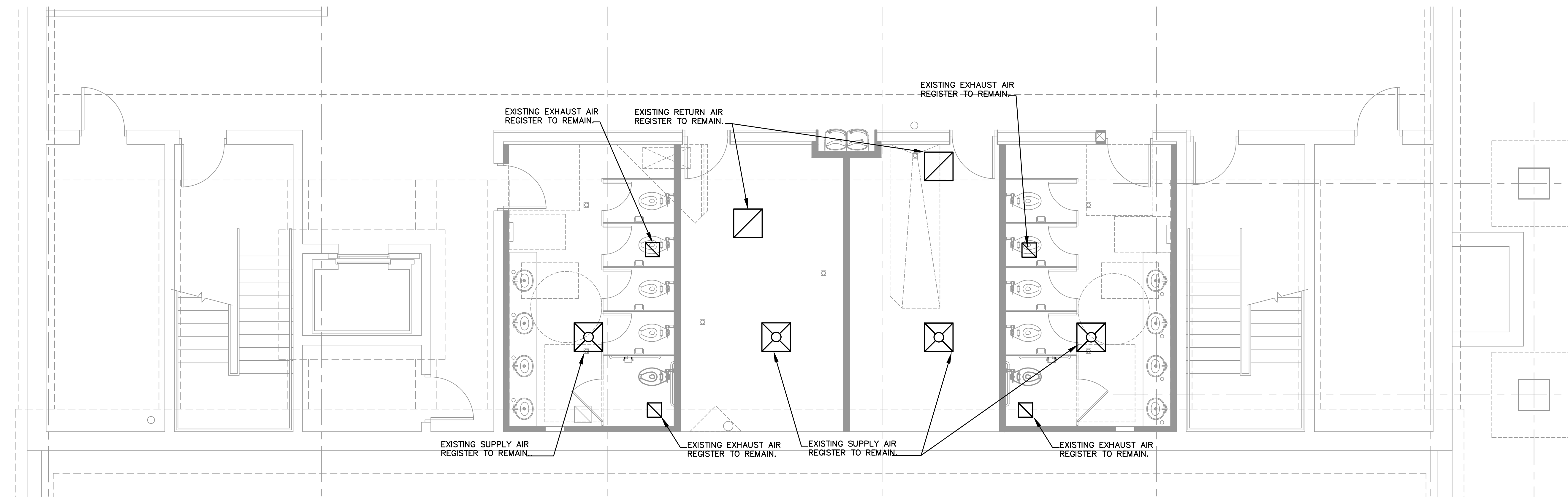
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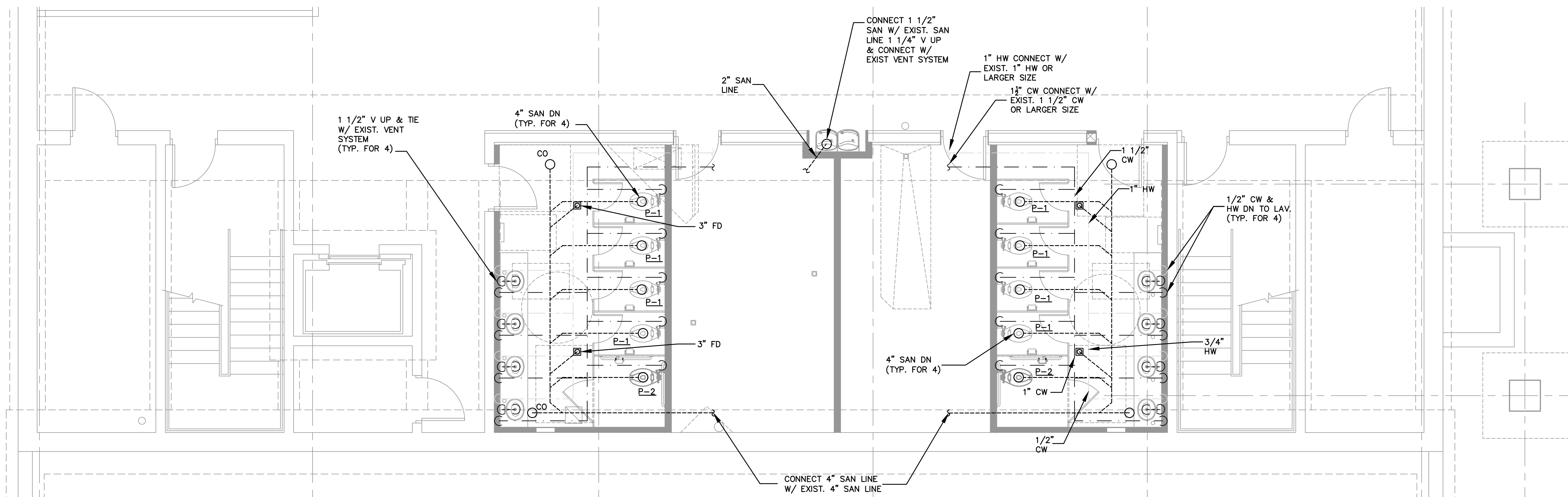
PARTIAL EX. MECH. /
PLUMB. BASEMENT
PLAN (FOR REF. ONLY)

