ABBREVIATIONS

(E)	EXISTING ITEM
(ED)	EXISTING ITEM TO BE DEMOLISHED
(ER)	EXISTING ITEM TO BE RELOCATED
(RL)	RELOCATED ITEM
A	AQUASTAT
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ANB	ACID NEUTRALIZATION BASIN
AO	AIR OUTLET
AP	ACCESS PANEL OR DOOR
AVTR	ACID VENT THROUGH ROOF
BF	BOTTLE FILLER
BFP	BACK FLOW PREVENTER
BLDG	BUILDING
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BT	BATHTUB
BTU	BRITISH THERMAL UNIT
CA	COMPRESSED AIR
CBAV	CURB BOX & VALVE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CIP	CAST IRON PIPE
CLG	CEILING
CM	COFFEE MAKER
CO	CLEAN OUT
CONN	CONNECTION
CONT	CONTINUATION
CS	CUP SINK
CTL	COUNTER TOP LAVATORY
CTS	COUNTER TOP SINK
CW	COLD WATER
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DF	DRINKING FOUNTAIN
DFU	DRAINAGE FIXTURE UNIT
DI	DEIONIZED WATER
DIP	DUCTILE IRON PIPE
DN	DOWN
DSB	DOWNSPOUT BOOT
DSN	DOWNSPOUT NOZZLE
DW	DISHWASHER
DWG	DRAWING
DWP	DOMESTIC WATER PUMP
DWRH	DOMESTIC WATER REHEATER
DWSM	DOMESTIC WATER SUB METER
EA	EACH
EC	ELECTRICAL CONTRACTOR
EGX	EMERGENCY GENERAL EXHUAST
ET	EXPANSION TANK
EWC	ELECTRICAL WATER COOLER
EWH	ELECTRICAL WATER HEATER
FAI	FRESH AIR INTAKE
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FM	FORCED MAIN
FPC	FIRE PROTECTION CONTRACTOR
FS	FLOOR SINK
FT	FEET
GC	GENERAL CONTRACTOR
GCO	GROUND CLEAN OUT
GD	GARAGE DRAIN
GI	GREASE INTERCEPTOR
GO	GAS OUTLET
GPM	GALLONS PER MINUTE
GWH	GAS WATER HEATER
HB	HOSE BIB
HW	HOT WATER
HWR	HOT WATER RETURN
HWRP	HOT WATER RETURN PUMP
HX	HEAT EXCHANGER
IE	INVERT ELEVATION
IM	ICE MAKER
IW	INDIRECT WASTE
KS	KITCHEN SINK
LA	LABORATORY AIR

ABBREVIATIONS

LAV	LAVATORY
LDR	LEADER
LI	LINT INTERCEPTOR
LPC	LIMIT OF PLUMBING CONTRACTOR
M	METER
MA	MEDICAL AIR
MBH	1000 BRITISH THERMAL UNITS
MC	MECHANICAL CONTRACTOR
MH	MANHOLE
MR	MOP RECEPTOR
MV	MIXING VALVE
N	NITROGEN
N2O	NITROUS OXIDE
N.I.C.	NOT IN CONTRACT
NC	NORMALLY CLOSED
NGSM	NATURAL GAS SUB-METER
NGSV	NATURAL GAS SOLENOID VALVE
NO	NORMALLY OPEN
NPW	NON POTABLE WATER
NTS	NOT TO SCALE
O2	OXYGEN
OD	OVERFLOW DRAIN
PC	PLUMBING CONTRACTOR
PD	POOL DRAIN
PL	PLANTER
PP	POLYPROPOLENE
PRESS	PRESSURE
PRV	PRESSURE REDUCING / REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLY VINYL CHLORIDE
RD	ROOF DRAIN
RH	ROOF HYDRANT
RO	REVERSE OSMOSIS WATER
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPDA	REDUCED PRESSURE DETECTOR ASSEMBLY
RWC	RAIN WATER CONDUCTOR
SA	SHOCK ABSORBER
SAN	SANITARY
SDB	SUPPLY DRAIN BOX
SE	SEWAGE EJECTOR
SF	SQUARE FEET, FOOT
SHR	SHOWER
SI	SEDIMENT INTERCEPTOR
SK	SINK
SOB	SUPPLY OUTLET BOX
SP	SUMP PUMP
SS	SERVICE SINK
ST	STORAGE TANK
STDP	STAND PIPE
TB	THRUST BLOCK
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TMV	THERMOSTATIC MIXING VALVE
TOP	TOP OF PIPE
TP	TRAP PRIMER
TYP	TYPICAL
UF	UNDERFLOOR
UR	URINAL
V	VENT
VAC	VACUUM
VB	VACUMM BREAKER
VE	VACUMM EXHAUST
VIF	VERIFY IN FIELD
VO	VACUUM OUTLET
VTR	VENT THROUGH ROOF
W	WASTE
W/	WITH
WO	WITH OUT
WC	WATER CLOSET or WATER COLUMN
WCO	WALL CLEAN OUT
WF	WATER FILTER
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTER
WO	WATER OUTLET
WSFU	WATER SUPPLY FIXTURE UNIT

MISC TAGS AND SYMBOLS

- KEYED NOTE
- DEMOLITION NOTE
- KITCHEN EQUIPMENT TAG
- REVISION NUMBER X
- DISTANCE TO FINISH FLOOR (FEET & INCHES) FROM BOTTOM OF PIPE
- INDICATES CONNECT NEW TO EXISTING
- INDICATES LIMIT OF REMOVAL
- COLD WATER RISER TAG
- HOT WATER RETURN RISER TAG
- HOT WATER RISER TAG
- NATURAL GAS RISER TAG
- RAIN WATER CONDUCTOR TAG
- SANITARY STACK TAG
- VENT STACK TAG
- EQUIPMENT TAG
- SECTION SYMBOL
  SECTION DESIGNATION
  DRAWING NUMBER LOCATION
  DETAIL SYMBOL
  DETAIL NUMBER
  DRAWING NUMBER LOCATION

PIPE LOCATION NOTES

1. CONCEALED IN CEILING SPACE ABOVE
2. EXPOSED IN STRUCTURE ABOVE
3. CONCEALED IN CEILING SPACE, BELOW FLOOR
4. EXPOSED ON STRUCTURE, FLOOR BELOW
5. BELOW GRADE
6. RACK ON WALL, BELOW COUNTER TOP
7. ABOVE FLOOR
8. RUN THROUGH OR BETWEEN BAR JOIST
9. CONCEALED BELOW RAISED FLOOR

VALVES AND ACCESSORIES

- GATE VALVE
- OSY VALVE
- FLOW CONTROL VALVE
- THERMOSTATIC MIXING VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- GAS COCK
- BALANCING VALVE
- PRESSURE / TEMPERATURE RELIEF VALVE
- BALL VALVE
- CHECK VALVE
- IN-LINE STRAINER
- UNION
- DRAIN VALVE
- FLANGED CONNECTION
- PRESSURE GAUGE
- PRESSURE GAUGE WITH COCK
- THERMOMETER
- CLEAN OUT
- FLOOR OR GROUND CLEAN OUT
- STACK CLEAN OUT
- LINE CLEAN OUT
- CLEAN OUT @ GRADE
- BACK WATER VALVE
- BACK WATER VALVE (IN PIT)
- CAPPED PIPE
- WASTE AND TRAP
- PIPE TURNING DOWN OR RISING
- PIPE RISING / OR RISING AND DROPPING
- PIPE DROP OR RISING 45°
- PIPE DROP OR RISING 90°
- MASTER GAS VALVE
- VALVE IN VERTICAL
- AQUASTAT (A)
- VACUUM BREAKER (VB)
- WATER HAMMER ARRESTOR (WHA)
- WATER HAMMER ARRESTOR W / ACCESS PANEL(WHAAP)
- FS KITCHEN FLOOR SINK (FS)
- AD AREA FLOOR DRAIN (AD)
- FD FLOOR DRAIN (FD)
- GD GARAGE FLOOR DRAIN (GD)
- HOSE BIB (HB) OPEN / CLOSED
- WALL HYDRANT (WH) OPEN / CLOSED
- ROOF / OVERFLOW DRAIN
- ROOF / OVERFLOW DRAIN ABOVE
- TRENCH DRAIN
- DOUBLE CHECK DETECTOR ASSEMBLY (DCDA)
- DOUBLE CHECK VALVE ASSEMBLY (DCVA)
- REDUCED PRESSURE BACKFLOW PREVENTER (RPBP)
- REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA)
- PUMP

