PIPING LOCATIONS

1. PIPING SHALL NOT BE INSTALLED THROUGH A DUCTED SUPPLY, RETURN, OR EXHAUST.
2. PIPING SHALL NOT BE INSTALLED INSIDE SOLID PARTITIONS AND SOLID WALLS, UNLESS INSTALLED IN A CHASE OR CASING.
3. CONCEALED PIPING SHALL NOT HAVE UNIONS, TUBING FITTINGS, RIGHT AND LEFT COUPLINGS, BUSHINGS, COMPRESSION COUPLINGS, AND SWING JOINTS MADE BY COMBINATIONS OF FITTINGS.
4. CONCEALED PIPING SHALL BE PERMTTED TO HAVE BRAZED TUBING JOINTS OR FITTINGS APPROVED FOR CONCEALED LOCATIONS.

PIPING PENETRATIONS

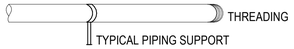
1. GAS PIPING SHALL NOT PENETRATE BUILDING FOUNDATION WALLS AT ANY POINT BELOW GRADE.
2. ALL OUTDOOR PIPING SHALL BE ELEVATED AT LEAST 3 1/2" ABOVE GROUND AND WHERE INSTALLED ABOVE ROOF SURFACES. PIPING SHALL BE SUCURELY SUPPORTED.
3. PIPING THAT PENETRATES AN OUTER WALL SHALL BE PROTECTED FROM CORROSION.
4. ALL PENETRATIONS OF FIRE-RATED ASSEMBLIES SHALL PRESERVE THE FIRE RATING THROUGH THE PROVIDED FIRE STOP SYSTEMS.

SHUT OFF VALVES

1. ALL APPLIANCES SHALL BE PROVIDED WITH A SHUT OFF VALVE ON THE GAS SUPPLY LINE.
2. SOV'S SHALL BE LOCATED WITHIN THE SAME ROOM AS THE APPLIANCE.
3. MANIFOLD INSTALLED SOV'S SHALL BE INSTALLED WITHIN 50 FT OF THE APPLIANCE.
4. SOV SHALL COMPLY WITH ANSI Z21.15 IF PRESSURE IS 1/2 PSIG(14"WC) OR LESS.
5. SOV SHALL COMPLY WITH ASME B16.44 FOR SYSTEMS HIGHER THAN 1/2 PSIG.
6. ALL APPLIANCES SHALL BE PROVIDED WITH A SEDIMENT TRAP DOWNSTREAM OF THE SHUT OFF VALVE.
7. A GAS SOLENOID VALVE SHALL BE INSTALLED ON EACH GAS MANIFOLD SERVING EQUIPMENT BELOW A COMMERCIAL KITCHEN HOOD TO AUTOMATICALLY DISCONNECT THE COOKING EQUIPMENT WHEN THE FIRE SUPPRESSION SYSTEM IS ACTIVATED.

METALLIC PIPE THREADING SPECIFICATION PER IFGC 403.9.2

PIPE SIZE (INCHES)	APPROX. LENGTH OF THREADED PORTION (INCHES)	APPROX. NUMBER OF THREADS TO BE CUT (INCHES)
1/2	3/4	10
3/4	3/4	10
1	7/8	10
1 1/4	1	11
1 1/2	1	11
2	1	11
2 1/2	1 1/2	12
3	1 1/2	12
4	1 5/8	13



PIPING SUPPORT SPECIFICATION PER IFGC 415.1

NOMINAL PIPE SIZE (INCHES)	SPACING OF SUPPORTS (FEET)
1/2	6
3/4 OR 1	8
≥1 1/4 (HOR.)	10
≥1 1/4 (VERT.)	EVERY FLOOR LEVEL

PIPING SUPPORTS

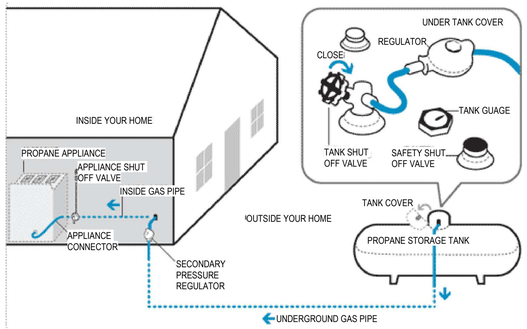
1. PIPING SHALL BE SUPPORTED WITH METAL PIPE HOOKS, METAL PIPE STRAPS, METAL BANDS, METAL BRACKETS, METAL HANGERS, OR BUILDING STRUCTURAL COMPONENTS.
2. SUPPORTS SHALL BE SUITABLE FOR THE SIZE OF THE PIPING.
3. SUPPORTS SHALL COMFORM TO MSS SP-58.
4. SUPPORTS, HANGERS AND ANCHORS SHALL NOT INTERFERE WITH THE FREE EXPANSION AND CONTRACTION OF PIPING BETWEEN ANCHORS.
5. SUPPORTS SHALL BE ANCHORED TO PREVENT UNDUE STRAIN ON CONNECTED APPLIANCES.

CODE DATA

2018 VIRGINIA FUEL GAS CODE
2018 VIRGINIA CONSTRUCTION CODE

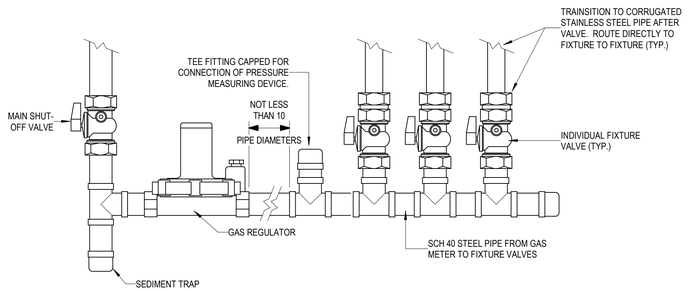
GAS LEGEND

- GAS PIPING
- POINT OF CONNECTION
- POINT OF DEMOLITION
- VENT
- CAP
- PIPING TURNING DOWN
- PIPING TURNING UP THROUGH FLOOR OR ROOF ABOVE
- REGULATOR
- P4 — PLAN NOTE. SEE PLAN NOTE SCHEDULE.
- 430 CFH / 502 CFH — TOTAL DEMAND THROUGH THE PIPE IN CUBIC FEET HOUR. MAXIMUM CAPACITY THROUGH THE PIPE IN CUBIC FEET HOUR.



NOTE : PROPANE STORAGE TANK SIZE AND SPECIFICATION SHALL BE COMPLETED BY THE CONTRACTOR AS DELEGATED DESIGN. DESIGN OF PROPANE STORAGE SYSTEM SHALL BE COMPLETED BY REGISTERED PROFESSIONAL ENGINEER AND SHALL BE CAPABLE OF MEETING THE CAPACITY AND PRESSURE REQUIREMENTS INDICATED ON THESE DRAWINGS.

GAS SERVICE TO THE EQUIPMENT IS DESIGNED FOR
PROPANE GAS @ 2.0 PSI AND 1.0 PSI PRESSURE DROP AFTER SECONDARY PRESSURE REGULATOR.



NOTE: VALVES SHALL BE LISTED AND SHALL CONFORM TO ASME B16.33.

3.04 GAS SUPPLY MANIFOLD DETAIL

GAS PIPING SCHEDULE

PIPING MATERIAL	STANDARDS	JOINT METHOD
POLYTHELENE PLASTIC PIPE	ASTM D2513	POLYTHYLENE PIPE SHALL NOT BE USED FOR ANYTHING OTHER THAN UNDERGROUND INSTALLATION. PLATIC PIPE, TUBING AND FITTINGS SHALL BE JOINED IN ACCORDANCE WITH THE MANUFACTURER INSTRUCTIONS.SEE SECTION 403.11 OF THE 2014 IFGC.
SCH. 40 STEEL PIPE	ASTMB36.10,10M & (ASTM A 53/A53M OR ASTM A312 OR ASTM A 106).	PIPE JOINTS SHALL BE THREADED, FLANGED, BRAZED, WELDED OR ASSEMBLED WITH PRESS-CONNECT FITTINGS LISTED IN ACCORDANCE WITH ANSI LC-4/CSA 6.32.

GAS EQUIPMENT SCHEDULE

ID	QTY.	MAKE	MODEL	HEATING INPUT	TOTAL GAS INPUT	POINT OF USE GAS REGULATOR	DESCRIPTION
NEW WORK							
DOAS-1	1	CAPTIVEAIRE	CASRTU3-I.400-18-20T	308,519 Btu/h	308,519 Btu/h	MAXITROL 325-5	DEDICATED OUTDOOR AIR SYSTEM
GWH-1	2	NAVIEN	NPE-240A	199,000 Btu/h	398,000 Btu/h	SERVED BY MAXITROL 325-5L LINE REGULATOR	CONDENSING TANKLESS GAS WATER HEATER.
K07	1	TBD	TBD	90,000 Btu/h	90,000 Btu/h	SERVED BY MAXITROL 325-7AL LINE REGULATOR	36 IN GAS FLAT TOP GRILL
K08	2	TBD	TBD	220,000 Btu/h	440,000 Btu/h	SERVED BY MAXITROL 325-7AL LINE REGULATOR	36 IN GAS RANGE
K09	3	TBD	TBD	120,000 Btu/h	360,000 Btu/h	SERVED BY MAXITROL 325-7AL LINE REGULATOR	18 IN GAS DEEP FRYER
Grand total: 9					1,596,519 Btu/h		

NOTE:

LANDLORD IS TO FURNISH GAS ROUGH-IN FOR KITCHEN EQUIPMENT DURING THE CURRENT CONSTRUCTION PHASE. KITCHEN EQUIPMENT'S GAS LOAD FOR REFERENCE ONLY. FUTURE TENANT TO COORDINATE ANY DISCREPANCIES BETWEEN GAS ROUGH-IN AND ACTUAL EQUIPMENT'S LOAD.

TAKE NOTE BEFORE ANY WORK IS STARTED OR EQUIPMENT IS PURCHASED:

SCHEDULE OF REQUIRED SUBMITTALS

PRE-CONSTRUCTION ACTION SUBMITTALS

ANY WORK COMPLETED OR EQUIPMENT THAT IS PURCHASED PRIOR TO THE SUBMISSION AND APPROVAL OF THESE SUBMITTALS SHALL BE CORRECTED AT THE EXPENSE OF THE CONTRACTOR.

NOTE: DESIGN IS CONTINGENT ON HAVING THE FOLLOWING INFORMATION. IT IS THE RESPONSIBILITY OF THE CLIENT TO ENSURE THAT THIS INFORMATION IS GATHERED AND SUBMITTED TO THE ENGINEER IN A TIMELY MANNER. TO WAIVE ANY OF THESE REQUIREMENTS, THE CONTRACTOR AND THE OWNER SHALL REQUEST IN WRITING AND RECEIVE APPROVAL FROM THE ENGINEER OF RECORD.

EXISTING CONDITIONS DISCLAIMER: THIS DESIGN WAS COMPLETED WITH SOME ASSUMPTIONS ABOUT THE EXISTING CONDITIONS WITHIN THE SPACE. PERMITZIP DOES NOT COMPLETE COMPREHENSIVE AS-BUILTS PRIOR TO DESIGN WORK AND WILL NOT GUARANTEE THAT THE EXISTING CONDITIONS MATCH THE ASSUMPTIONS MADE IN THIS DRAWING SET.

- **EQUIPMENT SPECS**
  A. ALL EQUIPMENT REQUIRING A GAS CONNECTION SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO PRICING, PURCHASING OR INSTALLATION.

STORAGE TANK AND DISTRIBUTION DESIGN.

- CONTRACTOR SHALL DESIGN AND BUILD AN LP STORAGE AND DISTRIBUTION SERVICE TO CONNECT TO THE BUILDING AT THE POINT OF CONNECTION INDICATED ON PLAN.
- DESIGN SHOULD BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER AND SHALL BE CAPABLE OF MEETING CAPACITY AND PRESSURE REQUIREMENTS INDICATED ON PLAN.
- INCLUDE LOAD CALCULATIONS, EQUIPMENT SPECIFICATIONS, EQUIPMENT PRODUCT LITERATURE, DESIGN DRAWINGS INDICATING LOCATION ON SITE. DRAWINGS SHALL BE SUBMITTED FOR APPROVAL BY THE LOCAL JURISDICTION WHEN APPLICABLE.
- DRAWINGS SHALL BE SUBMITTED TO EOR FOR REVIEW. REVIEW IS LIMITED ONLY TO THE PERFORMANCE REQUIREMENTS FOR INTEGRATING WITH THE INTERNAL DISTRIBUTION SYSTEM FOR CONNECTED DEVICES INDICATED ON PLAN.