SHEET #

M.102



PARTIAL EXISTING HVAC BASEMENT FLOOR PLAN (FOR REFERENCE ONLY)
SCALE: 1/4" = 1'-0"



PARTIAL EXISTING PLUMBING BASEMENT FLOOR PLAN (FOR REFERENCE ONLY)
SCALE: 1/4" = 1'-0"

MECHANICAL GENERAL NOTES:

1. COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.

2. ALL NEW MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.

3. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.

4. OVERHEAD HANGERS AND SUPPORTERS FOR EQUIPMENT, DUCTWORK, AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.

5. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.

6. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS, AND GRILLES WITH THE SUPPLIER TO
- MEET THE CEILING, WALL, AND DUCT INSTALLATION REQUIREMENTS.

7. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS, AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.

8. PROVIDE A PREFABRICATED RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES.

9. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.

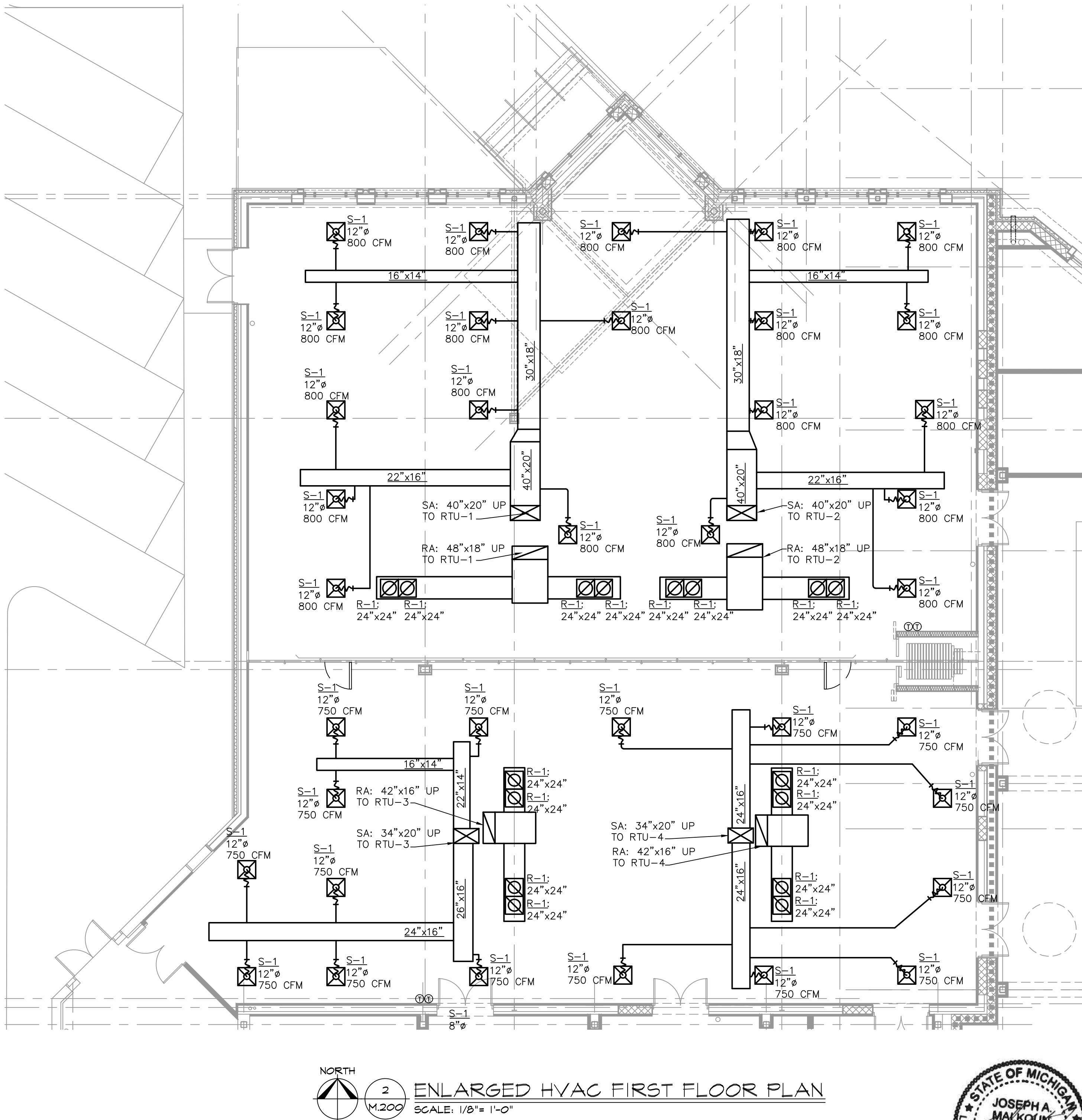
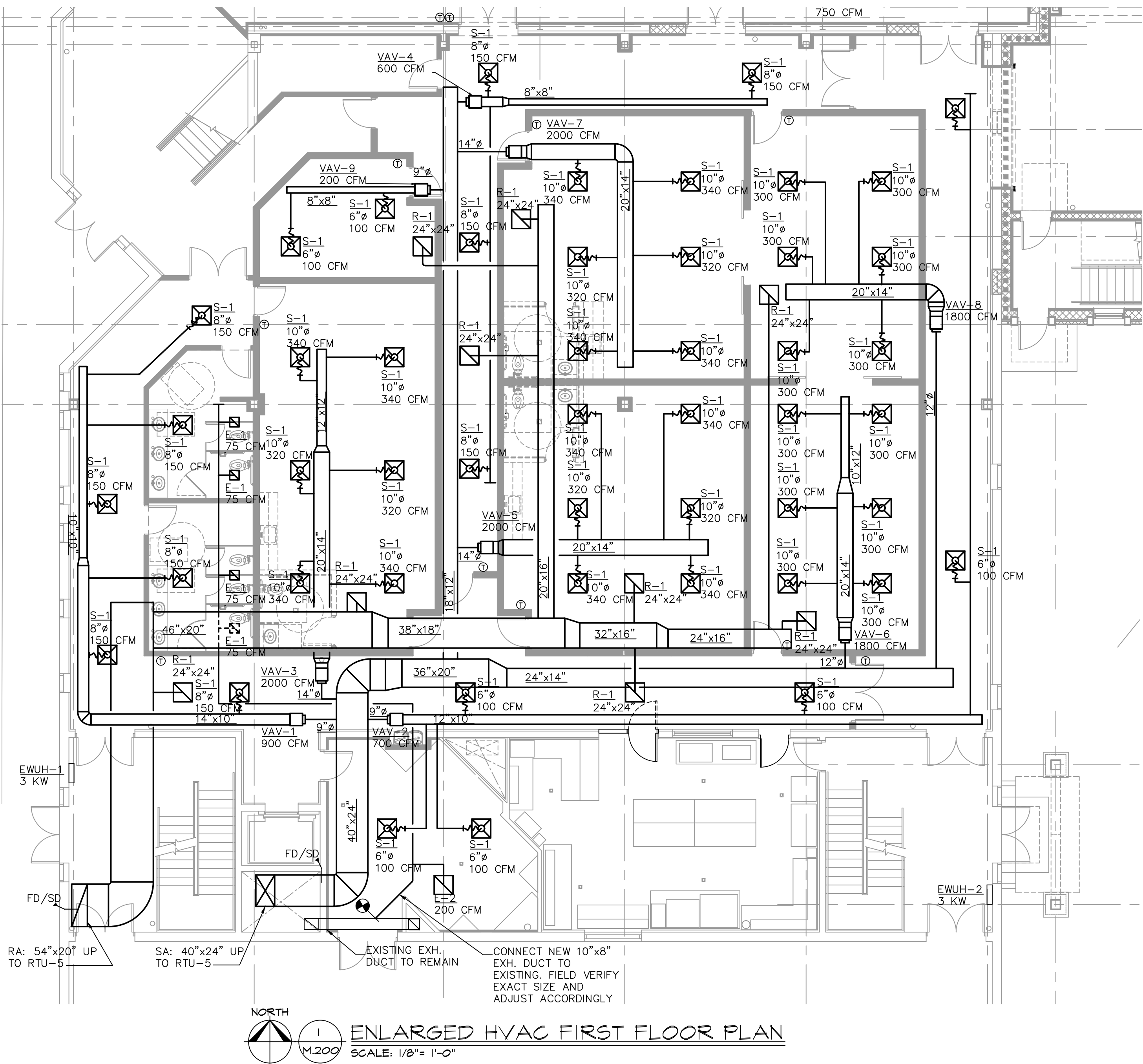
10. REFER TO SPECIFICATIONS FOR DUCTWORK AND PIPING INSULATION REQUIREMENTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS.

11. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORTED TO AVOID SHARP BENDS AND SAGGING. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

12. IN EXPOSED AREA (NO CEILING). PROVIDE PREFABRICATED SPIRAL ROUND DUCT OF SIZES AS SHOWN ON DWG UNLESS OTHERWISE NOTED.

13. COORDINATE LOCATION OF EQUIPMENT SUPPORTERS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.

14. PROVIDE 1/2" UNDERCUT DOORS FOR ALL THE INTERIOR RESTROOMS TO ALLOW MAKE UP AIR THRU THE ROOMS.

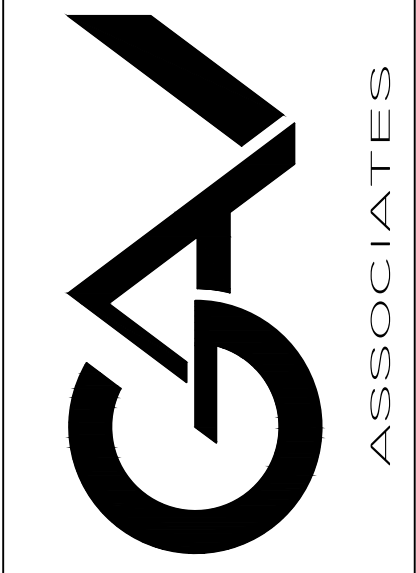


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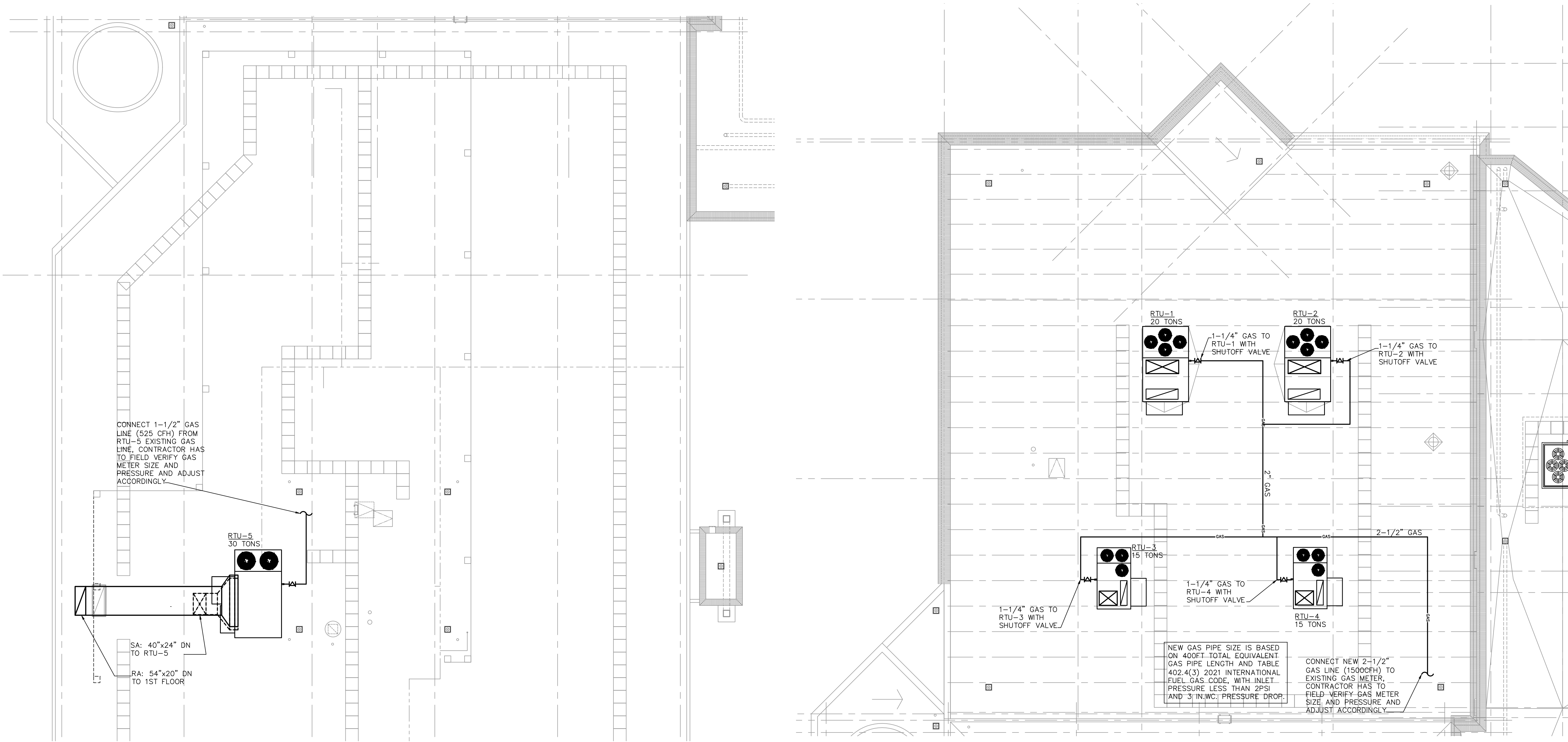
879 WEST AUBURN ROAD