PLUMBING PIPING LEGEND

140° HW	(140° HW) 140° HOT WATER
140° HWR	(140° HWC) 140° HOT WATER CIRC
AR	(AR) ARGON
ARV	(ARV) ARGON VENT
CA	(CA) COMPRESSED AIR
CW	(CW) COLD WATER
FM	(FM) FORCE MAIN
G	(G) GAS
GD	(GD) GARAGE DRAIN
H2	(H2) HYDROGEN
H2V	(H2V) HYDROGEN VENT
HE	(HE) HELIUM
HEV	(HEV) HELIUM VENT
HW	(HW) HOT WATER
HWR	(HWR) HOT WATER RECIRC
IA	(IA) INSTRUMENT AIR
IW	(IW) INDIRECT WASTE
LA	(LA) LAB AIR
LV	(LV) LAB VENT
LW	(LW) LAB WASTE
LN	(LN) LIQUID NITROGEN
N2	(N2) NITROGEN
N2V	(N2V) NITROGEN VENT
NPW	(NPW) NON POTABLE WATER
OFD	(OFD) OVERFLOW DRAIN
O2	(O2) OXYGEN
SAN	(SAN) SANITARY
ST	(ST) STORM
TP	(TP) TRAP PRIMER
VA	(VA) VACUUM
V	(V) VENT
W	(W) WASTE

GENERAL NOTES

1. THE WORK TO BE DONE UNDER THESE SPECIFICATIONS AND THE DRAWINGS CONSISTS OF PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES AND PERFORMING ALL OPERATIONS TO COMPLETE THE CONSTRUCTION WORK FOR THIS PROJECT. ANY WORK NOT SPECIFICALLY COVERED BY THESE SPECIFICATIONS OR INDICATED ON THE CONTRACT DRAWINGS, BUT NECESSARY TO COMPLETE OR PERFECT ANY PART OF THIS INSTALLATION IN A SUBSTANTIAL MANNER, SHALL BE PROVIDED WITHOUT EXTRA COST TO THE OWNER.
2. THE WORK SHALL CONFORM TO THE MORE STRINGENT OF ALL APPLICABLE CODES & REGULATIONS, UL GUIDELINES, MANUFACTURER'S LITERATURE AND RECOMMENDATIONS, AND TO THE REQUIREMENTS OF FEDERAL, STATE AND LOCAL REGULATORY AGENCIES AND AUTHORITIES HAVING JURISDICTION.
3. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE EXTENT, GENERAL CHARACTER, LOCATION AND ARRANGEMENT OF THE WORK UNDER THIS CONTRACT. WHERE JOB CONDITIONS REQUIRE MINOR CHANGES OR ADJUSTMENTS IN THE INDICATED LOCATIONS OR ARRANGEMENT OF THE WORK, SUCH CHANGES SHALL BE PROVIDED WITHOUT EXTRA COST. THE CONTRACTOR SHALL RE-INSTALL EQUIPMENT THAT HAS INADEQUATE OR UNSAFE ACCESSIBILITY.
4. INSTALLATION OF WORK SHALL PROVIDE REASONABLE ACCESSIBILITY FOR OPERATION, INSPECTION AND MAINTENANCE OF EQUIPMENT AND ACCESSORIES. PROVIDE CLEARANCES REQUIRED BY MANUFACTURERS AND APPLICABLE CODES. ALL CEILING MOUNTED EQUIPMENT SHALL BE INSTALLED IN SUCH A MANNER THAT LIGHTS, PIPING, AND DUCTWORK DO NOT BLOCK ACCESS TO EQUIPMENT AND RELATED ACCESSORIES.
5. THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "MECHANICAL WORK", "ELECTRICAL WORK", "PLUMBING WORK", ETC. SHALL MEAN ALL LABOR, MATERIAL, EQUIPMENT, SCAFFOLDING, RIGGING, TOOLS, SUPERVISION, SERVICES AND OTHER INCIDENTALS NECESSARY FOR COMPLETE AND OPERABLE INSTALLATION.
6. THE CM/GC SHALL MAKE SETS OF THE BID DOCUMENTS CONSISTING OF COMPLETE SETS OF DRAWINGS AND SPECIFICATIONS; AND ISSUE THEM TO EACH OF THE PRIME AND SUB-CONTRACTORS. EVERY PRIME AND SUB-CONTRACTOR ON EACH BIDDING TEAM SHALL RECEIVE COMPLETE SETS OF DRAWINGS AND SPECIFICATIONS. THERE ARE NOTES AND CROSS REFERENCES FOR VARIOUS TRADE CONTRACTORS IN MULTIPLE TRADE OR DISCIPLINE DRAWINGS AND SPECIFICATIONS, THUS, EACH CONTRACTOR IS TO RECEIVE COMPLETE SETS OF THE BID DOCUMENTS. IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN THESE DRAWINGS FROM CM/GC. EACH CONTRACTOR IS RESPONSIBLE FOR THEIR WORK, AS NOTED ON THE OTHER DISCIPLINE DOCUMENTS. BIDDERS ARE RESPONSIBLE FOR ALL COSTS FOR EACH SET OF BID DOCUMENTS REQUESTED.
7. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A FULL COORDINATION EFFORT IN ORDER TO CREATE A FINALIZED COORDINATED LAYOUT OF ALL EQUIPMENT, SYSTEMS, DUCTWORK, PIPING AND ALL OTHER ITEMS WITHIN THEIR RESPECTIVE SCOPE. THE CONTRACTOR'S COORDINATION EFFORT SHALL INCLUDE COORDINATED INFORMATION FROM ALL OTHER TRADE CONTRACTORS INVOLVED IN THE PROJECT SCOPE IN ORDER TO PROVIDE COORDINATION BETWEEN TRADES AND ALL EXISTING CONDITIONS. ALL ERRORS MADE AS A RESULT OF A LACK OF COORDINATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND CORRECTED AT NO ADDITIONAL COST TO THE PROJECT. MINOR RELOCATIONS AND SHIFTS OF EQUIPMENT, DUCTWORK, AND PIPING WHICH DO NOT CHANGE THE DESIGN INTENT INDICATED ON THE CONTRACT DOCUMENTS, REQUIRED TO ACCOMMODATE FIELD CONDITIONS ARE AT THE CONTRACTORS DISCRETION AND DO NOT REQUIRE ENGINEER APPROVAL.
8. CONTRACTOR SHALL ARRANGE AND OBTAIN ALL PERMITS, INSPECTIONS AND APPROVALS, AND PAY ALL RELATED FEES.
9. FOR ANY DISCREPANCY BETWEEN DRAWINGS AND/OR SPECIFICATIONS, THE CONTRACTOR SHALL BASE THEIR BID UPON THE MOST STRINGENT REQUIREMENT (QUALITY, QUANTITY, SIZE, ETC.). THE CONTRACTOR SHALL IDENTIFY DISCREPANCIES AS PART OF THEIR BID.
10. THE CONTRACTOR SHALL EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.
11. WHERE BEAMS ARE INDICATED TO BE PENETRATED WITH DUCTWORK AND/OR PIPING, CAREFULLY COORDINATE SIZES AND LOCATIONS OF THE ELEMENTS BEFORE FABRICATION. COORDINATE WITH FINAL LOCATION OF BEAM PENETRATIONS AND SHEAR WALL PENETRATIONS.
12. CONTRACTOR SHALL COORDINATE LOCATION OF ALL WALL, FLOOR AND ROOF OPENINGS WITH STRUCTURAL AND OTHER TRADES.
13. PROVIDE CUTTING AND PATCHING AS REQUIRED AND WHERE NECESSARY TO ACCOMMODATE NEW WORK AND THE REPAIR OF EXISTING WORK.
14. CONTRACTOR SHALL SCHEDULE THE WORK UNDER THIS CONTRACT WITH WORK OF OTHER TRADES AS NOT TO DELAY THE OVERALL PROGRESS OF THE PROJECT.
15. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER OF ANY CONFLICTS PRIOR TO PURCHASING EQUIPMENT AND PRIOR TO CUTTING OPENINGS.
16. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS PER SPECIFICATIONS PRIOR TO PURCHASING OR INSTALLING EQUIPMENT AND SYSTEMS INDICATED ON CONTRACT DOCUMENTS. PRIOR TO SUBMITTAL, CONTRACTOR SHALL VERIFY THAT ADEQUATE SPACE EXISTS FOR THE SUBMITTED EQUIPMENT. SHOP DRAWINGS MUST BE REVIEWED BY ARCHITECT/ENGINEER.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED BY OTHER TRADES DUE TO SUBSTITUTION OF OTHER THAN SCHEDULED EQUIPMENT. WHEN EQUIPMENT FURNISHED IS DIFFERENT THAN INDICATED, THE COST OF ADDITIONAL ELECTRICAL SERVICE, STRUCTURAL AND RELATED WORK SHALL BE PAID BY THIS CONTRACTOR.
18. ALL WORK SHALL BE EXECUTED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE DONE IN ACCORDANCE WITH GOOD TRADE PRACTICE AND IN CONFORMANCE WITH APPLICABLE MANUFACTURERS' RECOMMENDATIONS.
19. CONTRACTOR SHALL REMOVE ALL TRASH, DEBRIS AND DEMOLITION MATERIAL FROM PREMISES AT THE END OF EACH DAY.
20. RESTORE ALL SURFACES (WALLS, CEILINGS, FLOORS AND ROOFS) THAT ARE DAMAGED BY THE WORK OF THIS CONTRACT TO THEIR ORIGINAL CONDITION AT NO EXTRA COST TO THE OWNER.
21. PRIOR TO EQUIPMENT STARTUP, CONTRACTOR SHALL PERFORM THE SPECIFIED STARTUP AND COMMISSIONING PROCEDURES.
22. IN THE ABSENCE OF OTHER SPECIFIC INSTRUCTIONS, ALL WORK AND MATERIALS SUPPLIED SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF THEIR ACCEPTANCE BY THE OWNER.
23. BALA CONSULTING ENGINEERS, INC. (BALA) WILL PROVIDE CONTRACTOR WITH ELECTRONIC CADD FILES OF THE ENGINEERING DESIGNS FOR THE SOLE USE IN EXPEDITING SHOP DRAWINGS. BALA'S FILES SHALL NOT BE DIRECTLY COPIED AND ISSUED AS SHOP DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD COORDINATION, DIMENSIONING AND ADHERENCE TO THE SHOP DRAWING REQUIREMENTS AS NOTED IN THE SPECIFICATIONS. SHOULD THE SHOP DRAWINGS SUBMITTED PROVE TO BE A DIRECT COPY OF OUR FILES WITHOUT THE NECESSARY FIELD COORDINATION, DIMENSIONING AND ADHERENCE TO THE SHOP DRAWING REQUIREMENTS AS NOTED IN THE SPECIFICATIONS, THESE SHOP DRAWINGS WILL BE RETURNED AS REJECTED. BALA'S ELECTRONIC FILES ARE SAVED IN VERSION REVIT 2022 AND ARE COMPATIBLE WITH ALL VERSIONS AFTER THAT. BALA MAKES NO REPRESENTATION AS TO THE COMPATIBILITY OF THESE FILES WITH THE CONTRACTOR'S HARDWARE OR THEIR SOFTWARE.
DATA CONTAINED ON THESE ELECTRONIC FILES ARE PART OF BALA'S "INSTRUMENTS OF SERVICE" AND ARE COPYRIGHTED. CONTRACTOR'S USE OF FILES IS FOR THE SOLE PURPOSE AS A CONVENIENCE IN THE PREPARATION OF DRAWINGS FOR THE REFERENCED PROJECT. ANY OTHER USE OR REUSE BY CONTRACTOR IS UNLAWFUL.