- **COORDINATION DRAWINGS**
  A. PER THE GENERAL NOTES AND OTHER REQUIREMENTS OF THIS CONTRACT PACKAGE, THE FLOOR PLANS ARE DIAGRAMMATIC AND SHOW THE INTENT OF THE PROPOSED ENGINEERED SYSTEMS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CONSTRUCTION COORDINATION OF THE ENGINEERED DESIGN. THE CONTRACTOR SHALL PRE-PLAN ALL WORK BY MEETING REGULARLY WITH ALL TRADES TO DISCUSS AND COORDINATE THE INSTALLATION BEFORE PURCHASING ANY MATERIALS FOR THE PROJECT. THE FINAL OUTPUT FROM THIS PRE-PLANNING EFFORT SHALL BE A SET OF COORDINATED DRAWINGS INDICATING ALL REQUIRED CLEARANCES, ACCESS PANELS, ROUTES, OFFSETS, ELEVATIONS, AND ALL OTHER DETAILS ABOUT THE SPECIFIC CLASH-FREE INSTALLATION OF THE SYSTEMS THE CONTRACTOR IS INSTALLING. THE CONTRACTOR SHALL SUBMIT THESE COORDINATION DRAWINGS FOR REVIEW TO THE ENGINEER OF RECORD. THE ENGINEERING REVIEW IS NOT TO CONFIRM THAT COORDINATION IS ACCURATE. THE ENGINEERING REVIEW IS LIMITED TO EVALUATING THE ENGINEERING IMPACT OF THE COORDINATION DRAWINGS' PROPOSED DEVIATIONS FROM THE SCHEMATICALLY DRAWN CONSTRUCTION DRAWINGS.

CLOSE-OUT SUBMITTALS

THE FOLLOWING CLOSEOUT DOCUMENTATION IS REQUIRED PRIOR TO ENGAGING PERMITZIP FOR ANY CONSTRUCTION ADMINISTRATION RELATED TO THE PERFORMANCE OF INSTALLED PLUMBING SYSTEMS WITHIN THE SCOPE OF THIS CONSTRUCTION DOCUMENT.

CLOSEOUT NOTE: PERMITZIP IS NOT RESPONISIBLE FOR REVIEWING, TROUBLESHOOTING, OR INVESTIGATING ANY PART OF THE SYSTEMS DESIGNED HEREIN. THE STARTUP AND COMMISSIONING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR INSTALLING THE SYSTEM. THE CONTRACT SHALL COMPLETE THE FOLLOWING CLOSE-OUT WORK PRIOR TO CERTIFICATE OF OCCUPANCY AND SUBMIT TO PERMITZIP FOR REVIEW NO LATER THAN FOUR WEEKS AFTER CERTIFICATE OF OCCUPANCY IS ACHIEVED. FAILURE TO SUBMIT ON TIME WILL RESULT IN OUT-OF-SCOPE SUBMITTAL REVIEW AND WILL BE BILLED TO THE SUBMITTING PARTY AT THE HOURLY RATE OF $225 PER HOUR FOR ALL REVIEWS AND PROJECT-RELATED QUESTIONS AFTER THIS PERIOD OF TIME HAS EXPIRED.

- **AS-BUILTS**
  A. ANY FIELD COORDINATION THAT RESULTED IN A DIFFERENCE IN ROUTING, PIPE LENGTH, OR PIPE SIZE SHALL BE DOCUMENTED AND PROVIDED TO THE OWNER AND THE ENGINEER.
  B. ALL PIPING SHALL BE TESTED AND PURGED ACCORDING TO THE ADOPTED REQUIREMENTS OF THE IFGC SECTION 406 WITHIN THE STATE OR LOCAL CODE.
  C. TESTING SHALL BE DONE AT EACH PIECE OF EQUIPMENT TO DETERMINE THE AVAILABLE PRESSURE. THIS DOES NOT REPLACE THE MINIMUM TESTING REQUIRED IN THE IFGC SECTION 406.
     1. PRESSURE SHALL BE TESTED DURING THE FOLLOWING CONDITIONS:
        a. THE STATIC PRESSURE WHEN NO EQUIPMENT IS RUNNING.
        b. THE PRESSURE WHEN ONLY THAT EQUIPMENT IS RUNNING.
        c. THE PRESSURE WHEN ALL EQUIPMENT IS RUNNING.
     2. THE PRESSURE SHALL BE RECORDED FOR EACH CONDITION AND GIVEN TO THE OWNER AND ENGINEER IN A REPORT.

permitZIP
1212 Westover Hills Blvd, Richmond, VA 23225 > 833-TWO-WEEK > www.permitzip.com

ENGINEER: Kenneth Shultz, PE.
LICENSE: #0402053673.
EMAIL:kshultz@permitzip.com.

COMMONWEALTH OF VIRGINIA
KENNETH MICHAEL SHULTZ
Lic. No. 053673
21 JUNE 2023
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE

BUILDING DATA

BUILDING CONSTRUCTION: VB
USE GROUP: A-2 (RESTAURANT)
NOT IN FLOOD PLAIN.
TOTAL AREA OF PROJECT: 5,206 SF
TOTAL AREA OF BUILDING: 5,206 SF
OCCUPANCY LOAD: 197

WARSAW COMMUNITY MARKET

74 MAIN ST., WARSAW, VA 22572

PROJECT NO: 4492 BB No.254-232-611

21 JUNE 2023 RVT Version 2022

LEGENDS, NOTES & LOADS

G1

As indicated

GAS PIPING INSTALLATIONS
2018 INTERNATIONAL FUEL GAS CODE

TABLE 402.4(27)
SCHEDULE 40 METALLIC PIPE

Gas	Undiluted Propane
Inlet Pressure	2.0 psi
Pressure Drop	1.0 psi
Specific Gravity	1.50

INTENDED USE	**Pipe sizing between 2 psig service and line pressure regulator.**								
PIPE SIZE (inch)									
Nominal	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
Actual ID	**0.622**	**0.824**	**1.049**	**1.380**	**1.610**	**2.067**	**2.469**	**3.068**	**4.026**
Length (ft)	**Capacity in Thousands of Btu per Hour**								
10	2,680	5,590	10,500	21,600	32,400	62,400	99,500	176,000	359,000
20	1,840	3,850	7,240	14,900	22,300	42,900	68,400	121,000	247,000
30	1,480	3,090	5,820	11,900	17,900	34,500	54,900	97,100	198,000
40	1,260	2,640	4,980	10,200	15,300	29,500	47,000	83,100	170,000
50	1,120	2,340	4,410	9,060	13,600	26,100	41,700	73,700	150,000
60	1,010	2,120	4,000	8,210	12,300	23,700	37,700	66,700	136,000
70	934	1,950	3,680	7,550	11,300	21,800	34,700	61,400	125,000
80	869	1,820	3,420	7,020	10,500	20,300	32,300	57,100	116,000
90	815	1,700	3,210	6,590	9,880	19,000	30,300	53,600	109,000
100	770	1,610	3,030	6,230	9,330	18,000	28,600	50,600	103,000
125	682	1,430	2,690	5,520	8,270	15,900	25,400	44,900	91,500
150	618	1,290	2,440	5,000	7,490	14,400	23,000	40,700	82,900
175	569	1,190	2,240	4,600	6,890	13,300	21,200	37,400	76,300
200	529	1,110	2,080	4,280	6,410	12,300	19,700	34,800	71,000
250	469	981	1,850	3,790	5,680	10,900	17,400	30,800	62,900
300	425	889	1,670	3,440	5,150	9,920	15,800	27,900	57,000
350	391	817	1,540	3,160	4,740	9,120	14,500	25,700	52,400
400	364	760	1,430	2,940	4,410	8,490	13,500	23,900	48,800
450	341	714	1,340	2,760	4,130	7,960	12,700	22,400	45,800
500	322	674	1,270	2,610	3,910	7,520	12,000	21,200	43,200
550	306	640	1,210	2,480	3,710	7,140	11,400	20,100	41,100
600	292	611	1,150	2,360	3,540	6,820	10,900	19,200	39,200
650	280	585	1,100	2,260	3,390	6,530	10,400	18,400	37,500
700	269	562	1,060	2,170	3,260	6,270	9,990	17,700	36,000

GAS PIPING INSTALLATIONS
2018 INTERNATIONAL FUEL GAS CODE

TABLE 402.4(28)
SCHEDULE 40 METALLIC PIPE

Gas	Undiluted Propane
Inlet Pressure	11.0 in. w.c.
Pressure Drop	0.5 in. w.c.
Specific Gravity	1.50

INTENDED USE	**Pipe sizing between single- or second-stage (low pressure) regulator and appliance.**								
PIPE SIZE (inch)									
Nominal	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
Actual ID	**0.622**	**0.824**	**1.049**	**1.380**	**1.610**	**2.067**	**2.469**	**3.068**	**4.026**
Length (ft)	**Capacity in Thousands of Btu per Hour**								
10	291	608	1,150	2,350	3,520	6,790	10,800	19,100	39,000
20	200	418	787	1,620	2,420	4,660	7,430	13,100	26,800
30	160	336	632	1,300	1,940	3,750	5,970	10,600	21,500
40	137	287	541	1,110	1,660	3,210	5,110	9,030	18,400
50	122	255	480	985	1,480	2,840	4,530	8,000	16,300
60	110	231	434	892	1,340	2,570	4,100	7,250	14,800
70	101	212	400	821	1,230	2,370	3,770	6,670	13,600
80	94	197	372	763	1,140	2,200	3,510	6,210	12,700
90	89	185	349	716	1,070	2,070	3,290	5,820	11,900
100	84	175	330	677	1,010	1,950	3,110	5,500	11,200
125	74	155	292	600	899	1,730	2,760	4,880	9,950
150	67	140	265	543	814	1,570	2,500	4,420	9,010
175	62	129	243	500	749	1,440	2,300	4,060	8,290
200	58	120	227	465	697	1,340	2,140	3,780	7,710
250	51	107	201	412	618	1,190	1,900	3,350	6,840
300	46	97	182	373	560	1,080	1,720	3,040	6,190
350	42	89	167	344	515	991	1,580	2,790	5,700
400	40	83	156	320	479	922	1,470	2,600	5,300
450	37	78	146	300	449	865	1,380	2,440	4,970
500	35	73	138	283	424	817	1,300	2,300	4,700
550	33	70	131	269	403	776	1,240	2,190	4,460
600	32	66	125	257	385	741	1,180	2,090	4,260
650	30	64	120	246	368	709	1,130	2,000	4,080
700	29	61	115	236	354	681	1,090	1,920	3,920

GAS PIPING INSTALLATIONS
2018 INTERNATIONAL FUEL GAS CODE

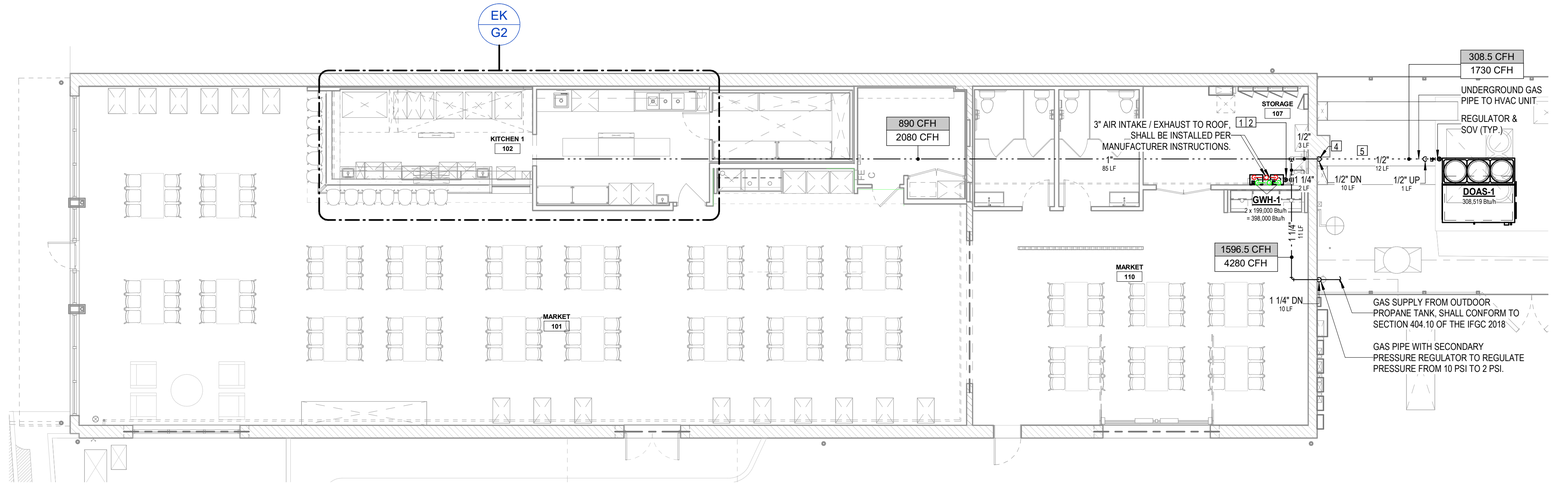
TABLE 402.4(36)
POLYETHYLENE PLASTIC PIPE

Gas	Undiluted Propane
Inlet Pressure	2.0 psi
Pressure Drop	1.0 psi
Specific Gravity	1.50