ROCHESTER HILLS, MICHIGAN

DRAWN:	DESIGNED:	CHECKED:
J.K.	J.K.	J.M.
SCALE :		
FILE NAME : M.300		
JOB # : 25025		
SHEET TITLE		
PARTIAL MECHANICAL ROOF PLAN		
SHEET #		
M.300		

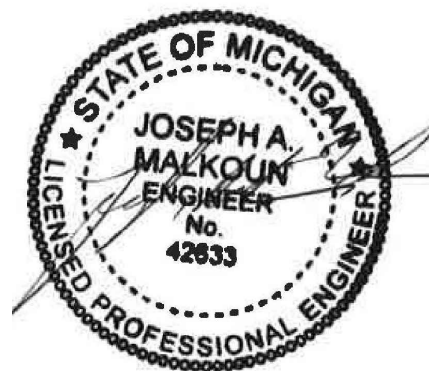
KEY NOTES:

- CONTRACTOR HAS TO REMOVE EXISTING RTU'S NOT USED WITH ALL ASSOCIATED ACCESSORIES (CURBS, GAS PIPING, ELECTRICAL WIRING, CONTROLS, ETC...), PATCH ALL THE OPENING.



PARTIAL MECHANICAL ROOF PLAN

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



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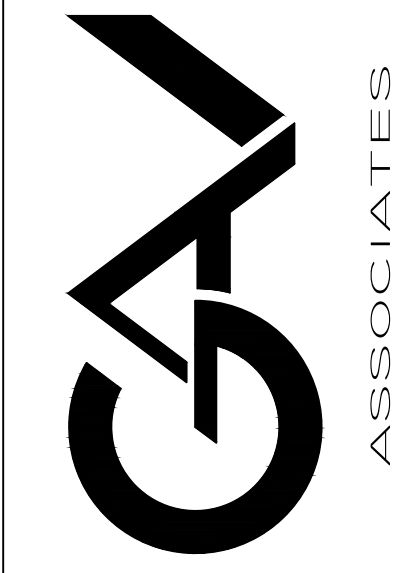
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DRAWN:	DESIGNED:	CHECKED:
J.K.	J.K.	J.M.

SCALE :

FILE NAME : M.400

JOB # : 25025

SHEET TITLE

MECHANICAL
SCHEDULES

SHEET #

M.400



PACKAGE ROOF TOP UNIT SCHEDULE

TAG	MANUFACTURER & MODEL NO.	AREA SERVED	NOMINAL CAPACITY	ELECTRICAL			HEATING DATA		COOLING DATA @ 95 °F OAT			SUPPLY FAN DATA				WEIGHT (LB)	NOTES/ACCESSORIES
			TONS MIN	V / PH / HZ	MCA (AMPS)	MAX. FUSE SIZE (AMPS)	INPUT MBH	OUTPUT MBH	TOTAL MBH MIN	SENSIBLE MBH	EAT db/wb °F	CFM	ESP "WC	BHP	MIN OA		
RTU-1	CARRIER/48FEFM24K3A6-8W1C0	SOCIAL ROOM	20	460/3/60	53	60	400	324	268.74	188.7	79.7/66.5	8000	1.24	5.42	2100	3000	A,B,C,D,E,F,G,H,I,J,K,L,M
RTU-2	CARRIER/48FEFM24K3A6-8W1C0	SOCIAL ROOM	20	460/3/60	53	60	400	324	268.74	188.7	79.7/66.5	8000	1.24	5.42	2100	3000	A,B,C,D,E,F,G,H,I,J,K,L,M
RTU-3	CARRIER/48FEFM16K3A6-8W1F0	SOCIAL ROOM	15	460/3/60	34	45	350	284	187.79	133.73	79.5/66.4	6000	1.17	3.48	1500	2200	A,B,C,D,E,F,G,H,I,J,K,L,M
RTU-4	CARRIER/48FEFM16K3A6-8W1F0	SOCIAL ROOM	15	460/3/60	34	45	350	284	187.79	133.73	79.5/66.4	6000	1.17	3.48	1500	2200	A,B,C,D,E,F,G,H,I,J,K,L,M
RTU-5	CARRIER/48KS5BF30-9-6A4B5G3	MULTIPURPOSE RM.	30	460/3/60	76	90	525	425	342.58	262.6	79.5/66.3	12000	2.29	12.14	3000	4500	A,B,C,D,E,G,H,I,J,K,L,M,N
NOTES AND ACCESSORIES DESIGNATION																	
A	18" HIGH ROOF CURB						I	SMOKE DETECTORS									
B	2" THROWAWAY FILTERS-MERV 8						J	STAINLESS STEEL HEAT EXCHANGER									
C	7-DAY PROGRAMMABLE STAT						K	0-100% ECON, DIFF ENTHALPY CONTROL WTRAQ									
D	FACTORY MOUNTED COMBINATION STARTER / DISCONNECT SWITCH WITH SHUTDOWN CONTACTS						L	ECO DRIVE									
E	SINGLE PORT POWER						M	HIGH HEAT									
F	VERTICAL W/ ECONOMIZER & BAROMETRIC RELIEF						N	HORIZONTAL FLOW W/ECONOMIZER & BAROMETRIC RELIEF									
G	STAINLESS STEEL DRIP PAN						O	VARIABLE FREQUENCY DRIVE									
H	CONVENIENCE OUTLET						P	DIRECT DRIVE									