PLUMBING GENERAL NOTES

1. DRAWINGS INDICATE GENERAL LOCATION OF WORK INCLUDED. PLUMBING CONTRACTOR SHALL COORDINATE LOCATION OF WORK WITH ALL OTHER TRADES. COORDINATE THE FINAL LOCATION OF THE PLUMBING FIXTURES WITH THE ARCHITECTURAL DIMENSIONED DRAWINGS.
2. INSTALL ALL FIXTURES AND EQUIPMENT IN CONFORMANCE WITH ARCHITECTURAL DRAWINGS, MANUFACTURERS RECOMMENDATIONS AND AUTHORITY HAVING JURISDICTION. COORDINATE ALL ROUGH-IN INFORMATION WITH FIXTURE AND EQUIPMENT SUPPLIERS.
3. INSTALL ISOLATION VALVES ON ALL BRANCH PIPING UNLESS OTHERWISE NOTED. PROVIDE SHUT OFF VALVES TO ALL FIXTURES AND EQUIPMENT.
4. CONNECT ALL SERVICE BRANCHES TO TOP OF SERVICE MAINS WHERE POSSIBLE. PROVIDE DRAIN VALVES AT ALL LOW POINTS IN SERVICE PIPING SYSTEMS.
5. SLOPE ALL WASTE PIPING IN CONFORMANCE WITH APPLICABLE CODES AND THE AUTHORITY HAVING JURISDICTION.
6. SUPPORT ALL PIPING IN CONFORMANCE WITH ANSI/MSS-58 AND 69 AND THE AUTHORITY HAVING JURISDICTION.
7. ALL PIPING PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED WITH UL LISTED FIREPROOFING SYSTEM TO MATCH THE RATING OF THE WALL OR FLOOR.
8. DO NOT INSTALL PIPING IN DEDICATED ELECTRICAL SPACES OR ABOVE ANY ELECTRICAL EQUIPMENT, PANELS, ETC AS NOTED IN THE NATIONAL ELECTRIC CODE.
9. PRESSURE TEST AND STERILIZE THE ENTIRE DOMESTIC WATER PIPING SYSTEM FROM POINT OF NEW CONNECTION IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE.
10. COORDINATE ALL SYSTEM SHUT DOWN TIMES WITH OWNERS REPRESENTATIVE.

REVISION LEGEND					
	○	NEW ISSUE	●	REVISED ISSUE	♦	REVISED, NOT ISSUED
	☒	REMOVED FROM DRAWING SET			□	ISSUED, NOT REVISED

DRAWING LIST - PLUMBING GARAGE

DRAWING NUMBER	DRAWING TITLE	12/07/2022 - PERMIT SET
GP0.01	PLUMBING COVER SHEET	○
GP0.11	PLUMBING RISER DIAGRAMS	○
GP0.21	PLUMBING SCHEDULES AND DETAILS	○
GP2.02	PLUMBING - LEVEL 0 (CLUB LEVEL) PLAN	○
GP2.04	PLUMBING - FIRST FLOOR PLAN	○
GP2.05	PLUMBING - SECOND FLOOR PLAN	○
GP2.06	PLUMBING - THIRD FLOOR PLAN	○
GP2.07	PLUMBING - FOURTH FLOOR PLAN	○

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL SCOTT M DAVIS ENGINEER ARCHITECT

THE MARTIN ARCHITECTURAL GROUP, P.C.
ARCHITECTS AND LAND PLANNERS
A PROFESSIONAL CORPORATION
240 NORTH 22ND STREET, PHILADELPHIA, PA, 19103
P (215) 665-1000 F (215) 561-5064