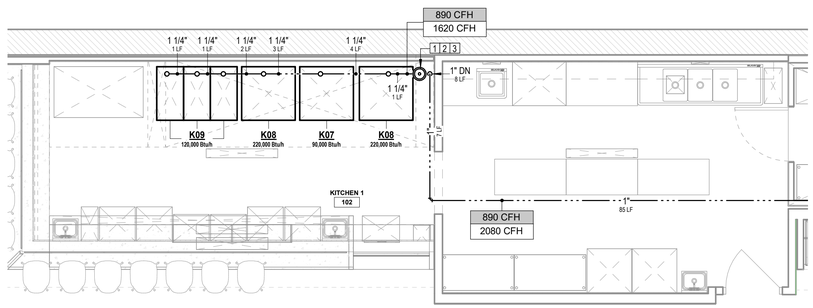
INTENDED USE	**PE pipe sizing between 2 psig service regulator and line pressure regulator.**							
PIPE SIZE (inch)								
Nominal OD	1/2	3/4	1	1 1/4	1 1/2	2	3	4
Designation	**SDR 9**	**SDR 11**	**SDR 11**	**SDR 10**	**SDR 11**	**SDR 11**	**SDR 11**	**SDR 11**
Actual ID	**0.660**	**0.860**	**1.077**	**1.328**	**1.554**	**1.943**	**2.864**	**3.682**
Length (ft)	**Capacity in Thousands of Btu per Hour**							
10	3,130	6,260	11,300	19,600	29,500	53,100	147,000	284,000
20	2,150	4,300	7,760	13,400	20,300	36,500	101,000	195,000
30	1,730	3,450	6,230	10,800	16,300	29,300	81,100	157,000
40	1,480	2,960	5,330	9,240	14,000	25,100	69,400	134,100
50	1,310	2,620	4,730	8,190	12,400	22,200	61,500	119,000
60	1,190	2,370	4,280	7,420	11,200	20,100	55,700	108,000
70	1,090	2,180	3,940	6,830	10,300	18,500	51,300	99,100
80	1,010	2,030	3,670	6,350	9,590	17,200	47,700	92,200
90	952	1,910	3,440	5,960	9,000	16,200	44,700	86,500
100	899	1,800	3,250	5,630	8,500	15,300	42,300	81,700

GAS - KEY NOTES

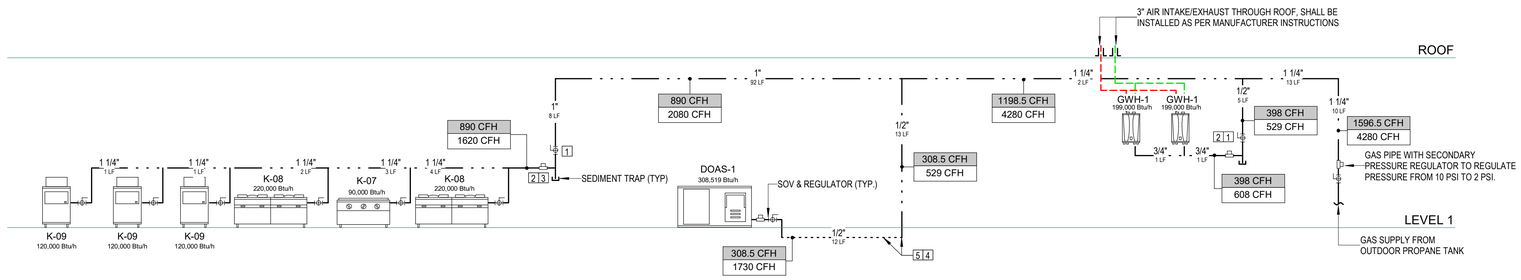
1 SHUT-OFF VALVE SHALL BE INSTALLED ON THE VERTICAL RISER.
2 LINE REGULATOR REGULATE GAS PRESSURE FROM 2 PSI TO 11" W.C.
3 GAS PIPING CONTRACTOR SHALL INSTALL EMERGENCY SOLENOID SHUT-OFF FOR EQUIPMENT UNDER THE HOOD. COORDINATE WITH HOOD INSTALLER FOR FINAL CONNECTIONS.
4 PROVIDE ANODLESS RISERS FOR TRANSITION TO POLYETHYLENE PIPE BELOW GRADE.
5 GAS PIPING INSTALLED BELOW GRADE SHALL BE BURIED NO LESS THAN 12" BELOW GRADE & PIPING SHALL BE PROVIDED WITH NOT LESS THAN 18 AWG COPPER TRANCER WIRES AS PER SECTIONS 404.12 & 404.17.3 OF THE IFGC.



1 LEVEL 1 - OVERALL GAS PLAN
1/8" = 1'-0"



EK
G2
ENLARGED GAS PLAN - KITCHEN
1/4" = 1'-0"



4 GAS RISER DIAGRAM
SCALE: NONE

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1212 Westover Hills Blvd, Richmond, VA 23225 > 833-TWO-WEEK > www.permitzip.com

ENGINEER: Kenneth Shultz, PE.
LICENSE: #0402053673.
EMAIL:kshultz@permitzip.com.

COMMONWEALTH OF VIRGINIA
KENNETH MICHAEL SHULTZ
Lic. No. 053673
21 JUNE 2023
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE

BUILDING DATA

BUILDING CONSTRUCTION: VB
USE GROUP: A-2 (RESTAURANT)
NOT IN FLOOD PLAIN.
TOTAL AREA OF PROJECT: 5,206 SF
TOTAL AREA OF BUILDING: 5,206 SF
OCCUPANCY LOAD: 197

WARSAW COMMUNITY MARKET

74 MAIN ST., WARSAW, VA 22572

PROJECT NO: 4492
BB No.254-232-611
21 JUNE 2023
RVT Version 2022

GAS PLANS & RISER

G2

As indicated

GENERAL NOTES

INTENT OF THE DRAWINGS
1. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE, AND SHOW THE GENERAL LOCATION OF PIPING, AND EQUIPMENT. THE DRAWINGS DO NOT SHOW ALL NECESSARY OFFSETS, TRANSITIONS, AND ADJUSTMENTS NECESSITATED BY COORDINATION WITH OTHER TRADES. THE COST OF ALL OFFSETS, TRANSITIONS, AND ADJUSTMENTS NECESSITATED BY COORDINATION WITH OTHER TRADES SHALL BE INCLUDED IN THE CONTRACTOR'S BID.

COORDINATION WITH OTHER TRADES
1. EXAMINE AND REVIEW THE CONTRACT DOCUMENTS OF ALL DIVISIONS OF THE SPECIFICATIONS IN ORDER TO COORDINATE THE INSTALLATION OF WORK.
2. USE DIMENSIONED ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS TO VERIFY THE SPACE NECESSARY FOR LOCATING PIPING, DUCTWORK, AND EQUIPMENT. USE FIELD MEASUREMENTS TO VERIFY DIMENSIONS WHERE AREAS ARE CONGESTED, AND EXACT LOCATION IS CRITICAL TO ASSURE PROPER INSTALLATION.
3. COORDINATION SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, VERIFYING THE LOCATION AND SIZE OF OPENINGS IN FLOORS, WALLS, PARTITIONS, CEILINGS, AND ROOFS WITH THE INSTALLING TRADES; ALLOCATION OF SPACE WITH OTHER TRADES INSTALLING WORK IN CHASES, SHAFTS, CEILING INTERSTITIAL SPACES, AND EQUIPMENT SPACES; AND THE PHASING OF INSTALLATION WORK WITH THAT OF OTHER TRADES.

WORKMANSHIP
1. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER THAT PROVIDES A PROFESSIONAL, COMPLETE INSTALLATION.

EQUIPMENT
1. CONTRACTOR SHALL INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, THE SPECIFICATIONS, AND APPROVED SHOP DRAWINGS FOR EACH PIECE OF EQUIPMENT.
2. PROVIDE SERVICE AND OPERATING CLEARANCES AROUND ALL SIDES OF EACH PIECE OF EQUIPMENT IN ACCORDANCE WITH CODE AND THE MANUFACTURER'S PRINTED REQUIREMENTS AND RECOMMENDATIONS.

FIXTURES
1. ALL OPEN SITE DRAINS, FLOOR DRAINS AND FLOOR SINKS SHALL BE PROVIDED WITH AN APPROVED AND LISTED TRAP SEAL.

PIPING
1. PROVIDE ALL PIPING IN ACCORDANCE WITH THE SPECIFICATIONS; THE PIPING PLANS AND DETAILS; AND THE PIPE INSULATION SCHEDULE.
2. PIPING SCHEMATICS AND DIAGRAMS SHOW ONLY THE BASIC FLOW PATTERN AND EQUIPMENT ARRANGEMENT, AND DO NOT SHOW ALL TERMINAL EQUIPMENT CONNECTED TO THE SYSTEM. REFER TO THE PLANS AND SECTIONS FOR DETAILED SYSTEM LAYOUT.

PIPING SUPPORTS
1. PIPING SHALL BE SUPPORTED WITH HANGERS, ANCHORS AND SUPPORTS.
2. HANGERS AND STRAPING MATERIAL SHALL BE OF APPROVED MATERIAL THAT WILL NOT PROMOTE GALVANIC ACTION.
3. PIPING SUPPORTS SHALL BE DESIGNED AND INSTALLED FOR THE SEISMIC FORCES IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE.
4. HANGERS AND ANCHORS SHALL BE ATTACHED TO THE BUILDING CONSTRUCTION IN AN APPROVED MANNER.
5. THE INTERVAL OF SUPPORT FOR PIPING SYSTEMS SHALL COMPLY WITH TABLE 308.5 OF THE IPC.
6. SUPPORTS SHALL BE SUITABLE FOR THE SIZE OF THE PIPING.
7. RIGID SUPPORTS SWAY BRACING SHALL BE PROVIDED AT CHANGES IN DIRECTION GREATER THAN 45 DEGREES FOR PIPE SIZES 4 INCHES AND LARGER.
8. ANCHORAGE SHALL BE PROVIDED TO RESTRAIN DRAINAGE PIPING FROM AXIAL MOVEMENT.
9. EXPANSION JOINT FITTINGS SHALL BE ONLY USED WHERE NECESSARY TO PROVIDE FOR EXPANSION AND CONTRACTION OF THE PIPES. THE EXPANSION JOINT FITTINGS SHALL BE OF THE TYPICAL MATERIAL SUITABLE FOR USE WITH THE TYPE OF PIPING IN WHICH SUCH FITTINGS ARE INSTALLED.

SHUT OFF VALVES.
1. WATER PIPING THAT BRANCHES OFF FROM THE MAIN DISTIBUTION PIPE TO SERVE FIXTURES IN A REMOTE LOCATION SHALL BE LABELED AND PROVIDED WITH A SHUT OFF VALVE AT THE POINT OF CONNECTION (POC) OF THE BRANCH. THIS INCLUDES FIXTURES ON A DIFFERENT FLOOR LEVEL FROM THE POC OF THE BRANCH OR FIXTURES THAT ARE MORE THAN 20 FT AWAY FROM THE BRANCH POC.

SLEEVES
1. DIMENSIONED AND COORDINATED SHOP DRAWINGS INDICATING THE LOCATION AND SIZE OF ALL SLEEVES AND CAST IN PLACE ITEMS NECESSARY FOR ALL WORK REQUIRED SHALL BE FURNISHED TO THE PRE-CAST CONCRETE FABRICATOR BEFORE THE FABRICATION OF THE PRE-CAST CONCRETE WORK.

PRODUCT SUBMITTALS
1. WHERE A PRODUCT IS SUBMITTED THAT IS NOT THE BASIS OF DESIGN (WHETHER STATED IN THE DOCUMENTS OR NOT), COORDINATE THE DIFFERENCES IN THE PRODUCT THAT IMPACT OTHER TRADES WITH THE AFFECTED TRADES. THE COST IMPACT ON OTHER TRADES RESULTING FROM A PRODUCT SUBMITTAL THAT IS NOT THE BASIS OF DESIGN SHALL BE INCLUDED IN THE CONTRACTOR'S PRICE AND SHALL NOT BE PASSED ON TO THE OWNER.

CORE DRILL
1. GROUND PENETRATING RADAR SHALL BE PERFORMED PRIOR TO ALL CORE DRILLING TO CONFIRM LOCATIONS OF ALL UNDERGROUND DRAINAGE/PIPING.

HVAC
1. THE PLUMBING CONTRACTOR SHALL NOT BE RESPONSIBLE FOR THE INSTALLATION OF CONDENSATE PIPING FOR HVAC EQUIPMENT.
2. THE PLUMBING CONTRACTOR SHALL INSTALL DRAINS AS SPECIFIED IN THIS DRAWING SET FOR THE DISPOSAL OF CONDENSATE.
3. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONDENSATE PIPING ATTACHED TO HVAC EQUIPMENT.

FIRE SPRINKLER
1. CONTRACTOR SHALL INCLUDE BASE BID PROVISIONS FOR A SPRINKLER DRAIN CONNECTION WITH 40' PVC (INCLUDING SAW CUTTING AND BACK FILLING AS REQUIRED) EXTENDING AND CONNECTING INTO THE BUILDING DRAIN SYSTEM. FINAL DRAIN LOCATION WILL BE PROVIDED ONCE FIRE SPRINKLER SHOP DRAWINGS HAVE BEEN SUBMITTED.