ELECTRIC WALL UNIT HEATER SCHEDULE

SNO.	TAG	BASIS OF DESIGN	MODEL	LOCATION	TYPE	CAPACITY (WATTS)	ELECTRICAL VOLT/PH/HZ	NOTES /ACCESSORIES
1	EWUH-1	Q-MARK	LFK 404F	CORRIDOR A104	WALL	3000	208 / 1 /60	WALL / RECESSED MOUNTED ACCESSORIES, TEHRMAL OVERHEAT PROTECTOR, BUILTIN POWER DISCONNECT SWITCH, UNIT MOUNTED THERMOSTAT.
2	EWUH-2	Q-MARK	LFK 404F	CORRIDOR A104	WALL	3000	208 / 1 /60	

VAV BOX WITH ELECTRIC REHEAT SCHEDULE

MAIN SYSTEM	UNIT ID	MFG./MODEL	UNIT SIZE / INLET	AIR FLOW RANGE		MAX A.D.P. IN W.G.	MAX N.C. LEVEL	CAPACITY (MBH)	AIR			ELECTRIC				REMARK
				MAX CFM	MIN CFM				AIRFLOW (CFM)	E.D.B. (F)	L.D.B. (F)	VOLT	KW	MCA	MOCP	
RTU-5	VAV-1	CARRIER 35EB3	9"	1160	201	1.5	33	3.41	900	70	73.6	208/1	1.0	6.01	15.0	A,B,C,D,E,F,H
	VAV-2	CARRIER 35EB3	9"	1160	201	1.5	33	3.41	700	70	74.62	208/1	1.0	6.01	15.0	A,B,C,D,E,F,H
	VAV-3	CARRIER 35EB3	14"	2800	486	1.5	33	6.83	2000	70	73.24	208/1	2.0	12.02	15.0	A,B,C,D,E,F,H
	VAV-4	CARRIER 35EB3	9"	1160	201	1.5	33	3.41	600	70	75.39	208/1	1.0	6.01	15.0	A,B,C,D,E,F,H
	VAV-5	CARRIER 35EB3	14"	2800	486	1.5	33	6.83	2000	70	73.24	208/1	2.0	12.02	15.0	A,B,C,D,E,F,H
	VAV-6	CARRIER 35EB3	12"	2060	357	1.5	33	6.83	1800	70	73.6	208/1	2.0	12.02	15.0	A,B,C,D,E,F,H
	VAV-7	CARRIER 35EB3	14"	2800	486	1.5	33	6.83	2000	70	73.24	208/1	2.0	12.02	15.0	A,B,C,D,E,F,H
	VAV-8	CARRIER 35EB3	12"	2060	357	1.5	33	6.83	1800	70	73.6	208/1	2.0	12.02	15.0	A,B,C,D,E,F,H
	VAV-9	CARRIER 35EB3	6"	515	89	1.5	33	3.41	200	70	86.18	208/1	1.0	6.01	15.0	A,B,C,D,E,F,H
NOTES																
A	TERMINAL UNIT WITH ELECTRIC REHEAT MODEL NUMBERS ARE BASED ON CARRIER.															
B	MAX NC LEVEL IS BASED ON 2" WG. PRESSURE DROP W/O EXTERNAL ATTENUATION															
C	MAX. RADIATED NC LEVEL SHALL NOT EXCEED 35															
D	MAX. APD IS BASED ON MAX. CFM															
E	AIR FLOW CONTROLLER FOR TERMINAL UNITS SHALL BE DDC TYPE FURNISHED BY MECHANICAL CONTRACTOR & INSTALLED BY T.C. UNLESS OTHERWISE NOTED.															
F	MNF. SOUND LEVELS IN DB IN EACH OCTAVE BAND BASED ON 2" WC PRESSURE DROP															
G	VAV BOX WITH NO ELECTRIC REHEAT COIL															
H	INTEGRAL INTERLOCK DISCONNECT SWITCH															