P.A.:	JTG
P.M.:	TRT
DRAWN BY:	RSK
PROJECT NO:	1022747

NO.	REVISION	DATE
A	PERMIT SET	12/07/2022

Project Status

PLUMBING COVER SHEET

Granite Run Apartments

MIDDLETOWN TOWNSHIP, PA

SCALE:	AS INDICATED
DATE:	12/07/22

GP0.01

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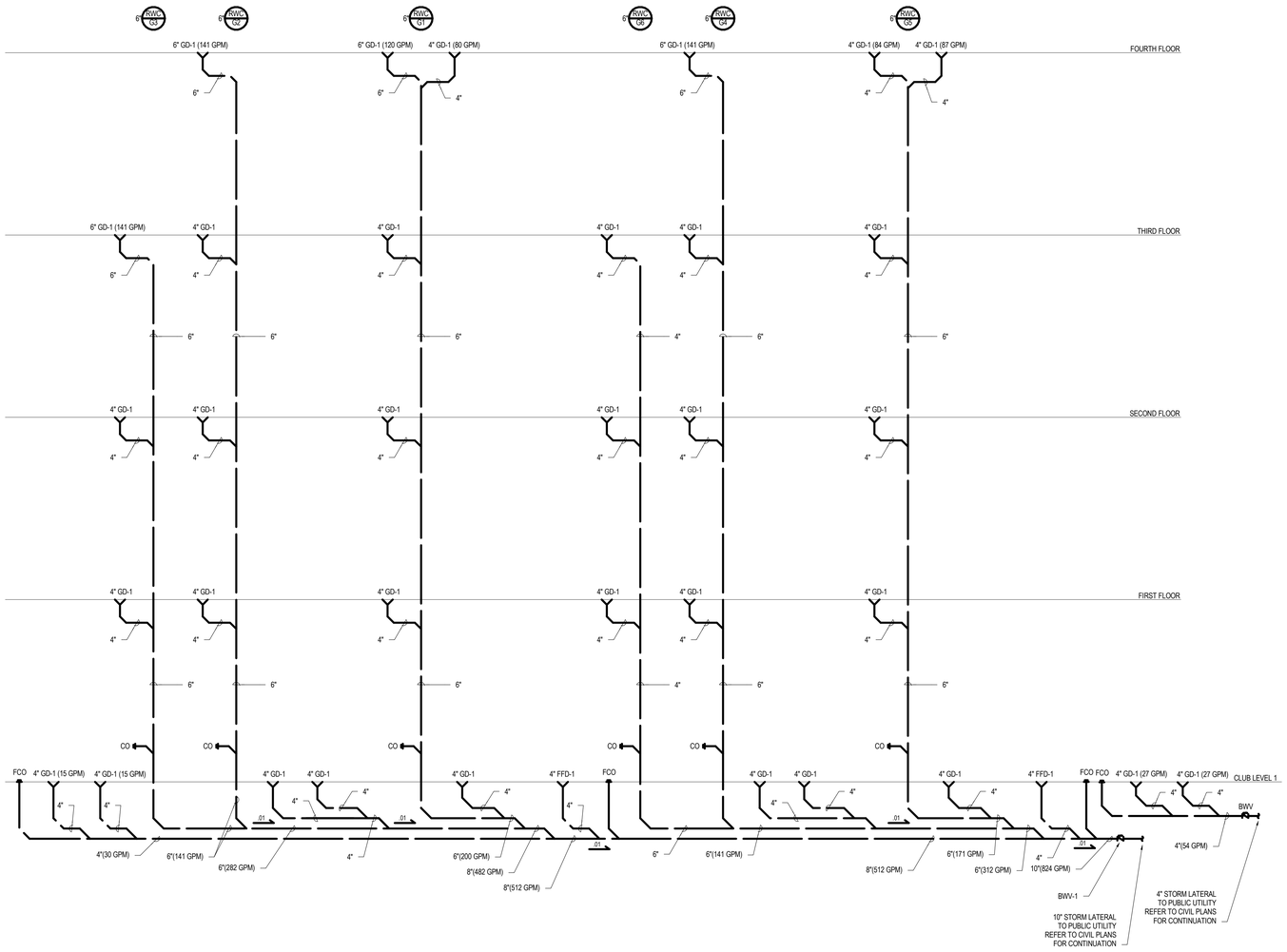
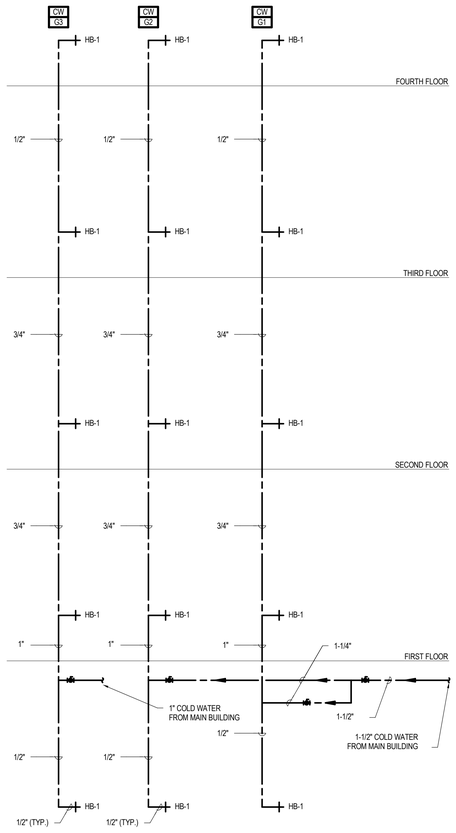
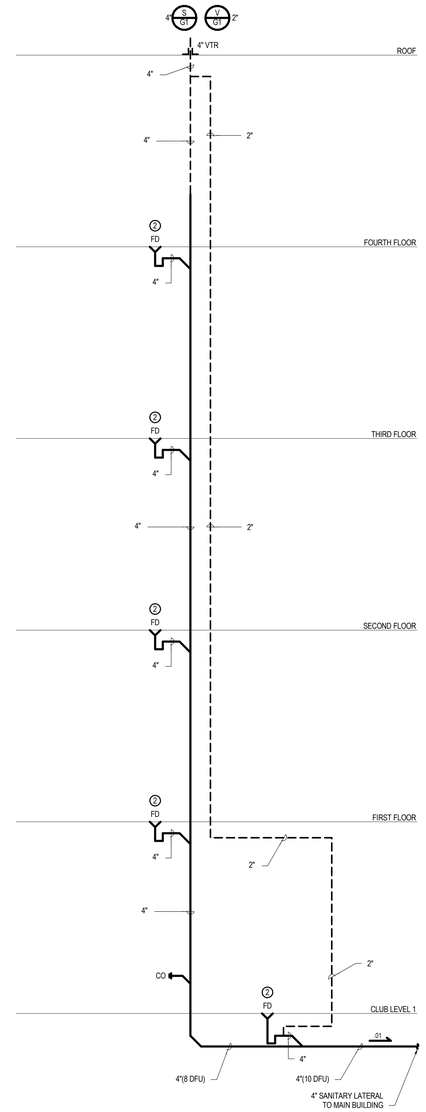


1 GP0.11 **STORM WATER RISER DIAGRAM**
12" = 1'-0"



2 GP0.11 **PARTIAL DOMESTIC WATER RISER DIAGRAM**
12" = 1'-0"



3 GP0.11 **PARTIAL SANITARY RISER DIAGRAM**
12" = 1'-0"

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL SCOTT M DAVIS ENGINEER

THE MARTIN ARCHITECTURAL GROUP, P.C.
ARCHITECTS AND LAND PLANNERS
A PROFESSIONAL CORPORATION
240 NORTH 22ND STREET, PHILADELPHIA, PA, 19103
P (215) 665-1600 F (215) 561-5064

P.A.:	JTG
P.M.:	TRT
DRAWN BY:	RSK
PROJECT NO:	1022747

NO.	REVISION	DATE
A.	PERMIT SET	12/07/2022

Project Status

PLUMBING RISER DIAGRAMS

Granite Run Apartments

MIDDLETOWN TOWNSHIP, PA

SCALE:	AS INDICATED
DATE:	12/07/22

GP0.11

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PLUMBING DRAIN SCHEDULE

NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	BODY						TOP						REMARKS
				CI	GALV	BR	ARC	SS	PP	GALV	PB	NB	CI	SS	PP	
FFD-1	FLOOR DRAIN W/ FUNNEL	JOSAM	30000-E2	●								●				CONDENSATE RECEPTOR FOR VESTIBULE HEAT PUMPS INCLUDE FUNNEL/GRATE ASSEMBLY
FD-2	FLOOR DRAIN	JOSAM	32300-SD-81-50	●									●			TRASH ROOMS INCLUDE TRAP SEAL INSERT (TRAPGUARD OR EQUAL)
GD-1	GARAGE DRAIN	ZURN	Z536	●									●			GARAGE

CI=CAST IRON GALV=GALVANIZED BR=BRASS ARC=ACID RESISTANT COATING SS=STAINLESS STEEL PP=POLYPROPYLENE PB=POLISHED BRASS OR BRONZE NB=NICKEL BRONZE