CODE DATA & STANDARDS

- 2018 VIRGINIA EXISTING BUILDING CODE [VEBC]
- 2018 VIRGINIA CONSTRUCTION CODE [VCC]
- 2018 VIRGINIA PLUMBING CODE
- 2018 VIRGINIA ENERGY CONSERVATION CODE
- 2009 ANSI 117.1 STANDARD FOR ACCESSIBLE & USEABLE BUILDINGS

PLUMBING ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AAV	AIR ADMITTANCE VALVE
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
APPROX	APPROXIMATE OR APPROXIMATELY
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
C.I.	CAST-IRON
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COMB	COMBINATION
COMP	COMPRESSOR
COND	CONDENSATE
CONN	CONNECT OR CONNECTION
CW	COLD WATER
DCV	DOUBLE CHECK VALVE
DEG	DEGREE
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EACH
EFD	EMERGENCY FLOOR DRAIN
ELEV	ELEVATION
EQUIP	EQUIPMENT
EXIST OR (E)	EXISTING
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FLEX	FLEXIBLE
FOV	FULL OPEN VALVE
FW	FILTERED WATER
GPM	GALLONS PER MINUTE
GW	GREY WATER
GWH	GAS WATER HEATER
HB	HOSE BIBB
HHW	HIGH TEMPERATURE HOT WATER AT 140 F
HW	HOT WATER
HWR	HOT WATER RETURN
MAX	MAXIMUM
MIN	MINIMUM
OSD	OPEN SITE DRAIN
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
REQD	REQUIRED
SOV	SHUT OFF VALVE
TEMP	TEMPERATURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VTR	VENT THRU ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WATER HEATER

LIMITS OF PROFESSIONAL SUPERVISION

THE FOLLOWING LIST OF ITEMS SHALL BE EXCLUDED FROM CONSIDERATION AS UNDER THE DIRECT SUPERVISION AND CONTROL OF THE ENGINEER OF RECORD. THIS LIST IS NOT EXHAUSTIVE AND THERE MAY BE OTHER NOTES AND SPECIFICATIONS THROUGHOUT THAT LIMIT THE SUPERVISION FURTHER. NO ITEM LISTED HERE SHALL BE CONSIDERED IN ANY WAY UNDER THE DIRECT SUPERVISION AND CONTROL OF PERMITZIP OR THE ENGINEER OF RECORD, EVEN IF IT IS PART OF THE CONTRACTOR AND/OR SUBCONTRACTOR'S WORK BY WAY OF DELEGATED DESIGN NARRATIVE OR COORDINATION NOTE:

1. **UTILITIES:** ALL METERING EQUIPMENT IS SHOWN ON THIS CONTRACT DOCUMENT FOR REFERENCE ONLY AND IS TO BE REVIEWED AND APPROVED BY THE LOCAL UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING EXACT INSTALLATION REQUIREMENTS WITH LOCAL UTILITY COMPANY PROVIDING SERVICE. ALTHOUGH EQUIPMENT LOCATIONS AND REQUIREMENTS ARE SHOWN FOR REFERENCE, THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING REQUIREMENTS, LOCATIONS, MOUNTING AND ANY OTHER INSTALLATION REQUIREMENTS NOT EXPRESSLY STATED WITHIN THE CONTRACT DOCUMENTS COORDINATION SHALL INCLUDE CONSIDERATION OF ALL OTHER TRADES. PERMITZIP SHALL NOT BE RESPONSIBLE FOR SUPERVISING THE SIZE, APPEARANCE, OR FINAL LOCATION OF UTILITY METERING EQUIPMENT, NOR DOES PERMITZIP HAVE CONTROL OF THE EQUIPMENT PROVIDED BY THE LOCAL UTILITY.
2. **TRENCHING/BACKFILL:** ANY PROPOSED TRENCHING SHALL BE MARKED, MEASURED AND PRE-PLANNED BETWEEN THE PLUMBING CONTRACTOR, GENERAL CONTRACTOR, ARCHITECT AND OWNER PRIOR TO OPENING SLAB. ALL PROPOSED TRENCHING IS SHOWN FOR REFERENCE ONLY AND SHALL NOT BE DEEMED TO BE THE FINAL ROUTING OR COMPREHENSIVE INSTRUCTIONS FOR TRENCHING AND BACKFILL. TRENCHING AND BACKFILL SHALL CONFORM TO ALL REQUIREMENTS OF THE BUILDING CODE AND PLUMBING CODE AS LISTED ON THE COVER SHEET.
3. **SITE PLAN COORDINATION:** THE USE OF A SITE PLAN ON THIS CONSTRUCTION SET SHALL BE CONSIDERED FOR REFERENCE ONLY AND IS INTENDED SOLELY TO PROVIDE CONTEXT TO THE READER OF OVERALL SITE CONDITIONS THAT MAY IMPACT THE PLUMBING TRADES. PERMITZIP IS NOT ASSUMING ANY RESPONSIBILITY FOR PLUMBING WORK RELATED TO THE SITE INSTALLATION (INCLUDING BY NOT LIMITED TO: EXACT INSTALLATION OF UNDERGROUND PIPING, INTERCEPTORS OF ANY KIND, UTILITY INFRASTRUCTURE). REFER TO CIVIL DOCUMENTS FOR MORE INFORMATION.
4. **KITCHEN HOOD:** ANY INTERCONNECTIONS WITH KITCHEN HOODS OR HOOD EQUIPMENT SHALL NOT BE DEEMED AS SUPERVISION OR DIRECTION REGARDING THE DESIGN AND INSTALLATION OF THE HOOD OR ANY PERIPHERAL EQUIPMENT RELATED TO THE HOOD. IF SHOWN, HOOD AND PERIPHERAL EQUIPMENT TO THE HOOD SHALL BE FOR REFERENCE ONLY TO CLARIFY POINTS OF INTERCONNECTION BETWEEN VARIOUS SYSTEMS.
5. **MANUFACTURER REQUIRED CLEARANCES:** THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING EXACT REQUIREMENTS FROM EQUIPMENT MANUFACTURERS, INCLUDING BUT NOT LIMITED TO: CLEARANCES, MOUNTING REQUIREMENTS, SAFETY PROTOCOL.
6. **SPRINKLER:** PERMITZIP DOES NOT PERFORM PROFESSIONAL SUPERVISION OF SPRINKLER SYSTEMS, NOR DOES PERMITZIP SUPERVISE THE WATER SERVICE FOR THE FIRE SPRINKLER. IN THE CASE WHERE A SHARED VAULT IS REQUIRED, SEE NOTE 1. PERMITZIP MAY SHOW A SHARED SERVICE FOR NFPA 13R SPRINKLER SYSTEMS UP TO A SPECIFIED POINT AS SHOWN IN THE DESIGN DRAWINGS. PERMITZIP IS NOT RESPONSIBLE FOR THE PROFESSIONAL SUPERVISION OF THE 13R SPRINKLER SYSTEM.

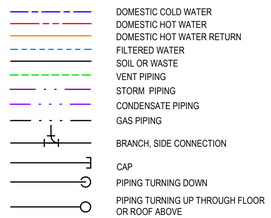
PLUMBING MINIMUM FIXTURES

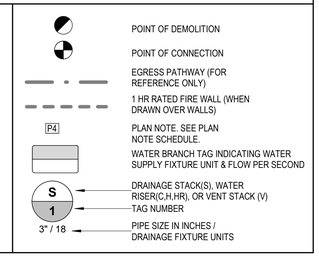
USE GROUP - A-2 (RESTAURANT)

OCCUPANCY PER SEX - 197/2 = 98.5 PER SEX

TYPE OF FIXTURE	REQUIRED RATIO	TOTAL REQUIRED	PROVIDED
DRINKING FOUNTAIN	1 PER 500	NOT REQUIRED PER VPC 410.4 SUBSTITUTION	NA
LAVATORIES	1 PER 200	1 PER SEX	1 PER SEX
SERVICE SINK	1 TOTAL	1	1
WATER CLOSET	1 PER 75	2 PER SEX	2 PER SEX

LEGEND





TAKE NOTE BEFORE ANY WORK IS STARTED OR EQUIPMENT IS PURCHASED:

SCHEDULE OF REQUIRED SUBMITTALS

PRE-CONSTRUCTION ACTION SUBMITTAL

ANY WORK COMPLETED OR EQUIPMENT THAT IS PURCHASED PRIOR TO THE SUBMISSION AND APPROVAL OF THESE SUBMITTALS SHALL BE CORRECTED AT THE EXPENSE OF THE CONTRACTOR.

NOTE: DESIGN IS CONTINGENT ON HAVING THE FOLLOWING INFORMATION. IT IS THE RESPONSIBILITY OF THE CLIENT TO ENSURE THAT THIS INFORMATION IS GATHERED AND SUBMITTED TO THE ENGINEER IN A TIMELY MANNER. TO WAIVE ANY OF THESE REQUIREMENTS, THE CONTRACTOR AND THE OWNER SHALL REQUEST IN WRITING AND RECEIVE APPROVAL FROM THE ENGINEER OF RECORD.

EXISTING CONDITIONS DISCLAIMER: THIS DESIGN WAS COMPLETED WITH SOME ASSUMPTIONS ABOUT THE EXISTING CONDITIONS WITHIN THE SPACE. PERMITZIP DOES NOT COMPLETE COMPREHENSIVE AS-BUILTS PRIOR TO DESIGN WORK AND WILL NOT GUARANTEE THAT THE EXISTING CONDITIONS MATCH THE ASSUMPTIONS MADE IN THIS DRAWING SET.

- **UTILITY CONNECTIONS**
  - A. ALL PROPOSED UTILITY CONNECTIONS AND ASSOCIATED METERS AND SAFETY DEVICES SHALL BE CLEARLY APPROVED IN WRITING BY THE UTILITY PRIOR TO ANY WORK BEING COMPLETED. THIS INCLUDES GAS PROVIDER, THE DEPARTMENT OF PUBLIC UTILITIES, CROSS CONNECTION AUTHORITIES, AND ANY OTHER UTILITY PROVIDER HAVING JURISDICTION OVER THE LOCATION OF THE PROJECT. WRITTEN APPROVAL SHALL BE DISTRIBUTED TO THE ENGINEER OF RECORD FOR REVIEW.
- **FLOW TEST**
  - A. FLOW TEST SHALL BE COORDINATED BETWEEN DPU OPERATIONS AND THE PERFORMING CONTRACTOR.
  - B. FLOW TEST SHALL CONFORM TO THE RECOMMENDED METHOD IN NFPA 291.
  - C. ALL FLOW TEST RESULTS SHALL BE DELIVERED TO THE ENGINEER FOR REVIEW PRIOR TO ROUGH IN.
- **FINISHED FLOOR ELEVATIONS**
  - A. A SKETCH SHALL BE SUBMITTED SHOWING THE FINISHED FLOOR ELEVATIONS.
- **PRODUCT DATA**
  - A. THE ENGINEER SHALL BE PROVIDED WITH CUT SHEETS OF THE FOLLOWING ITEMS FOR REVIEW:
    - a. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER
    - b. ALL POINT OF USE BACKFLOW PREVENTERS
    - c. ALL FIXTURES OR EQUIPMENT THAT IS REQUIRED TO HAVE A BACKFLOW PREVENTION METHOD ACCORDING TO THE FIXTURE SCHEDULE.
    - d. THERMOSTATIC MIXING VALVES
    - e. WATER HAMMER ARRESTERS
    - f. FLOOR DRAINS AND TRAP PRIMERS
    - g. WATER HEATERS
    - h. PUMPS OF ANY KIND
- **EXISTING PIPING CONDITIONS**
  - A. CONTRACTOR SHALL FIELD VERIFY WITH SCOPE AND SUBMIT FINDINGS TO ENGINEER FOR REVIEW PRIOR TO CORE DRILLING OR TRENCHING. **IF THE LOCATION DIFFERS FROM THE ASSUMPTION IN THIS DRAWING SET, THE DESIGN WILL BE IMPACTED. CONTRACTOR SHALL PROVIDE CONTINGENCY IN BIDDING TO COVER THE POTENTIAL OF EXPANDED TRENCHING AND PIPING SCOPE DUE TO DISCOVERY.**
  - B. **THE FOLLOWING INFORMATION SHALL BE REQUIRED IN A REPORT OF FINDINGS:**
    - a. SEWER INVERT ELEVATION
    - b. EXACT LOCATION OF EXISTING CONNECTION TO CITY SEWER.
    - c. LOCATION OF BUILDING DRAIN EXITING THE BUILDING.
    - d. CONDITION OF SEWER LATERAL ALL THE WAY TO CITY SEWER.
    - e. LOCATIONS AND SIZES OF EXISTING ROOF PENETRATIONS TO BE REUSED FOR VENT PIPING.
    - f. EXACT LOCATION OF WATER SERVICE AND ENTRANCE INTO TENANT SPACE, AS WELL AS ANY SPECIFIC TIE IN POINTS TO EXISTING PIPING, INCLUDING THE SIZES AND MATERIALS OF THE EXISTING PIPING.
- **COORDINATION DRAWINGS**
  1. PER THE GENERAL NOTES AND OTHER REQUIREMENTS OF THIS CONTRACT PACKAGE, THE FLOOR PLANS ARE DIAGRAMMATIC AND SHOW THE INTENT OF THE PROPOSED ENGINEERED SYSTEMS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CONSTRUCTION COORDINATION OF THE ENGINEERED DESIGN. THE CONTRACTOR SHALL PRE-PLAN ALL WORK BY MEETING REGULARLY WITH ALL TRADES TO DISCUSS AND COORDINATE THE INSTALLATION BEFORE PURCHASING ANY MATERIALS FOR THE PROJECT. THE FINAL OUTPUT FROM THIS PRE-PLANNING EFFORT SHALL BE A SET OF COORDINATED DRAWINGS INDICATING ALL REQUIRED CLEARANCES, ACCESS PANELS, ROUTES, OFFSETS, ELEVATIONS, AND ALL OTHER DETAILS ABOUT THE SPECIFIC CLASH-FREE INSTALLATION OF THE SYSTEMS THE CONTRACTOR IS INSTALLING. THE CONTRACTOR SHALL SUBMIT THESE COORDINATION DRAWINGS FOR REVIEW TO THE ENGINEER OF RECORD. THE ENGINEERING REVIEW IS NOT TO CONFIRM THAT COORDINATION IS ACCURATE. THE ENGINEERING REVIEW IS LIMITED TO EVALUATING THE ENGINEERING IMPACT OF THE COORDINATION DRAWINGS' PROPOSED DEVIATIONS FROM THE SCHEMATICALLY DRAWN CONSTRUCTION DRAWINGS.
- **LOAD LETTERS, APPLICATIONS AND DPU FORMS**
  1. THE CONTRACTOR AND OWNER SHALL COMPLETE ALL REQUIRED DPU OR PLUMBING APPLICATIONS. PERMITZIP SHALL COMPLETE THESE FORMS FOR AN ADDITIONAL PRE-PAID FEE OF $500 IF REQUIRED

POST-CONSTRUCTION ACTION SUBMITTAL

THE FOLLOWING CLOSEOUT DOCUMENTATION IS REQUIRED PRIOR TO ENGAGING PERMITZIP FOR ANY CONSTRUCTION ADMINISTRATION RELATED TO THE PERFORMANCE OF INSTALLED PLUMBING SYSTEMS WITHIN THE SCOPE OF THIS CONSTRUCTION DOCUMENT.