OUTDOOR AIR REQUIRMENT SYSTEM

(2524-2) IAGD SOCIAL AREA RENOVATION, MICHIGAN, REFERENCE CODE :Michigan MECHANICAL CODE 2021, TABLE 403.3.1.1																	
SYSTEM	S.NO	ROOM NAME	AREA SQ.FT	MAX. OCCUPANT LOAD, PERSONS PER 1000 SQUARE FEET	CEILING HEIGHT	ZONE POPULATION (NO. OF PEOPLE)		PEOPLE OUTDOOR AIR RATE (CFM/PERSON)	AREA OUTDOOR AIR RATE CFM/SQ.FT	AIR CHANGE	OUTDOOR AIR RATE IN BREATHING ZONE (CFM)	OUTDOOR AIR RATE IN BREATHING ZONE (CFM) BASED ON AIR CHANGE	ZONE AIR DISTRIBUTION EFFECTIVENESS	ZONE OUTDOOR AIR FLOW (CFM)	ZONE OUTDOOR AIR FLOW (CFM) BASED ON AIR CHANGE	SYSTEM OUTDOOR AIR INTAKE FLOW (CFM)	
			(Az)		HEIGHT (FT)	(Pz)	RoundUP (Pz)	(Rp)	(Ra)	(A/C)	(Vbz1)	(Vbz2)	(Ez)	(Voz1)	(Voz2)	(Vt)	
		OVERALL MIN.OA															
	1	SOCIAL ROOM	7576	0	16	700	700	7.5	0.06	0	5704.56	0.0	0.8	7130.7	0.0	7130.7	
RTU-1-2-3-4	TOTAL MINIMUM OUTDOOR AIR REQUIRED																
	OUTDOOR AIR PROVIDED FROM SYSTEMS														7200.0		7130.7
RTU-5	1	CORRIDOR NORTH EAST	640	0	10	0	0	0	0.06	0	38.4	0.0	0.8	48.0	0.0	48.0	
	2	CORRIDOR NORTH WEST	705	0	10	0	0	0	0.06	0	42.3	0.0	0.8	52.9	0.0	52.9	
	3	CORRIDOR WEST	1150	0	10	0	0	0	0.06	0	69	0.0	0.8	86.3	0.0	86.3	
	4	MULTIPURPOSE ROOM 1	698	0	10	50	50	7.5	0.06	0	416.88	0.0	0.8	521.1	0.0	521.1	
	5	MULTIPURPOSE ROOM 2	500	0	10	40	40	7.5	0.06	0	330	0.0	0.8	412.5	0.0	412.5	
	6	MULTIPURPOSE ROOM 3	500	0	10	40	40	7.5	0.06	0	330	0.0	0.8	412.5	0.0	412.5	
	7	MULTIPURPOSE ROOM 4	706	0	10	50	50	7.5	0.06	0	417.36	0.0	0.8	521.7	0.0	521.7	
	8	MULTIPURPOSE ROOM 5	715	0	10	50	50	7.5	0.06	0	417.9	0.0	0.8	522.4	0.0	522.4	
	9	OFFICE	215	0	10	2	2	5	0.06	0	22.9	0.0	0.8	28.6	0.0	28.6	
	10	TOILET 125	166	0	10	0	0	0	0.12	0	19.92	0.0	0.8	24.9	0.0	24.9	
	11	TOILET 126	176	0	10	0	0	0	0.12	0	21.12	0.0	0.8	26.4	0.0	26.4	
	TOTAL MINIMUM OUTDOOR AIR REQUIRED																
	OUTDOOR AIR PROVIDED FROM SYSTEMS														3000.0		2657.2
	Breathing zone outdoor air flow																
	Formula 1: Vbz1=(Rp.Pz)+(Ra.Az) where, Az=Zone Floor Area Pz=Zone Population Rp=People Outdoor air rate Ra=Area Outdoor air rate Vbz1=Breathing zone Outdoor air flow rate				Formula 2: Voz1=Vbz1/Ez OR Voz2=Vbz2/Ez Where, Voz1=Zone Outdoor air flow rate Voz2=Zone Outdoor air flow rate based Ez=Zone air distribution Effectiveness = 0.8				Formula 3: Vbz2= (V . A/C)/60 Vbz2= (Az. Ht.A/C)/60 Where, Az=Zone Floor Area Ht= Ceiling Height A/C= Air Change Vbz2= B.Zone air flow rate w.r.to				Single Zone System Formula 4: Vot=Voz1 OR Voz2 Where, Vot= The system Outdoor air intake flowrate				