PLUMBING SPECIALTY SCHEDULE

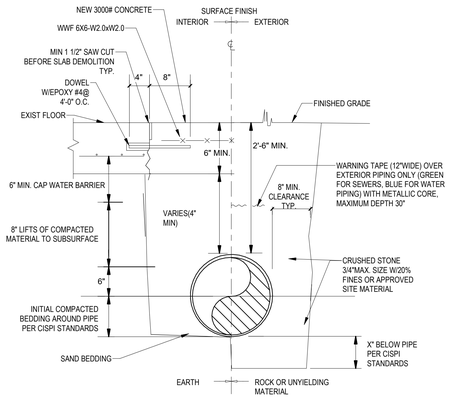
NO.	ITEM	MANUFACTURER	MODEL	REMARKS
HB-1	HOSE BIBB	WILKINS	SERIES 195	1/2" SIZE W/ BFP-3
BWV-1	BACKWATER VALVE	SPEARS	S1075P	PROVIDE ON GARAGE STORM MAIN REFER TO PLANS FOR LOCATION

PLUMBING PIPE AND FITTING SCHEDULE

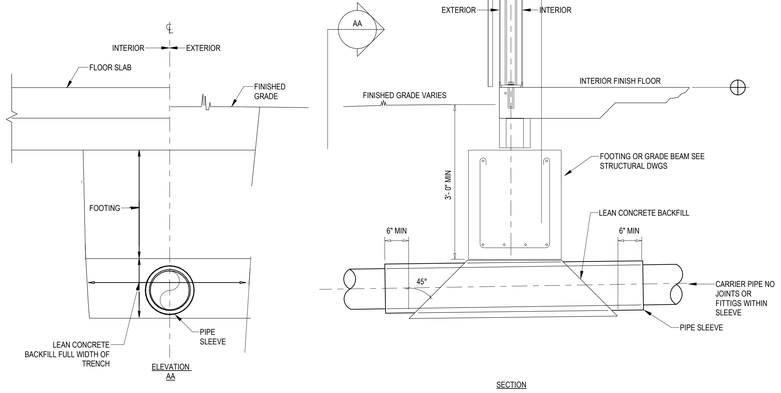
SYSTEM	PIPE SIZE	LOCATION	MATERIAL	SCHEDULE OR TYPE	FITTING	JOINT	REMARKS
STORM WATER	ALL	BELOW GRADE	PVC	SCH. 80	PVC	SOLVENT	SOLID WALL
		ABOVE GRADE	PVC	SCH. 40	PVC	SOLVENT	SOLID WALL
DOMESTIC COLD WATER	ALL	ABOVE GRADE/GROUND	COPPER	TYPE "L"	COPPER	SOLDERED	95% TIN & 5% ANTIMONY

PLUMBING EQUIPMENT SCHEDULE

NO.	ITEM AND MANUFACTURER	LOCATION	CAPACITY	ELECTRICAL	SCCR RATING (kAIC)	REMARKS
SP-1	ELEVATOR SUMP PUMP ALVANI/ESBRA EPO-5MS1	ELEVATOR SUMP PIT CLUB LEVEL 1	50 GPM, 20 TDH	1/2 HP, 3600 RPM 120/1/60, 9 FLA	XX	PROVIDE OIL ALERT CONTROLS AND ACCESSORIES.



3 GP0.21 **BELOW GRADE PIPE INSTALLATION DETAIL**
N.T.S.



4 GP0.21 **BELOW GRADE PIPE SLEEVE INSTALLATION DETAIL**
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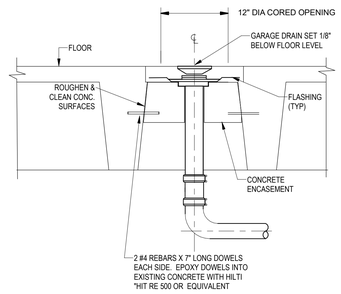

6 GP0.21 **GARAGE DRAIN DETAIL**
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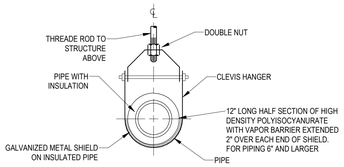
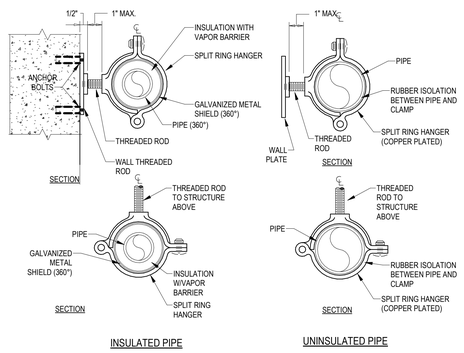


PIPE HANGER SCHEDULE

PIPE DIAMETER	SHIELD LENGTH	SHIELD THICKNESS	MAXIMUM PIPE SUPPORT SPACING					
			STEEL PIPE		PVC PIPE		COPPER PIPE	
			ROD DIA	SUPPORT SPACING	ROD DIA	SUPPORT SPACING	ROD DIA	SUPPORT SPACING
1/2"	12"	18 USSG	3/8"	5'-0"	—	———	3/8"	5'-0"
3/4"				6'-0"	—	———		5'-0"
1"				7'-0"	—	———		6'-0"
1 1/4"				8'-0"	—	———		7'-0"
1 1/2"				9'-0"	3/8"	5'-0"		8'-0"
2"				10'-0"	1/2"	5'-0"		8'-0"
2 1/2"			1/2"	11'-0"		5'-0"	1/2"	9'-0"
3"			1/2"	12'-0"		5'-0"		10'-0"
4"		14 USSG	5/8"			5'-0"		12'-0"
5"	18"		5/8"		5/8"	5'-0"		13'-0"
6"	18"		3/4"		3/4"	5'-0"	—	———
8"	18"		7/8"		7/8"	5'-0"	—	———

1 GP0.21 **CLEVIS PIPE HANGER DETAIL**
N.T.S.



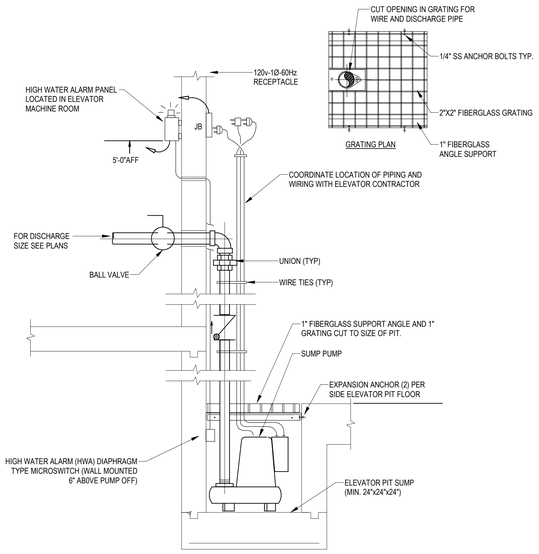
INSULATED PIPE UNINSULATED PIPE

PIPE SUPPORT SCHEDULE

COPPER TUBING DIM.	ROD DIA.	SUPPORT SPACING	MAXIMUM RECOM. LOAD LBS.
1/2"	3/8"	5'-0"	180
3/4"		5'-0"	180
1"		6'-0"	180
1 1/4"		7'-0"	180
1 1/2"		8'-0"	180
2"		8'-0"	180
2 1/2"	1/2"	9'-0"	180
3"	1/2"	10'-0"	180

2 GP0.21 **COPPER PIPE SUPPORT DETAIL**
N.T.S.

5 GP0.21 **FLOOR DRAIN DETAIL**
N.T.S.



7 GP0.21 **ELEVATOR SUMP PUMP DETAIL**
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THE MARTIN ARCHITECTURAL GROUP, P.C.
ARCHITECTS AND LAND PLANNERS
A PROFESSIONAL CORPORATION
240 NORTH 22ND STREET, PHILADELPHIA, PA, 19103
P (215) 665-1080 F (215) 561-5064

P.A.:	JTG
P.M.:	TRT
DRAWN BY:	RSK
PROJECT NO:	1022747

NO.	REVISION	DATE
A	PERMIT SET	12/07/2022

Project Status

PLUMBING SCHEDULES AND DETAILS

Granite Run Apartments

MIDDLETOWN TOWNSHIP, PA

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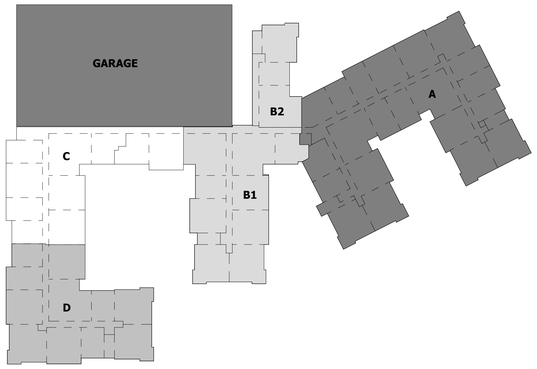