CLOSEOUT NOTE: PERMITZIP IS NOT RESPONSIBLE FOR REVIEWING, TROUBLESHOOTING, OR INVESTIGATING ANY PART OF THE SYSTEMS DESIGNED HEREIN. THE STARTUP AND COMMISSIONING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR INSTALLING THE SYSTEM. THE CONTRACT SHALL COMPLETE THE FOLLOWING CLOSE-OUT WORK PRIOR TO CERTIFICATE OF OCCUPANCY AND SUBMIT TO PERMITZIP FOR REVIEW NO LATER THAN FOUR WEEKS AFTER CERTIFICATE OF OCCUPANCY IS ACHIEVED. FAILURE TO SUBMIT ON TIME WILL RESULT IN OUT-OF-SCOPE SUBMITTAL REVIEW AND WILL BE BILLED TO THE SUBMITTING PARTY AT THE HOURLY RATE OF $225 PER HOUR FOR ALL REVIEWS AND PROJECT-RELATED QUESTIONS AFTER THIS PERIOD OF TIME HAS EXPIRED.

- **TESTING & COMMISSIONING**
  - A. PRIOR TO WALLS AND TRENCHES BEING CLOSED, OR ANY OTHER FINISHING WORK WHICH, UPON COMPLETION, WOULD HINDER ACCESS TO ANY PART OF THE PLUMBING SYSTEM IN THIS PLAN, COMMISSIONING SHALL BE COMPLETED FOR EACH ELEMENT OF THE DESIGNED SYSTEM.
    - a. CONTRACTOR SHALL PERFORM TESTING AND COMMISSIONING OR SHALL INCLUDE IN PRICING THE FEE TO HIRE A PROFESSIONAL COMMISSIONING ENGINEER.
    - b. COMMISSIONING SHALL ENCOMPASS ALL NEW WORK COMPONENTS OF THE DESIGN IN THIS CONSTRUCTION DOCUMENT.
    - c. REPORT SHALL BE PROVIDED TO THE DESIGN ENGINEER OF RECORD AND OWNER SHOWING THE PERFORMANCE OF EACH DESIGN COMPONENT OF THE PLUMBING AND GAS SYSTEMS.
    - d. IN THE EVENT THAT ANY PART OF THE NEW WORK DESIGN IS FOUND TO BE UNABLE TO ACHEIVE THE PERFORMANCE INTENDED IN THE DESIGN DOCUMENTS, STEPS SHALL BE TAKEN TO REMEDY THE ISSUE PRIOR TO FINISHING WORK THAT MAY HINDER ACCESS TO COMPONENTS OF THE DESIGN.
    - e. THE ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR ANY PERFORMANCE ISSUES IN SYSTEM COMPONENTS THAT WERE NOT INSTALLED AS DESIGNED.
- HANDOFF
  1. CONTRACTOR SHALL BE RESPONSIBLE FOR PACKAGING ALL OWNERS MANUALS, WARRANTIES, COMMISSIONING REPORTS AND OTHER DOCUMENTATION RELATED TO THE EQUIPMENT THAT WAS PURCHASED AND INSTALLED. THIS DOCUMENT PACKAGE SHALL BE HANDED OFF TO THE OWNER OR OWNER REPRESENTATIVE UPON COMPLETION OF TESTING AND COMMISSIONING.

PLUMBING DRAWING INDEX

SHEET NUMBER	SHEET NAME
P1	LEGEND, NOTES, & ABBREVIATIONS
P2	SCHEDULES
P3	LOADS
P4	LEVEL 1 & ROOF - PLUMBING PLAN
P5	ENLARGED - PLUMBING PLANS
P6	PLUMBING RISER DIAGRAMS
P7	DETAILS & DIAGRAMS

permitZIP
1212 Westover Hills Blvd, Richmond, VA 23225 > 833-TWO-WEEK > www.permitzip.com

ENGINEER: Kenneth Shultz, PE.
LICENSE: #0402053673.
EMAIL:kshultz@permitzip.com.

COMMONWEALTH OF VIRGINIA
KENNETH MICHAEL SHULTZ
Lic. No. 053673
21 JUNE 2023
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE

BUILDING DATA

BUILDING CONSTRUCTION: VB
USE GROUP: A-2 (RESTAURANT)
NOT IN FLOOD PLAIN.
TOTAL AREA OF PROJECT: 5,206 SF
TOTAL AREA OF BUILDING: 5,206 SF
OCCUPANCY LOAD: 197

WARSAW COMMUNITY MARKET

74 MAIN ST., WARSAW, VA 22572

PROJECT NO: 4492
BB No.254-232-611
21 JUNE 2023
RVT Version 2022

LEGEND, NOTES, & ABBREVIATIONS

P1

As indicated

PLUMBING FIXTURE SCHEDULE

NOTE: SHUT OFF VALVES SHALL BE PROVIDED FOR ALL DOMESTIC COLD WATER AND DOMESTIC HOT WATER SUPPLY LINES FOR EACH FIXTURE. SHUT OFF VALVES SHALL BE ACCESSIBLE.

FIXTURE ID	QTY	FIXTURE	PLUMBING CONNECTIONS			TEMPERED WATER METHOD	BACKFLOW PREVENTION METHOD	WATER HAMMER METHOD	REMARKS
			WATER CONNECTION		INDIRECT DRAIN / P-TRAP SIZE				
			CW	HW	W				
NEW WORK									
FD-2	1	FLOOR DRAIN			2"				FLOOR DRAIN PROVIDED WITH TRAP SEAL CONFORMING TO ASSE 1072.
FD-3	3	FLOOR DRAIN			3"				FLOOR DRAIN PROVIDED WITH TRAP SEAL CONFORMING TO ASSE 1072.
FD-4	1	FLOOR DRAIN			4"				FLOOR DRAIN PROVIDED WITH TRAP SEAL CONFORMING TO ASSE 1072.
FS-3	2	FLOOR SINK			3"				FLOOR SINK. SHALL CONFORM TO THE REQUIREMENTS OF ASME A112.6.7.
FS-3G	2	FLOOR SINK			3"				FLOOR SINK. SHALL CONFORM TO THE REQUIREMENTS OF ASME A112.6.7.
HB-1	1	HOSE BIBB	1/2"				WATTS NF8 HOSE CONNECTION VACUUM BREAKER OR EQUAL. CONFORMS TO ASSE 1011.		WALL MOUNTED FREEZE PROOF HOSE BIBB.
K01	3	HAND SINK	1/2"	1/2"	2"	WATTS LFMMV OR EQUAL POINT-OF-USE MIXING VALVE. CONFORMS WITH ASSE 1070.			WALL MOUNTED HAND SINK
K02	2	ICE MAKER	3/8"		1 1/2"		INTEGRAL AIR GAP CONFORMING TO ASME STANDARD A112.1.3 PER MANUFACTURER SPECIFICATIONS BASED ON NSF 12, SECTION 5.28.1	660 MINI RESTER OR EQUAL. CONFORMS WITH ASSE 1010.	COMMERCIAL ICE MAKER.
K03.1	1	THREE COMPARTMENT SINK	1/2"	1/2"	2"				EACH BOWL OF THE THREE COMPARMENT SINK SHALL INDEPENDENTLY DRAIN TO FLOOR SINK WITH AN AIR GAP.
K03.2	1	PRE RINSE FAUCET	1/2"	1/2"					PRE RINSE FAUCET FOR THREE COMPARMENT SINK.
K04	1	COMMERCIAL DISHWASHER		3/8"	1 1/2"		INTEGRAL AIR GAP CONFORMING TO ASME STANDARD A112.1.3 PER MANUFACTURER SPECIFICATIONS BASED ON NSF 12, SECTION 5.28.1	660 MINI RESTER OR EQUAL. CONFORMS WITH ASSE 1010.	COMMERCIAL DISHWASHER.
K05	1	SINGLE COMPARTMENT SINK			2"				SINGLE COMPARTMENT SINK, SHALL INDIRECTLY DRAIN TO FLOOR SINK.
K05.2	1	PRE RINSE FAUCET	1/2"	1/2"					PRE RINSE FAUCET FOR SINGLE COMPARMENT SINK.
K13	2	GLASS RACK			1"				UNDERCOUNTER GLASS RACK, SHALL INDIRECTLY DRAIN TO FLOOR SINK.
K16	2	ICE CHEST			1/2"				UNDERCOUNTER ICE CHEST, SHALL INDIRECTLY DRAIN TO FLOOR SINK.
K19	1	BEER TAP			1/2"				BEER TAP
K27	1	SODA MACHINE	3/8"		1 1/2"		WATTS SD-3 OR EQUAL DUAL CHECK VALVE. CONFORMS WITH ASSE 1022.	660 MINI RESTER OR EQUAL. CONFORMS WITH ASSE 1010.	SODA MACHINE.
K30	1	MOP SINK	1/2"	1/2"	3"				FLOOR MOUNTED MOP SINK
P01	2	WATER CLOSET	3/8"		3"				FLOOR MOUNT FLUSH TANK WATER CLOSET.
P01A	2	WATER CLOSET- ADA	3/8"		3"				ADA COMPLIANT FLUSH TANK WATER CLOSET. FLOOR MOUNT. SHALL BE ACCESSIBLE ACCORDING TO IBC 2018 SECTION 1109.2. HORIZONTAL AND VERTICAL SIDEWALL AND HORIZONTAL REAR WALL GRAB BAR SHALL BE INSTALLED ACCORDING TO SECTION 604.5.1 AND 604.5.2 OF THE 2009 ICC/ANSI A117.1 STANDARD. SEE ARCHITECTURAL DRAWINGS FOR REFERENCE. SHALL REFER TO THE ICC/ANSI A117.1-2009 FOR ADA FIXTURES
P02	2	LAVATORY- ADA	3/8"	3/8"	1 1/4"	WATTS LFMMV OR EQUAL POINT-OF-USE MIXING VALVE. CONFORMS WITH ASSE 1070.			ADA COMPLIANT WALL MOUNTED LAVATORY WITH MANUAL FAUCET. SHALL BE ACCESIBLE ACCORDING TO IBC 2018 SECTION 1109.2. SHALL REFER TO THE ICC/ANSI A117.1-2009 FOR ADA FIXTURES.
P05	2	TRENCH DRAIN			3"				LINEAR TRENCH DRAIN.
RD-2	2	ROOF DRAIN			2"				ROOF DRAIN.
WF-1	1	WATER FILTER	3/4"				INTEGRAL AIR GAP CONFORMING TO ASME STANDARD A112.1.3 PER MANUFACTURER SPECIFICATIIONS.		WATER FILTER, CONTRACTOR TO COORDINATE WITH KITCHEN EQUIPMENT VENDOR TO CONFIRM THE REQUIREMENT OF WATER FILTER.
NEW WORK: 38	38								

PLUMBING MINIMUM PIPE INSULATION SCHEDULE

	INSULATION CONDUCTIVITY		NOMINAL PIPE SIZE(INCHES)		
FLUID OPER. TEMP.(°F)	CONDUCTIVITY[BTU * IN./(h*ft2*°F)B]	MEAN RATING TEMP., °F	< 1	1 - < 1.5	1.5 - < 4
141 - 200	0.25 - 0.29	125	1.5	1.5	2
105 - 140	0.21 - 0.28	100	1	1	1.5
40 - 60	0.21 - 0.27	75	0.5	0.5	1

PLUMBING WATER HEATER SCHEDULE

ID	MAKE	MODEL	REMARKS
GWH-1	NAVIEN	NPE-240A	NAVIEN TANKLESS PROPANE GAS WATER HEATER WITH INTEGRAL RECIRCULATION PUMP SET TO EXTERNAL RECIRCULATION MODE.