GRILLE, REGISTER & DIFFUSER SCHEDULE

TAG	BASIS OF DESIGN	MODEL	SERVICE	MOUNTING	OVERALL SIZE	NECK SIZE	NOTES /ACCESSORIES
S-1	TITUS	OMNI	SUPPLY	LAY-IN	24"x24"	SEE PLAN	A,B
R-1	TITUS	50F	RETURN	LAY-IN	24"x24"	SEE PLAN	A,B
E-1	TITUS	50F	EXHAUST	LAY-IN	12"x12"	SEE PLAN	A,B
E-2	TITUS	50F	RETURN	LAY-IN	24"x24"	SEE PLAN	A,B
NOTE:							
A	WHITE FINISH						
B	SQUARE TO ROUND ADAPTOR						
C	OPPOSED BLADE DAMPER						

PLUMBING FIXTURE SCHEDULE

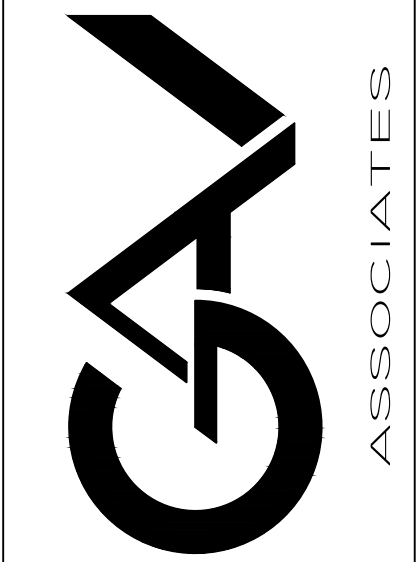
ITEM	FIXTURE	ITEM	MANUFACTURER & MODEL NUMBER	ACCESSORIES	PIPE CONNECTIONS SIZES (INCH)			
					WASTE	VENT	COLD W.	HOT W.
FD-1	FLOOR DRAIN		ZURN Z415B-NH		3"	-	-	-
WC-1	WATER CLOSET	BATH WALL MOUNTED FLUSH VALVE WATER CLOSET	KOHLER "KINGSTON" #K-4325 ELONGATED FLUSH VALVE WATER CLOSET.	FLUSH VALVE: SLOAN #111-ROYAL SEAT: KOHLER #K731-SC STRONGHOLD OPEN FRON ELONGATED SEATT WITH INTEGRATED HANDLE	4"	-	3/4"	-
LAV-1	LAVATORY	PUBLIC COUNTERTOP LAVATORY	KOHLER "CAXTON OVAL" K-2210 COUNTERTOP VITREOUS CHINA LAVATORY.	FAUCET: ARTIFACTS DOUBLE LEVER HANDLE SINK FAUCET K-72759 AERATOR : AMERICAN STANDARD V05 DRAIN : MCGUIRE #155A SUPPLY: MCGUIRE #H170BV-LR 1/4 TURN P-TRAP: MCGUIRE #8872C-17T 1-1/2" CHROME PLATED BRASS.	1-1/2"	1-1/2"	1/2"	1/2"
MX-1	MIXING VALVE	THERMOSTATIC MIXING VALVE.	WATTS USG-B	ASSE 1070 THERMOSTATIC MIXING VALVE	-	-	1/2"	1/2"

ISSUED FOR	DATE
PERMITS	7-15-25

ARCHITECTURAL
DESIGN

RESIDENTIAL
COMMERCIAL
INDUSTRIAL

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ADDITIONS AND RENOVATIONS TO:
ISLAMIC ASSOC. OF GREATER DETROIT
879 WEST AUBURN ROAD
ROCHESTER HILLS, MICHIGAN

DRAWN:	DESIGNED:	CHECKED:
J.K.	J.K.	J.M.

SCALE :

FILE NAME : M.401

JOB # : 25025

SHEET TITLE
MECHANICAL
DETAILS

SHEET #
M.401