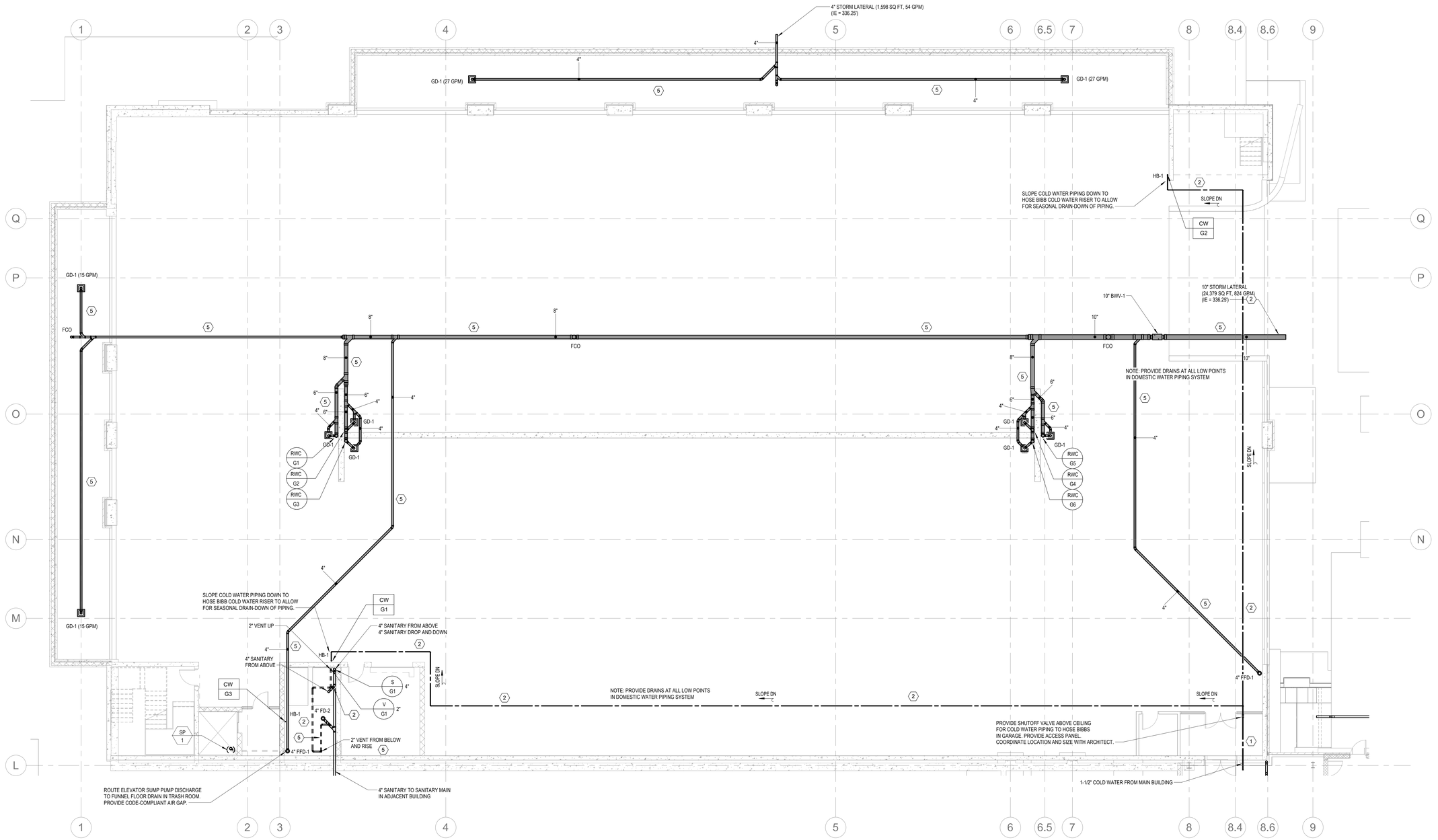

2 GP2.02 PLUMBING - LEVEL 0 (CLUB LEVEL) PLAN

1/8" = 1'-0"

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THE MARTIN ARCHITECTURAL GROUP, P.C.
ARCHITECTS AND LAND PLANNERS
A PROFESSIONAL CORPORATION
240 NORTH 22ND STREET, PHILADELPHIA, PA, 19103
P (215) 665-1600 F (215) 561-5664

P.A.:	JTG
P.M.:	TRT
DRAWN BY:	RSK
PROJECT NO:	1022747

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PLUMBING - LEVEL 0 (CLUB LEVEL) PLAN

Granite Run Apartments

MIDDLETOWN TOWNSHIP, PA

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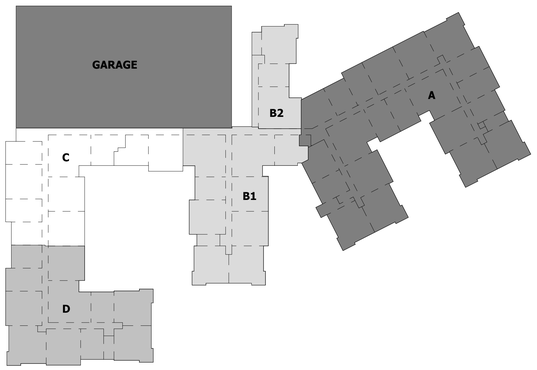