SYSTEMS NOTES

PIPING NOTES

1. PIPING SHALL ADHERE TO THIS SPECIFICATION UNLESS OTHERWISE NOTED IN THE PLANS. CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ANY PIPING WHICH DOES NOT MATCH THIS SPECIFICATION.
2. COLD WATER PIPING IN UNCONDITIONED AREA SHALL BE INSULATED WITH 1" FIBERGLASS INSULATION.
3. HOT WATER AND HOT WATER RE-CIRCULATION PIPING SHALL BE PROVIDED WITH FIBERGLASS INSULATION. SEE MINIMUM PIPE INSULATION SCHEDULE FOR SIZING. ALL PIPING INSULATION SHALL HAVE A MINIMUM THERMAL RATING OF R-3.
4. INSULATE THE WATER LINE WITH 3/8" BLACK FOAM INSULATION WHEN RUN WITHIN EXTERIOR WALL.
5. TRENCHES SHALL BE PROVIDED WITH A LAYER OF SAND BEDDING NO LESS THAN 3" THICK BETWEEN THE BOTTOM OF THE TRENCH AND THE BOTTOM OF THE PIPE. ADDITIONAL BACKFILL SHALL BE PROVIDED IN 6" LAYERS AND TAMPED DOWN TO BETWEEN 85% AND 95% COMPACTION. BACKFILL SHALL BE SAND OR CRUSHED STONE CONFORMING TO ASTMD 2321.
6. ALL PIPING SHALL BE INSTALLED ACCORDING TO MANUFACTURER SPECIFICATIONS.

WATER HEATER NOTES

1. WATER HEATERS SHALL BE INSTALLED AS A CASCADE SYSTEM PROVIDED WITH NAVILINK CONTROLS.
2. INSTALL PIPING AS A MANIFOLD SYSTEM.
3. WATER HEATERS SHALL BE SET TO EXTERNAL CIRCULATION MODE.
4. WATER HEATERS SHALL BE COMMON VENTED. SEE GAS PLANS.
5. ALL COMPONENTS OF THE WATER HEATER INSTALLATION, INCLUDING PIPING MANIFOLD, CONTROLS, AND ALL OTHER APPURTENANCES SHALL BE INSTALLED ACCORDING TO MANUFACTURER INSTRUCTIONS IN ADDITION TO ANY OTHER REQUIREMENTS LISTED IN THIS CONSTRUCTION DOCUMENT.

KITCHEN EQUIPMENT & FIXTURES

1. CONTRACTOR SHALL COORDINATE INSTALLATION OF KITCHEN EQUIPMENT WITH KITCHEN EQUIPMENT VENDOR PRIOR TO ROUGH -IN.
2. QUANTITIES ARE SHOWN FOR REFERENCE AND LOAD CALCULATION PURPOSES. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING FINAL TAKEOFF QUANTITIES.

PLUMBING PIPING SYSTEM SCHEDULE

SYSTEM	ABOVE GROUND	BELOW GROUND	JOINT METHOD	STANDARDS AND REMARKS
DOMESTIC WATER	CPVC	CPVC	JOINTS SHALL BE MADE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S INSTALLATION INSTRUCTIONS.	PIPING SHALL COMPLY WITH ASTM 2846, ASTM F 441, AND ASTM F 442.
SANITARY/VENT	PVC	PVC	PURPLE COLORED PRIMER CONFORMING TO ASTM F 656 SHALL BE APPLIED TO CLEAN, DRY JOINTS. SOLVENT CEMENT SHALL NOT BE PURPLE AND SHALL CONFORM WITH ASTM D 2564,CSA B137.3, CSA B181.2, OR CSA B182.1. JOINT SHALL CONFORM WITH ASTM D 2855.	PIPING SHALL CONFORM WITH ASTM D 2665, ASTM F 891, ASTM F 1488.

TANKLESS HOT WATER SYSTEM

TOTAL HOT WATER DEMAND IN GPH	178 GPH
TOTAL HOT WATER DEMAND IN GPM	2.97 GPM
MAXIMUM GPM FOR NAVIEN / NPE 240A AT 67°F	5.7 GPM
NO.OF GAS HEATER WATER PROVIDED	2 GAS WATER HEATERS

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KENNETH MICHAEL SHULTZ
Lic. No. 053673
21 JUNE 2023
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE

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USE GROUP: A-2 (RESTAURANT)
NOT IN FLOOD PLAIN.
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TOTAL AREA OF BUILDING: 5,206 SF
OCCUPANCY LOAD: 197

WARSAW COMMUNITY MARKET

74 MAIN ST., WARSAW, VA 22572

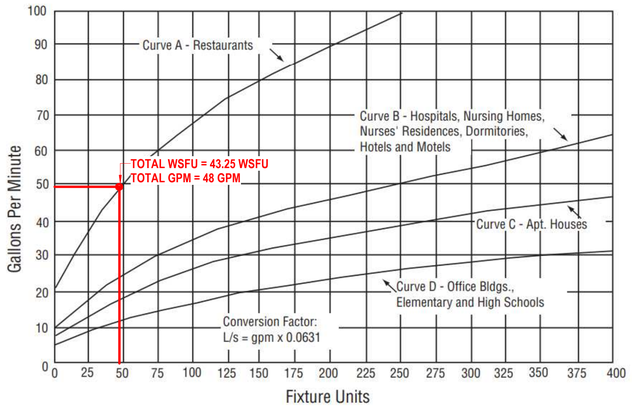
PROJECT NO: 4492 BB No.254-232-611

21 JUNE 2023 RVT Version 2022

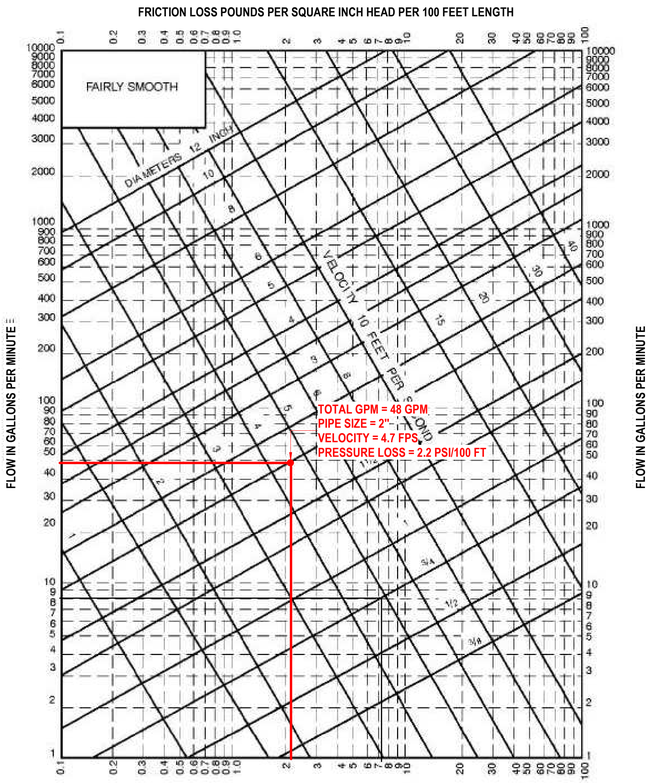
SCHEDULES

P2

12" = 1'-0"



1.02 - ASHRAE MODIFIED HUNTER CURVE



For SI: 1 inch= 25.4 mm, 1 foot= 304.8 mm, 1 gpm= 3.785 L/m, 1 psi= 6.895 kPa, 1 foot per second= 0.305 m/s
a. This chart applies to smooth new steel (fairly smooth) pipe and to actual diameters of standard- weight pipe.

1.03 - FRICTION LOSS IN FAIRLY SMOOTH PIPE

PLUMBING LOAD CALCULATIONS

FIXTURE ID	QTY	FIXTURE	DEMAND CALCULATIONS WATER COLD	TOTAL COLD	HOT	TOTAL HOT	TOTAL	TOTAL WSFU	DRAINAGE DFU	TOTAL DFU	WHS RESTAURANT
GREASE SYSTEM											
FS-3G	2	FLOOR SINK	0	0	0	0	0	0	5	10	0 gal/h
K04	1	COMMERCIAL DISHWASHER	0	0	1	1	1	1	0	0	15 gal/h
K05	1	SINGLE COMPARTMENT SINK	0	0	0	0	0	0	0	0	0 gal/h
P05	2	TRENCH DRAIN	0	0	0	0	0	0	5	10	0 gal/h
GREASE SYSTEM: 6	6			0		1		1		20	15 gal/h
OTHER											
HB-1	1	HOSE BIBB	1.5	1.5	0	0	1.5	1.5	0	0	0 gal/h
K03.2	1	PRE RINSE FAUCET	3	3	3	3	4	4	0	0	90 gal/h
K05.2	1	PRE RINSE FAUCET	2	2	2	2	3	3	0	0	40 gal/h
WF-1	1	WATER FILTER	0	0	0	0	0	0	0	0	0 gal/h
OTHER: 4	4			6.5		5		8.5		0	130 gal/h
SANITARY SYSTEM											
FD-2	1	FLOOR DRAIN	0	0	0	0	0	0	3	3	0 gal/h
FD-3	3	FLOOR DRAIN	0	0	0	0	0	0	5	15	0 gal/h
FD-4	1	FLOOR DRAIN	0	0	0	0	0	0	6	6	0 gal/h
FS-3	2	FLOOR SINK	0	0	0	0	0	0	5	10	0 gal/h
K01	3	HAND SINK	1.5	4.5	1.5	4.5	2	6	3	9	15 gal/h
K02	2	ICE MAKER	0.25	0.5	0	0	0.25	0.5	0	0	0 gal/h
K03.1	1	THREE COMPARTMENT SINK	0	0	0	0	0	0	0	0	0 gal/h
K13	2	GLASS RACK	0	0	0	0	0	0	0	0	0 gal/h
K16	2	ICE CHEST	0	0	0	0	0	0	0	0	0 gal/h
K19	1	BEER TAP	0	0	0	0	0	0	0	0	0 gal/h
K27	1	SODA MACHINE	0.25	0.25	0	0	0.25	0.25	0	0	0 gal/h
K30	1	MOP SINK	2.25	2.25	2.25	2.25	3	3	3	3	10 gal/h
P01	2	WATER CLOSET	5	10	0	0	5	10	5	10	0 gal/h
P01A	2	WATER CLOSET- ADA	5	10	0	0	5	10	5	10	0 gal/h
P02	2	LAVATORY- ADA	1.5	3	1.5	3	2	4	1	2	8 gal/h
SANITARY SYSTEM: 26	26			30.5		9.75		33.75		68	33 gal/h
	36			37		15.75		43.25		88	178 gal/h

WATER METER CAPACITY*

SIZE	POSITIVE DISPLACEMENT TYPE METERS** FLOW RATES(GPM) MIN	NORMAL	MAX
5/8"	0.25	2	15
5/8" X 3/4"	0.25	2	15
3/4"	0.5	3	25
1"	0.75	4	40
1 1/2"	1.5	8	50
2"	2	15	100

* BASED ON TESTING REQUIREMENTS FROM AWWA TABLE 5-3 FOR WATER METERS CONFORMING TO THE ANSI/AWWA C700 AND C710. ACTUAL SPECIFICATIONS MAY DIFFER BETWEEN VARIOUS METERS.
**AVAILABILITY OF CERTAIN METER TYPES DEPENDS ON THE LOCAL DPU.

MINIMUM REQUIRED WATER PRESSURE*	45 PSI
TOTAL DEVELOPED LENGTH OF PIPE TO FURTHEST FIXTURE	150 FT.
TOTAL WATER FIXTURE UNITS / GPM	43.25 WSFU / 48 GPM
PROPOSED WATER METER SIZE	1 1/2 IN.
PROPOSED WATER DISTRIBUTION PIPE SIZE	2 IN.

DOMESTIC WATER PRESSURE LOSS REPORT

Total FU at Service	43.25
Total GPM at Service [Table E103.3(3) Or ASHRAE Modified Hunter Curve]	48
Max Fixture Height (ft)	7
Mininum Design Pressure	45
Meter Loss	4.5
Highest Pressure Required at a Fixture (Table 604.3)	20
Tap in Main Loss	0.28
Static Head Loss (ft*0.43)	3.01
RPZ Loss	9.8
Pressure Available to Overcome Pipe Friction	7.41

NOTE: FLOW TEST SHALL BE PERFORMED TO VERIFY AVAILABLE PRESSURES.
THE 'MINIMUM DESIGN PRESSURE' SHOWN HERE IS A BASIS OF DESIGN USED IN LIEU OF ACTUAL FLOW TEST DATA. FLOW TEST SHALL BE PERFORMED TO CONFIRM ACTUAL AVAILABLE PRESSURE. SEE SUBMITTAL REQUIREMENTS ON SHEET P0.01.

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21 JUNE 2023 RVT Version 2022

LOADS

P3

As indicated

PLUMBING - STORM DRAINAGE SCHEDULE

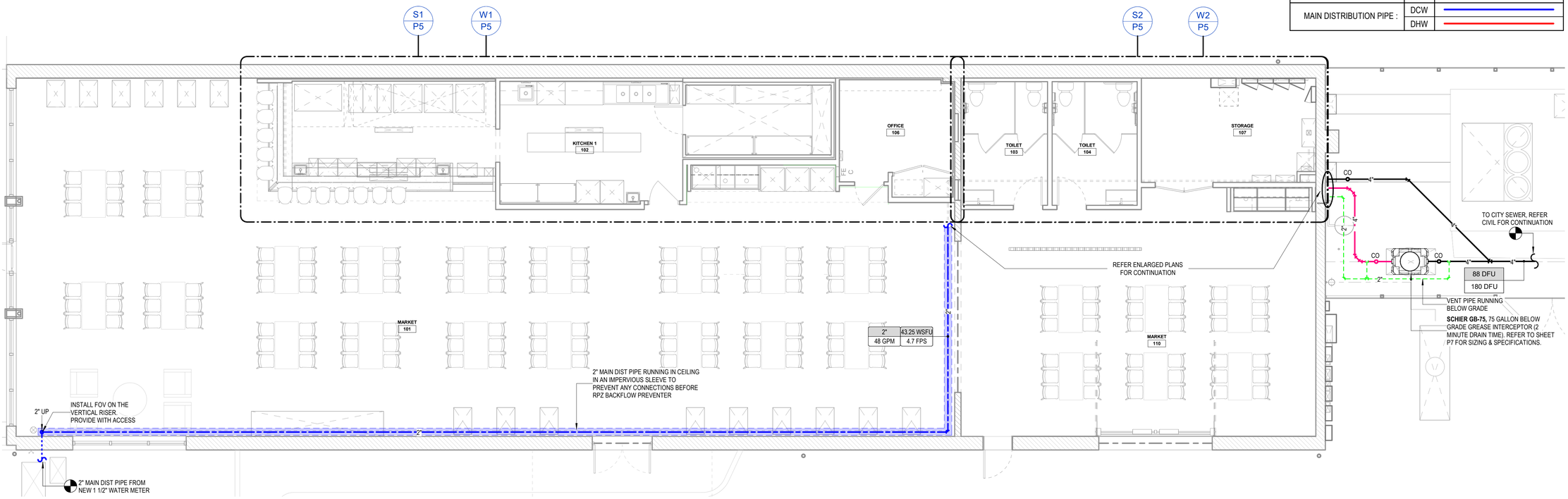
STORM ZONE	ROOF AREA	PARAPET AREA * 0.5	TOTAL AREA	DRAINAGE TYPE	SECONDARY DRAINAGE
A	3015	0	3015	8" SEMICIRCULAR GUTTER WITH 4" DOWNSPOUT	NA
B	3015	0	3015	8" SEMICIRCULAR GUTTER WITH 4" DOWNSPOUT	NA
C	90	0	90	ROOF DRAIN WITH 2" DOWNSPOUT	NA
D	90	0	90	ROOF DRAIN WITH 2" DOWNSPOUT	NA

SANITARY DRAFTING LEGEND

SANITARY WASTE PIPE:	
GREASE WASTE PIPE:	
STORM PIPE :	
CONDENSATE PIPE:	
VENT PIPE:	
EXISITING SANITARY PIPE:	

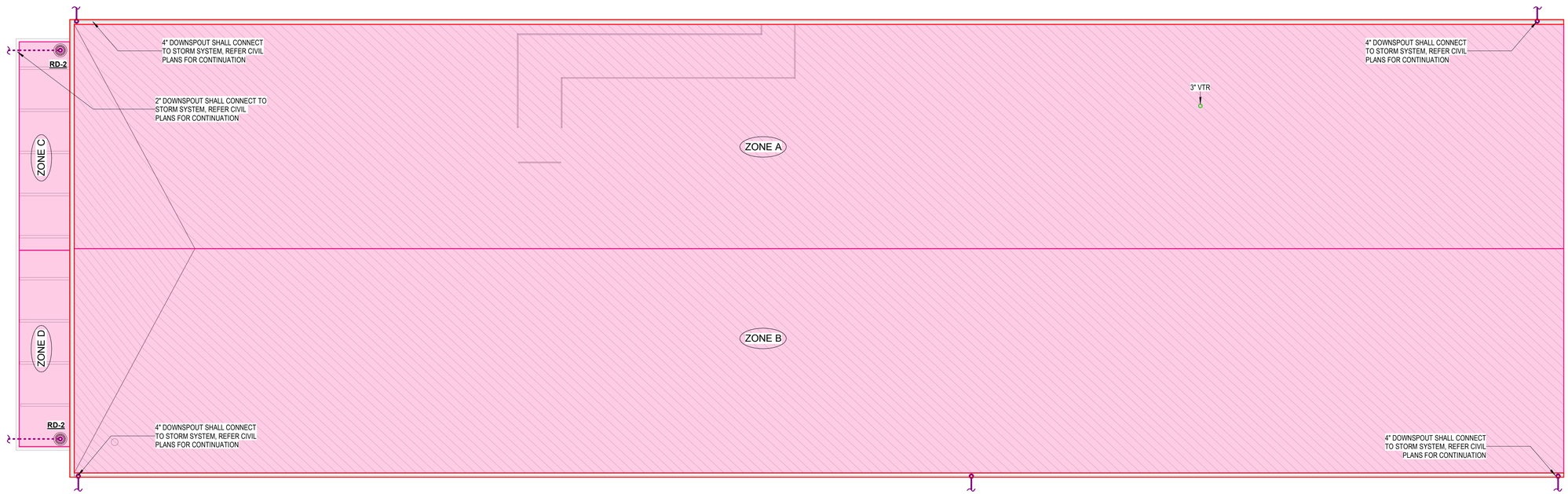
WATER SUPPLY DRAFTING LEGEND

WATER PIPES UNDER SLAB:	DCW	
	DHW	
	HWR	
	FW	
DISTRIBUTION WITHIN UNITS (DOWNSTREAM OF SOV):	DCW	
	DHW	
	HWR	
	HHW	
	FW	
MAIN DISTRIBUTION PIPE :	DCW	
	DHW	



1 LEVEL 1 - PLUMBING OVERALL PLAN

3/16" = 1'-0"



2 COMBINED ROOF PLAN

3/16" = 1'-0"

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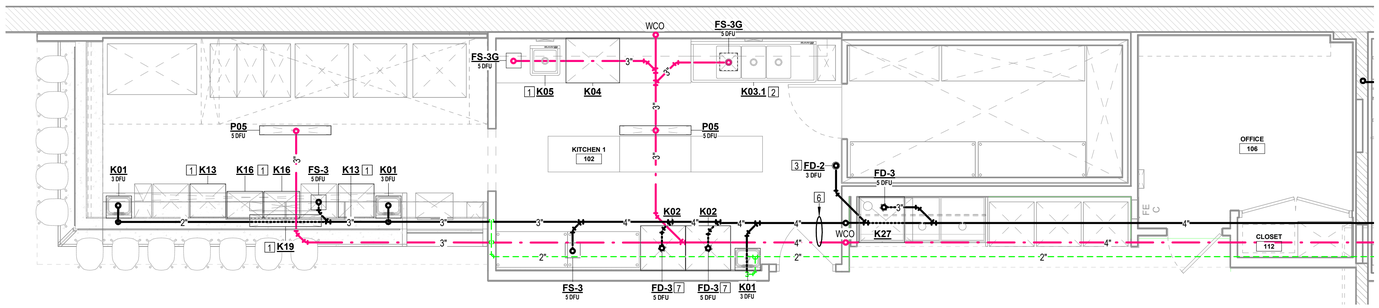
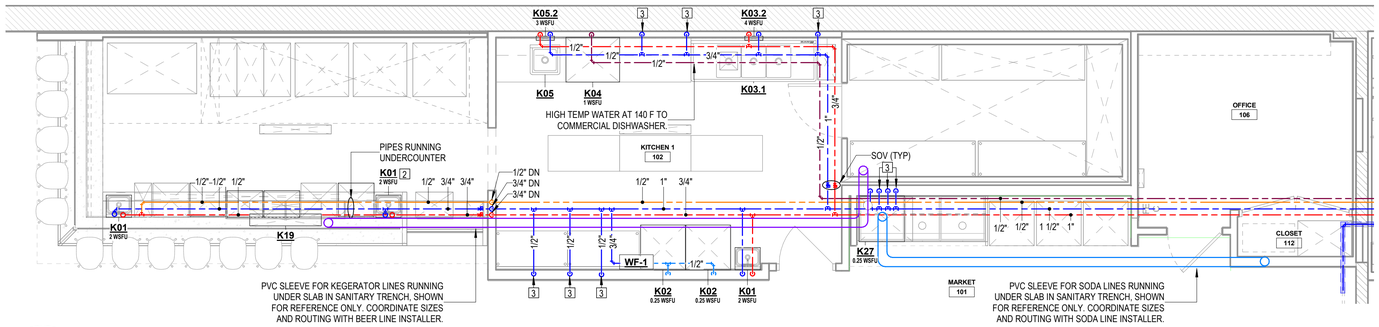
LEVEL 1 & ROOF - PLUMBING PLAN

P4

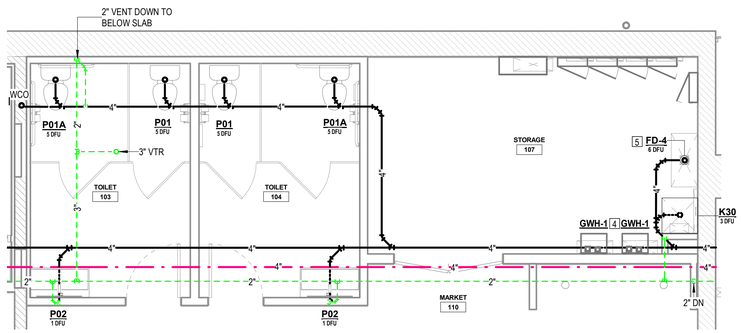
As indicated



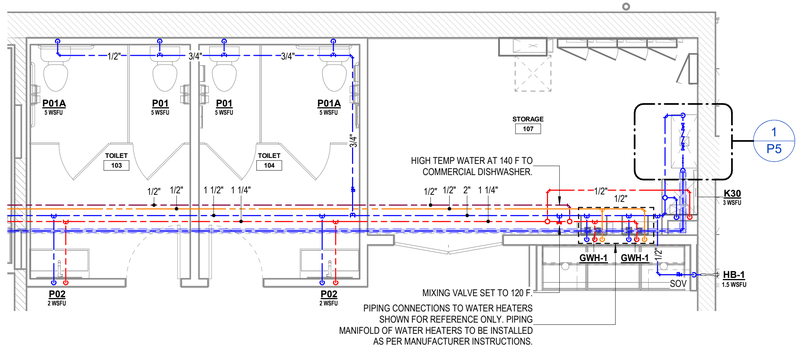
S1 / P4 ENLARGED SEWER & GREASE PLAN - KITCHEN
1/4" = 1'-0"



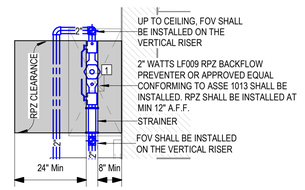
W1 / P4 ENLARGED WATER SUPPLY - KITCHEN
1/4" = 1'-0"



S2 / P4 ENLARGED SANITARY - RESTROOM
1/4" = 1'-0"



W2 / P4 ENLARGED WATER SUPPLY - RESTROOM
1/4" = 1'-0"



1 / P5 ENLARGED RPZ PLAN
1/2" = 1'-0"

GENERAL NOTES

1. CONTRACTOR SHALL ADHERE TO IPC TABLE 704.1 TO MAINTAIN MINIMUM SLOPE OF HORIZONTAL DRAINAGE PIPE.
2. UN-USED COLD WATER STUBS SHALL BE PROVIDED WITH SHUT OFF VALVE.
3. ALL VALVES SHALL BE PROVIDED WITH ACCESS FOR SERVICE OR REPAIRING.
4. CONTRACTOR TO CONFIRM IF THE COMMERCIAL DISHWASHER MODEL HAS A BUILT-IN BOOSTER HEATER AND REMOVE HIGH TEMPERATURE (140 F) LINE IF NOT REQUIRED.
5. PIPING CONNECTIONS TO GAS WATER HEATERS SHOWN FOR REFERENCE ONLY. PIPING MANIFOLD OF WATER HEATERS TO BE INSTALLED ACCORDING TO MANUFACTURER INSTRUCTIONS IN ADDITION TO ANY OTHER REQUIREMENTS LISTED IN THIS CONSTRUCTION DOCUMENT.
6. EVERY DRY VENT CONNECTING TO A HORIZONTAL DRAIN SHALL CONNECT ABOVE THE CENTERLINE OF THE HORIZONTAL DRAIN PIPE.
7. DRY VENT PIPE CONNECTING TO HORIZONTAL DRAINAGE PIPE BELOW GRADE SHALL RISE MINIMUM 6" BEFORE TURNING HORIZONTALLY.

PLUMBING - WATER SUPPLY KEY NOTES

1 2" WATTS LF009 RPZ BACKFLOW PREVENTER OR APPROVED EQUAL CONFORMING TO ASSE 1013 SHALL BE INSTALLED. RPZ SHALL BE INSTALLED AT MINIMUM OF 12" A.F.F
2 SHUT OFF VALVE SHALL BE PROVIDED FOR EACH FIXTURE.
3 1/2" DCW STUB WITH SOV ROUGHED IN WALL FOR FUTURE USE.

PLUMBING - SANITARY KEY NOTES

1 FIXTURE SHALL INDIRECTLY DRAIN INTO FLOOR SINK WITH AN AIR GAP.
2 EACH WELL OF THE THREE COMPARTMENT SINK SHALL INDIRECTLY DRAIN INTO FLOOR SINK WITH AN AIR GAP.
3 CONDENSATE FROM WALK-IN COOLER SHALL DRAIN INTO FLOOR DRAIN FD-2.
4 GAS WATER HEATER CONDENSATE SHALL DISCHARGE TO MOP SINK.
5 RPZ BACKFLOW PREVENTER SHALL DISCHARGE INTO FLOOR DRAIN FD-4.
6 SANITARY & GREASE PIPING TO BE WITHIN TRENCH. COORDINATE PIPING LOCATION AND INVERT WITH FLOOR CONTRACTOR.
7 FIXTURE SHALL INDIRECTLY DRAIN INTO FLOOR DRAIN WITH AN AIR GAP.