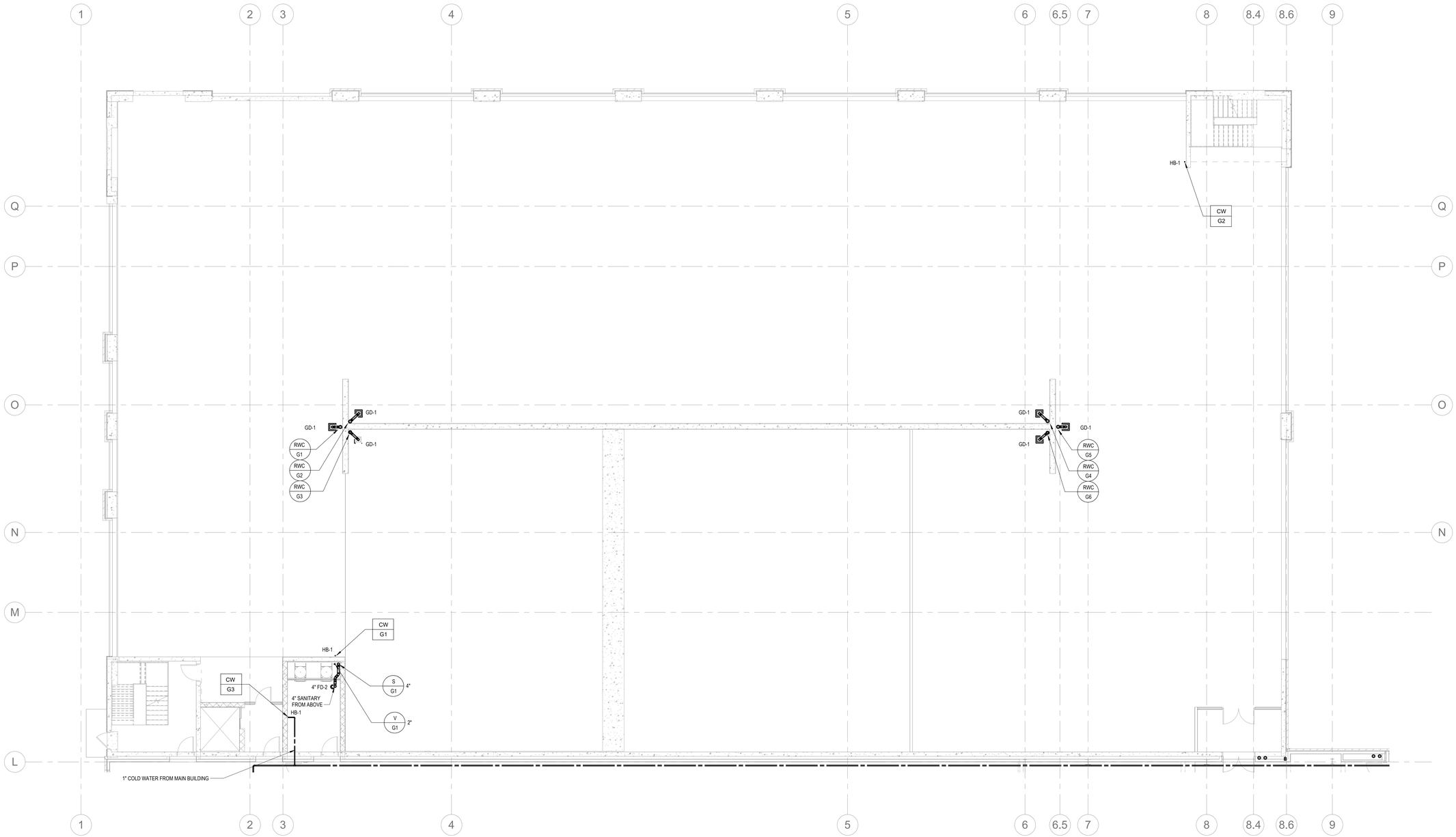

2 GP2.04 **PLUMBING - FIRST FLOOR PLAN**
1/8" = 1'-0"

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THE MARTIN ARCHITECTURAL GROUP, P.C.
ARCHITECTS AND LAND PLANNERS
A PROFESSIONAL CORPORATION
240 NORTH 22ND STREET, PHILADELPHIA, PA, 19103
P (215) 665-1600 F (215) 561-5064

P.A.:	JTG
P.M.:	TRT
DRAWN BY:	RSK
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PLUMBING - FIRST FLOOR PLAN

Granite Run Apartments

MIDDLETOWN TOWNSHIP, PA

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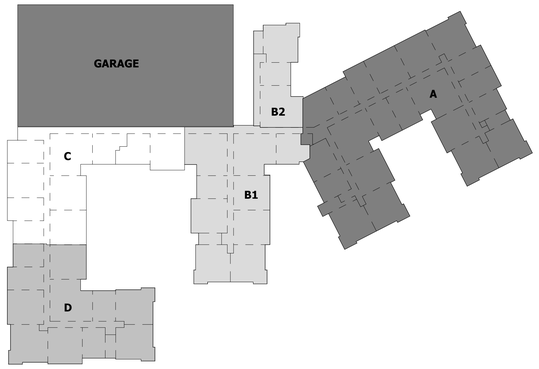

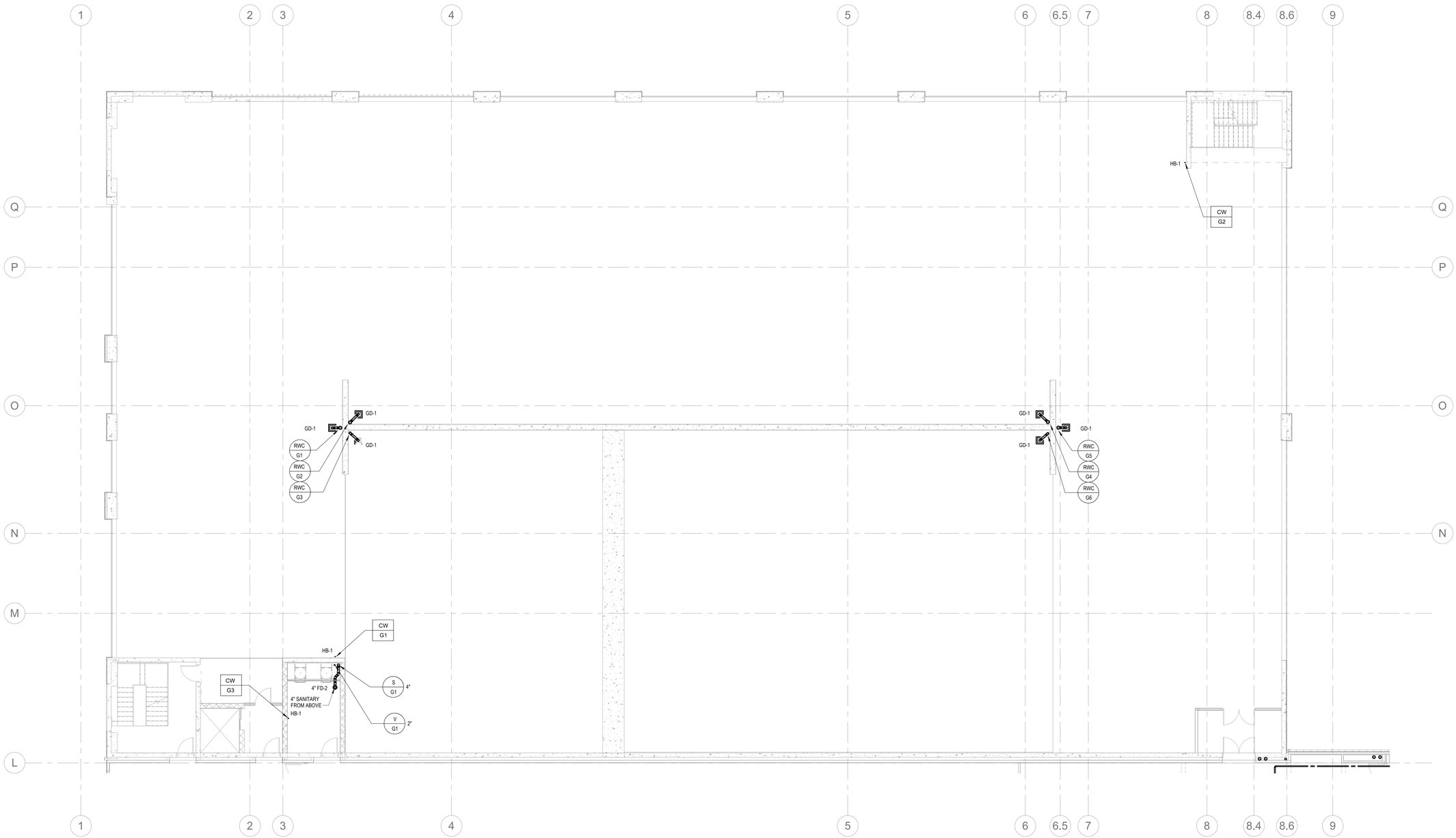

2 GP2.05 **PLUMBING - SECOND FLOOR PLAN**
1/8" = 1'-0"

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THE MARTIN ARCHITECTURAL GROUP, P.C.
ARCHITECTS AND LAND PLANNERS
A PROFESSIONAL CORPORATION
240 NORTH 22ND STREET, PHILADELPHIA, PA, 19103
P (215) 665-1600 F (215) 561-5064

P.A.:	JTG
P.M.:	TRT
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PLUMBING - SECOND FLOOR PLAN

Granite Run Apartments

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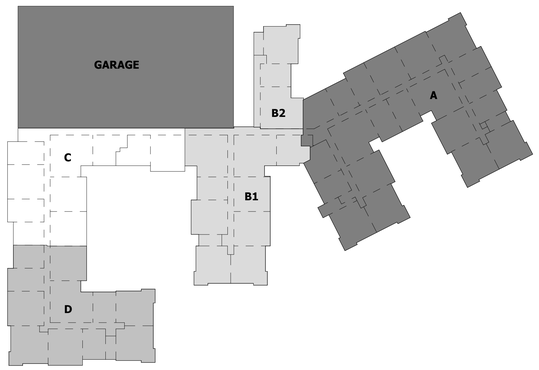