SLOPE OF HORIZONTAL DRAINAGE PIPING

TABLE 704.1

SIZE (inches)	MINIMUM SLOPE (inches per foot)
2-1/2 or less	1/4
3 to 6	1/8
8 or larger	1/16

NOTE: THE SLOPE OF A HORIZONTAL DRAINAGE PIPE SHALL BE NOT LESS THAN THAT INDICATED IN TABLE 704.1 EXCEPT THAT WHERE THE DRAINAGE PIPING IS UPSTREAM OF A GREASE INTERCEPTOR, THE SLOPE OF THE PIPING SHALL BE NOT LESS THAN 1/4 INCH PER FOOT (2-PERCENT SLOPE).

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ENLARGED - PLUMBING PLANS

P5

As indicated

SANITARY DRAFTING LEGEND

SANITARY WASTE PIPE:	
GREASE WASTE PIPE:	
STORM PIPE :	
CONDENSATE PIPE:	
VENT PIPE:	
EXISITING SANITARY PIPE:	

WATER SUPPLY DRAFTING LEGEND

WATER PIPES UNDER SLAB:	DCW	
	DHW	
	HWR	
	FW	
DISTRIBUTION WITHIN UNITS (DOWNSTREAM OF SOV):	DCW	
	DHW	
	HWR	
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	FW	
MAIN DISTRIBUTION PIPE :	DCW	
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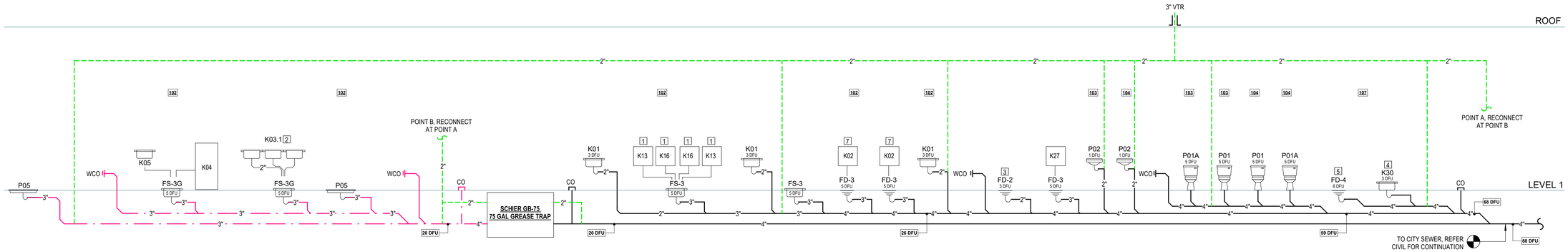
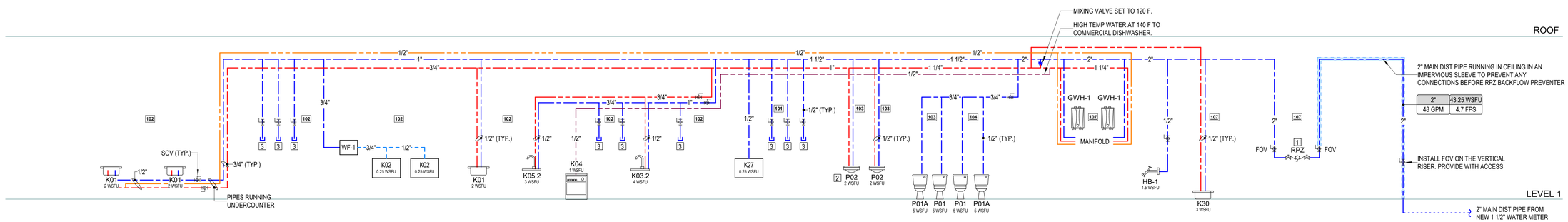


S SANITARY RISER DIAGRAM

SCALE: NONE



W WATER SUPPLY RISER DIAGRAM

SCALE: NONE

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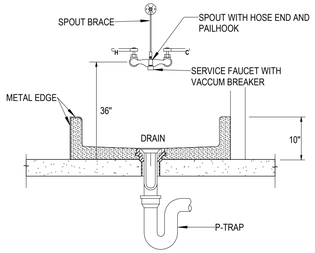
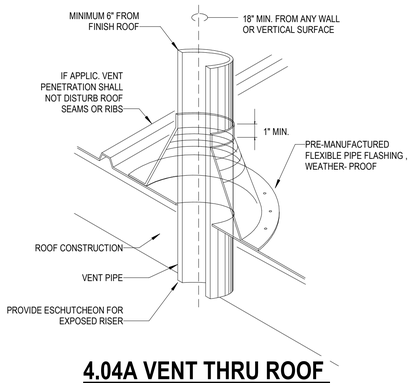
PLUMBING RISER DIAGRAMS

P6

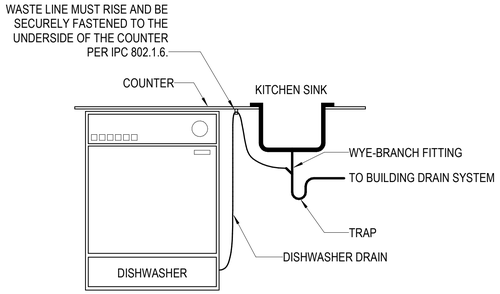
As indicated



5.01 MOP SINK DETAIL



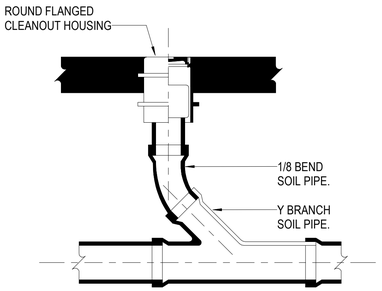
4.04A VENT THRU ROOF



6.05 TYPICAL DISHWASHER CONNECTION

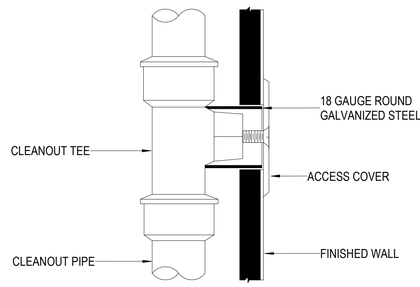
NOTE: REFER TO FLOOR PLAN FOR WHICH OPTION TO USE FOR EACH DISHWASHER

NOTE:
CLEANOUTS FOR 6-INCH (153 MM) AND SMALLER PIPING SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 18 INCHES (457 MM) FROM, AND PERPENDICULAR TO, THE FACE OF THE OPENING TO ANY OBSTRUCTION. CLEANOUTS FOR 8-INCH (203 MM) AND LARGER PIPING SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 36 INCHES (914 MM) FROM, AND PERPENDICULAR TO, THE FACE OF THE OPENING TO ANY OBSTRUCTION.



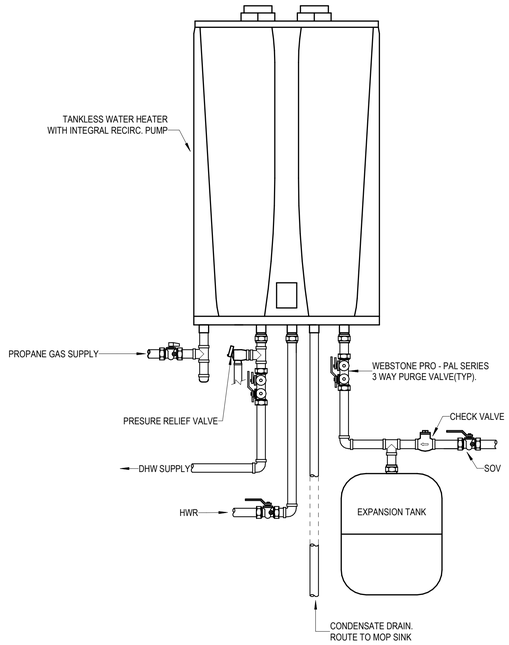
4.03A FLOOR SANITARY CLEANOUT DETAIL

SCALE: NONE

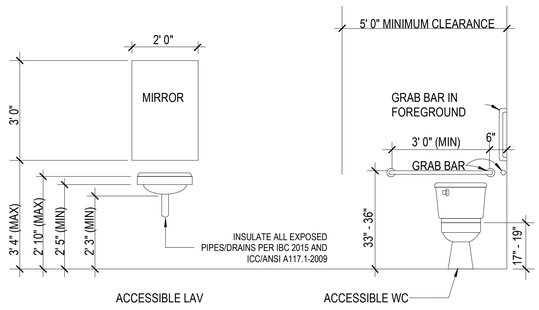


4.03B WALL CLEANOUT DETAIL

SCALE : NONE



8.05 - TANKLESS WATER HEATER WITH INTEGRAL RECIRCULATION PUMP DETAIL

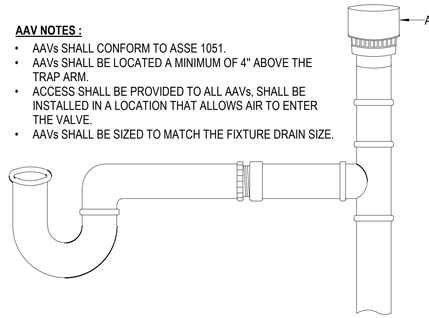


8.01 ADA BATHROOM CLEARANCES

PLEASE REFER TO STAMPED ARCHITECTURAL DRAWINGS FOR EXACT MEASUREMENTS AND CLEARANCES OF BATHROOM.

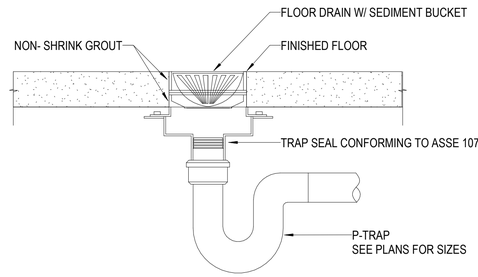
AAV NOTES :

- AAVs SHALL CONFORM TO ASSE 1051.
- AAVs SHALL BE LOCATED A MINIMUM OF 4" ABOVE THE TRAP ARM.
- ACCESS SHALL BE PROVIDED TO ALL AAVs, SHALL BE INSTALLED IN A LOCATION THAT ALLOWS AIR TO ENTER THE VALVE.
- AAVs SHALL BE SIZED TO MATCH THE FIXTURE DRAIN SIZE.



8.05 AIR ADMITTANCE VALVE TYPICAL INSTALLATION

SCALE: NONE



5.03 FLOOR DRAIN DETAIL

NO SCALE

NOTE :INSTALL PER MANUFACTURER SPECIFICATIONS. WHERE INSTALLATION REQUIREMENTS OF MANUFACTURER DIFFER FROM THIS DETAIL, SUBMIT TO ENGINEER OF RECORD FOR IMMEDIATE REVIEW AND APPROVAL PRIOR TO ROUGH-IN. EQUIPMENT SHALL BE NSF LISTED

NO.	ITEM	QTY	MAKE/ MODEL	VOLUME (cu. in.)	GPM W/ DISPLACEMENT
1	THREE COMPARTMENT SINK	1	TBD	(18" L X 24"W X 14" D) X 3= 18,144 cu. in.	0.75(18144/231) = 58.9 GPM
2	COMMERCIAL DISHWASHER	1	TBD	-	1 GPM
3	SINGLE COMPARTMENT SINK	1	TBD	(20" L X 20"W X 8" D) X 1= 3,200 cu. in.	0.75(3200/231) = 10.4 GPM
4	TRENCH DRAIN	2	TBD	-	8 GPM
TOTAL GPM W/ DISPLACEMENT					78.3 GPM
TOTAL GPM W/ DISPLACEMENT FOR 2 MIN DRAIN TIME					39.15 GPM

GREASE INTERCEPTOR (SCHIER/ GB-75)	
FLOW RATE	75 GPM
GREASE CAPACITY	861 Lbs.
INLET & OUTLET	4 INCHES
LENGTH	47 INCHES
WIDTH	33 INCHES
HEIGHT	39-3/4 INCHES

6.01A - GREASE INTERCEPTOR SIZING AND INSTALLATION BELOW GRADE DETAIL

permitZIP
1212 Westover Hills Blvd. Richmond, VA 23225 > 833-TWO-WEEK > www.permitzip.com

ENGINEER: Kenneth Shultz, PE.
LICENSE: #0402053673.
EMAIL:kshultz@permitzip.com.

COMMONWEALTH OF VIRGINIA
KENNETH MICHAEL SHULTZ
Lic. No. 053673
21 JUNE 2023
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE

BUILDING DATA

BUILDING CONSTRUCTION: VB
USE GROUP: A-2 (RESTAURANT)
NOT IN FLOOD PLAIN.
TOTAL AREA OF PROJECT: 5,206 SF
TOTAL AREA OF BUILDING: 5,206 SF
OCCUPANCY LOAD: 197

WARSAW COMMUNITY MARKET

74 MAIN ST., WARSAW, VA 22572

PROJECT NO: 4492 BB No.254-232-611

21 JUNE 2023 RVT Version 2022

DETAILS & DIAGRAMS

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As indicated