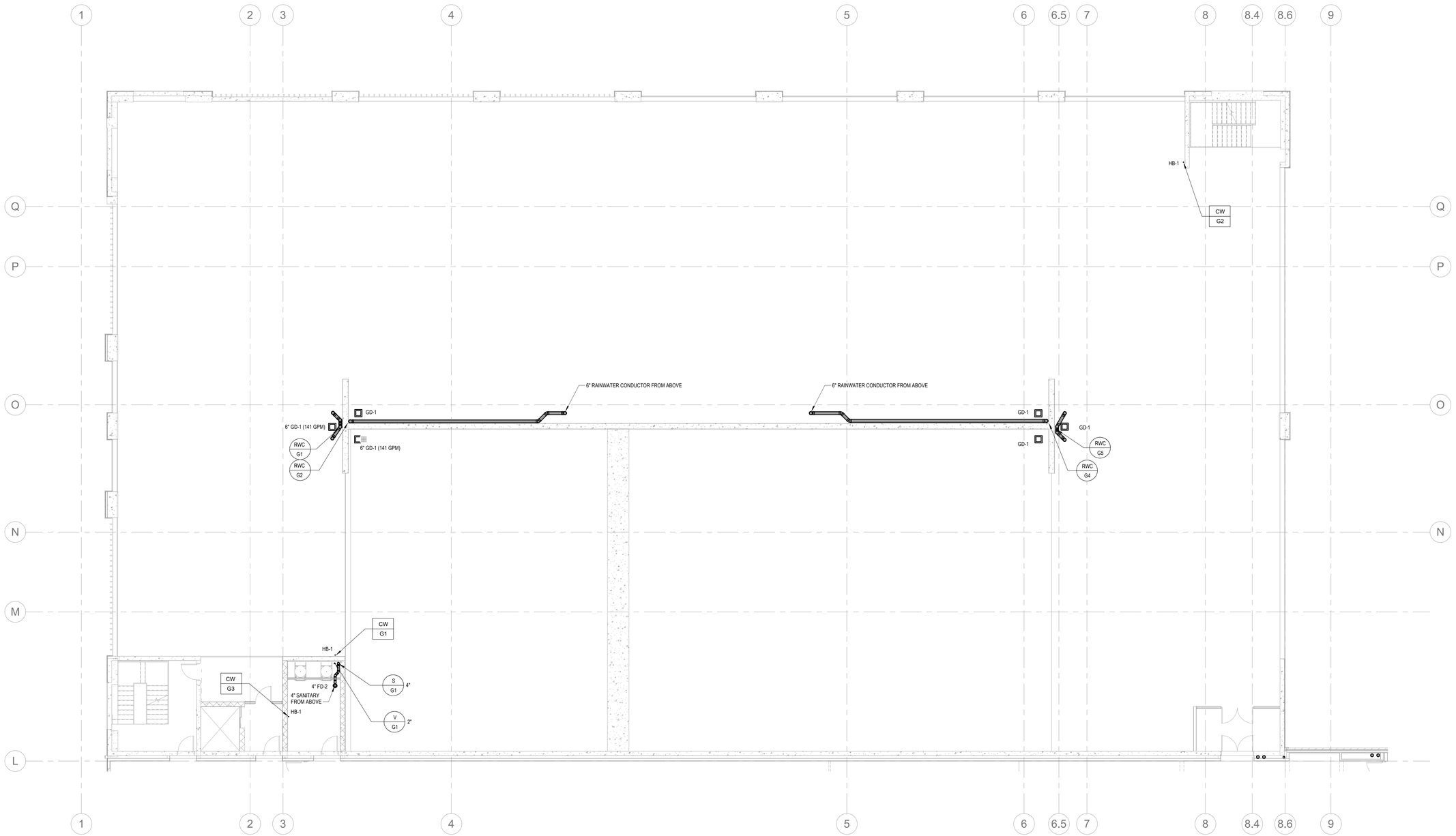

2 GP2.06 **PLUMBING - THIRD FLOOR PLAN**
1/8" = 1'-0"

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THE MARTIN ARCHITECTURAL GROUP, P.C.
ARCHITECTS AND LAND PLANNERS
A PROFESSIONAL CORPORATION
240 NORTH 22ND STREET, PHILADELPHIA, PA, 19103
P (215) 665-1600 F (215) 561-5064

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P.M.:	TRT
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PLUMBING - THIRD FLOOR PLAN

Granite Run Apartments

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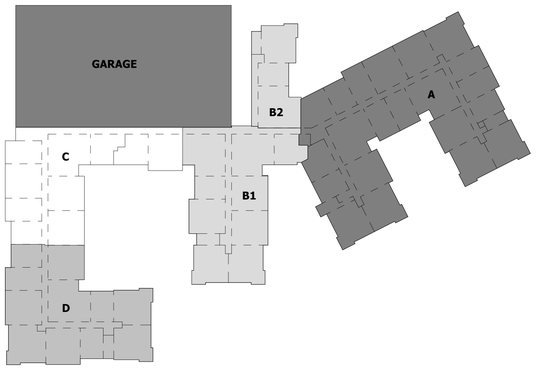

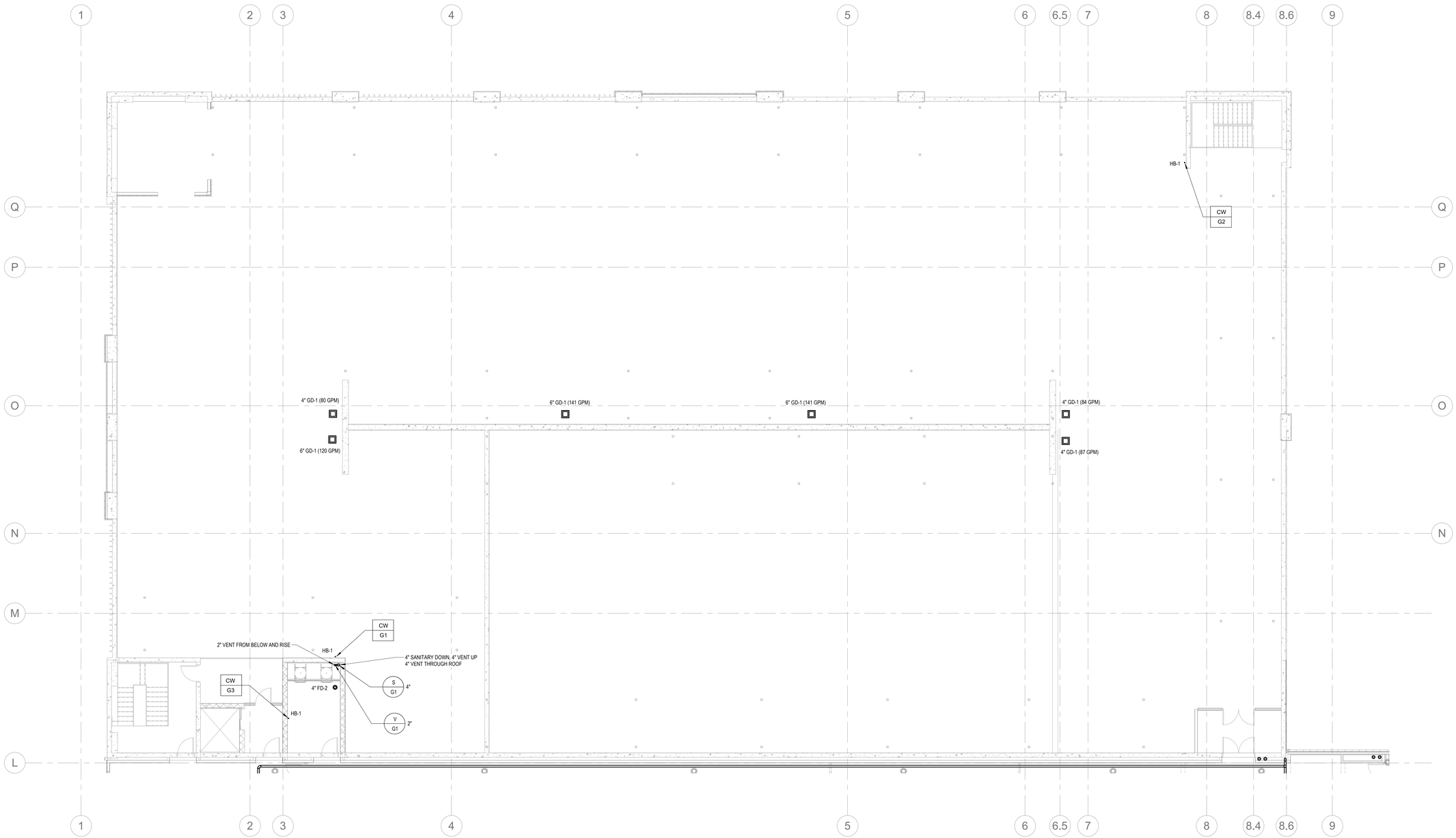

2 GP2.07 **PLUMBING - FOURTH FLOOR PLAN**
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THE MARTIN ARCHITECTURAL GROUP, P.C.
ARCHITECTS AND LAND PLANNERS
A PROFESSIONAL CORPORATION
240 NORTH 22ND STREET, PHILADELPHIA, PA, 19103
P (215) 665-1600 F (215) 561-5064

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PLUMBING - FOURTH FLOOR PLAN

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