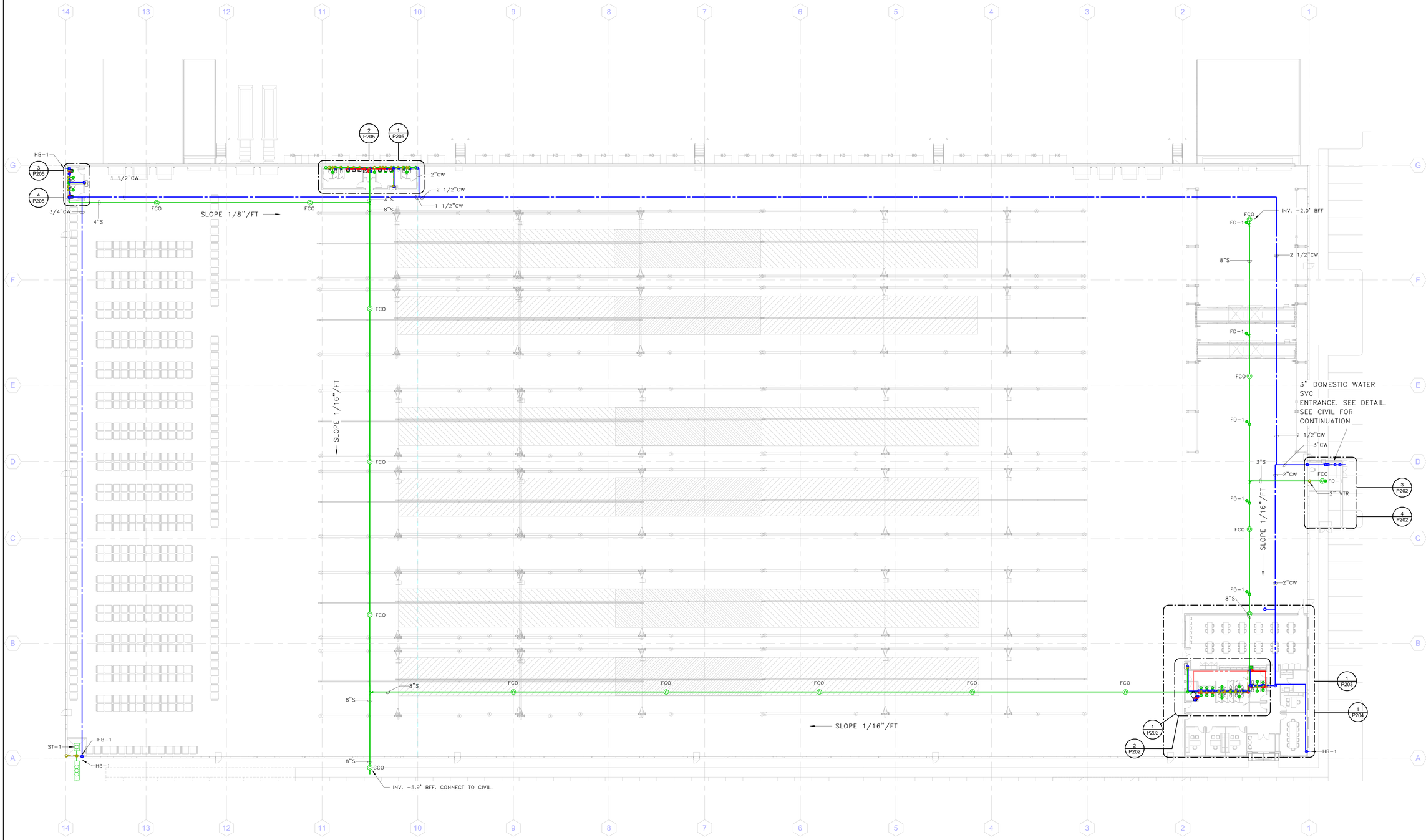


1 P101 OVERALL PLUMBING PLAN

1" = 20'-0"

DESIGN BUILDER:

ARCO DESIGN/BUILD

DESIGNER/ ENGINEER:

LES M. SAUNDERS JR., P.E.
127 CHURCH ST. NE - SUITE 300
MARIETTA, GA 30060
770.933.8842

OWNER:

PROJECT TITLE:

MUNTERS
PHASE 2

SHOOTING STAR WAY,
DALEVILLE, VA 24083

SEAL:

COMMONWEALTH OF VIRGINIA
LES M SAUNDERS, JR
No. 0402054025
PROFESSIONAL ENGINEER
07/09/2025

SUBMITTALS / REVISIONS:

NO.	DATE	DESCRIPTION
	07/09/2025	PERMIT SET

PROJECT NO.: -

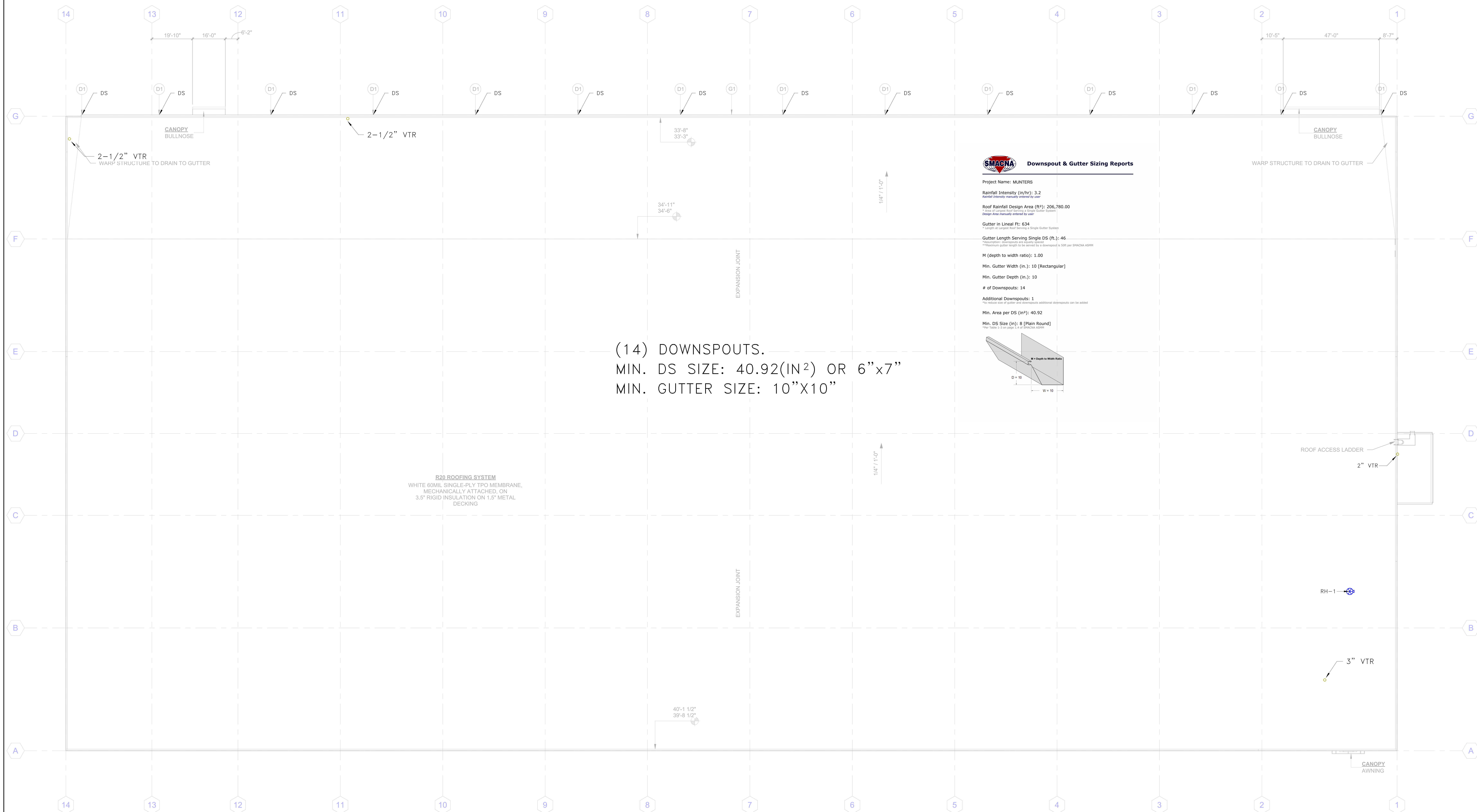
DRAWN BY: RS

SHEET TITLE:

OVERALL PLUMBING PLAN

SHEET NUMBER:

P101



Downspout & Gutter Sizing Reports

Project Name: MUNTERS

Rainfall Intensity (in/hr): 3.2
Rainfall Intensity manually entered by user

Roof Rainfall Design Area (ft²): 206,780.00
* Area of Largest Roof Serving a Single Gutter System
Design Area manually entered by user

Gutter in Lineal Ft: 634
* Length at Largest Roof Serving a Single Gutter System

Gutter Length Serving Single DS (ft.): 46
*Assumption: downspouts are equally spaced
**Maximum gutter length to be served by a downspout is 50ft per SMACNA ASMM

M (depth to width ratio): 1.00

Min. Gutter Width (in.): 10 [Rectangular]

Min. Gutter Depth (in.): 10

# of Downspouts: 14

Additional Downspouts: 1
*to reduce size of gutter and downspouts additional downspouts can be added

Min. Area per DS (in²): 40.92

Min. DS Size (in): 8 [Plain Round]
*Per Table 1-3 on page 1.4 of SMACNA ASMM

M = Depth to Width Ratio
D = 10
W = 10

1 P120 **PLUMBING ROOF MAIN**
1" = 20'-0"

DESIGN BUILDER:
ARCO DESIGN/BUILD

DESIGNER/ ENGINEER:
LES M. SAUNDERS JR., P.E.
127 CHURCH ST. NE - SUITE 360
MARIETTA, GA 30060
770.933.8842

OWNER:

PROJECT TITLE:
MUNTERS
PHASE 2

SHOOTING STAR WAY,
DALEVILLE, VA 24083

SEAL:
COMMONWEALTH OF VIRGINIA
LES M. SAUNDERS, JR.
No. 0402054025
PROFESSIONAL ENGINEER
07/09/2025

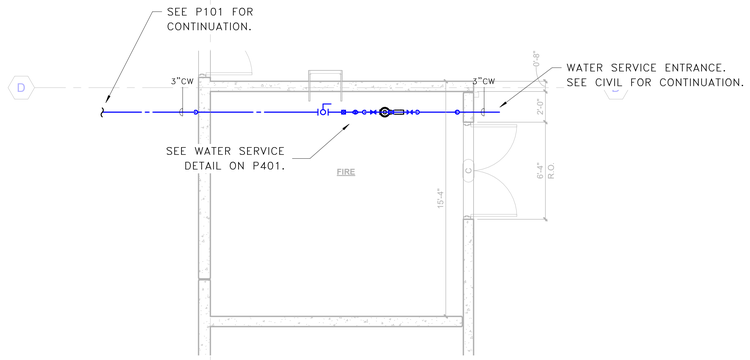
SUBMITTALS / REVISIONS:

NO.	DATE	DESCRIPTION
	07/09/2025	PERMIT SET

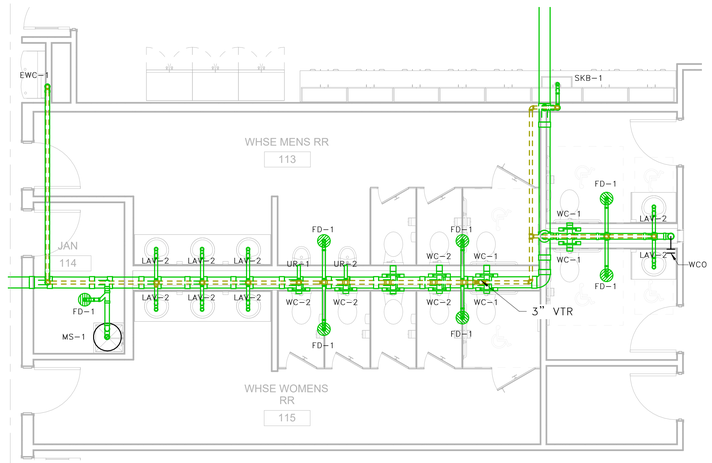
PROJECT NO.: -
DRAWN BY: RS

SHEET TITLE:
OVERALL PLUMBING ROOF PLAN

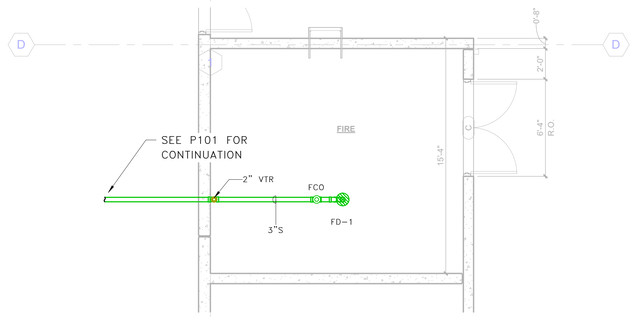
SHEET NUMBER:
P120



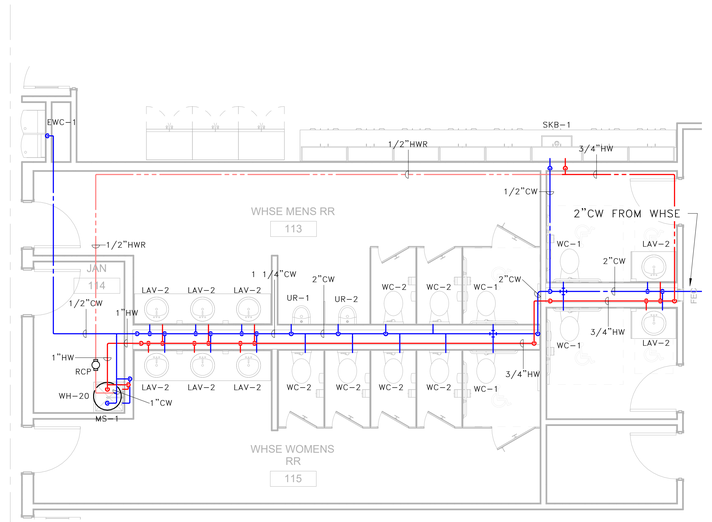
4 P202 ENLARGED PLANT UTILITIES ROOM - WATER
1/4" = 1'-0"



1 P202 ENLARGED MAIN OFFICE BATHROOMS - DWV
1/4" = 1'-0"



3 P202 ENLARGED PLANT UTILITIES ROOM - DWV
1/4" = 1'-0"



2 P202 ENLARGED MAIN OFFICE BATHROOMS - WATER
1/4" = 1'-0"

DESIGN BUILDER:
ARCO DESIGN/BUILD

DESIGNER/ ENGINEER:
LES M. SAUNDERS JR., P.E.
127 CHURCH ST. NE - SUITE 300
MARIETTA, GA 30060
770.933.8842

OWNER:

PROJECT TITLE:
MUNTERS
PHASE 2

SHOOTING STAR WAY,
DALEVILLE, VA 24083

SEAL:
COMMONWEALTH OF VIRGINIA
LES M. SAUNDERS, JR.
No. 0402054025
PROFESSIONAL ENGINEER
07/09/2025

SUBMITTALS / REVISIONS:

NO.	DATE	DESCRIPTION
	07/09/2025	PERMIT SET

PROJECT NO.: -
DRAWN BY: RS

SHEET TITLE:
PLUMBING ENLARGED VIEWS

SHEET NUMBER:
P202

1 P203 ENLARGED MAIN OFFICE - DWV

1/4" = 1'-0"

DESIGN BUILDER:

ARCO DESIGN/BUILD

DESIGNER/ ENGINEER:

LES M. SAUNDERS JR., P.E.
127 CHURCH ST. NE - SUITE 300
MARIETTA, GA 30060
770.933.8842

OWNER:

PROJECT TITLE:

MUNTERS
PHASE 2

SHOOTING STAR WAY,
DALEVILLE, VA 24083

SEAL:

COMMONWEALTH OF VIRGINIA
LES M. SAUNDERS, JR.
No. 0402054025
PROFESSIONAL ENGINEER
07/09/2025

SUBMITTALS / REVISIONS:

NO.	DATE	DESCRIPTION
	07/09/2025	PERMIT SET

PROJECT NO.: -

DRAWN BY: RS

SHEET TITLE:

PLUMBING MAIN OFFICE ENLARGED DWV

SHEET NUMBER:

P203

1 P204 ENLARGED MAIN OFFICE - WATER

1/4" = 1'-0"

DESIGN BUILDER:

ARCO DESIGN/BUILD

DESIGNER/ ENGINEER:

LES M. SAUNDERS JR., P.E.
127 CHURCH ST. NE - SUITE 300
MARIETTA, GA 30060
770.933.8842

OWNER:

PROJECT TITLE:

MUNTERS
PHASE 2

SHOOTING STAR WAY,
DALEVILLE, VA 24083

SEAL:

COMMONWEALTH OF VIRGINIA
LES M. SAUNDERS, JR.
No. 0402054025
PROFESSIONAL ENGINEER
07/09/2025

SUBMITTALS / REVISIONS:

NO.	DATE	DESCRIPTION
	07/09/2025	PERMIT SET

PROJECT NO.: -

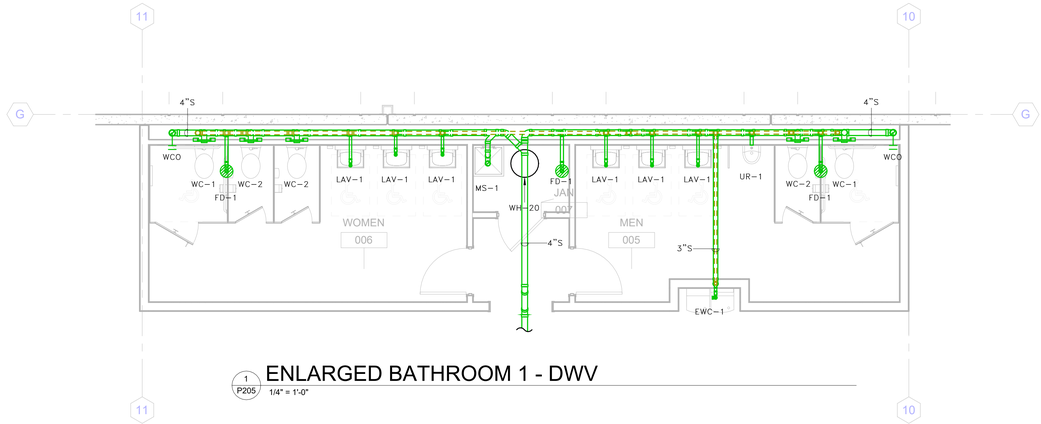
DRAWN BY: RS

SHEET TITLE:

PLUMBING ENLARGED
MAIN OFFICE WATER

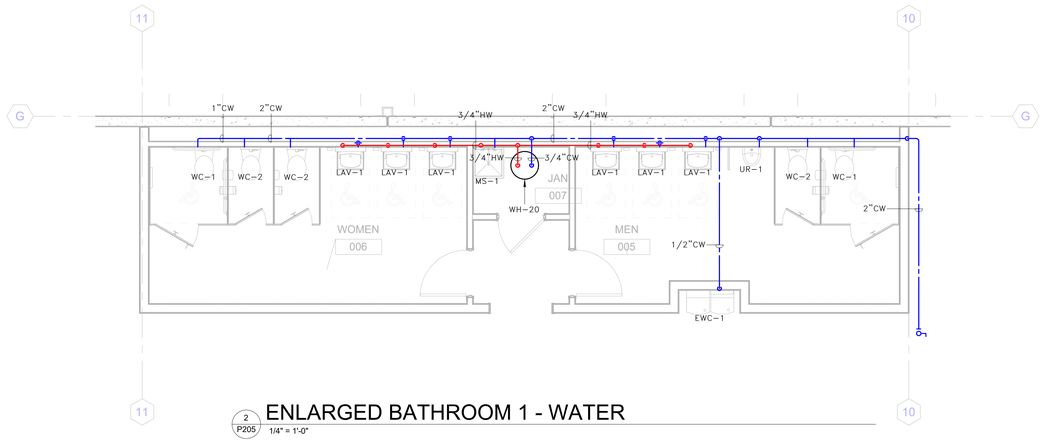
SHEET NUMBER:

P204



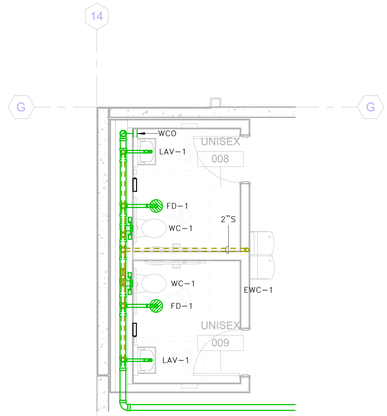
1 P205 ENLARGED BATHROOM 1 - DWV

1/4" = 1'-0"



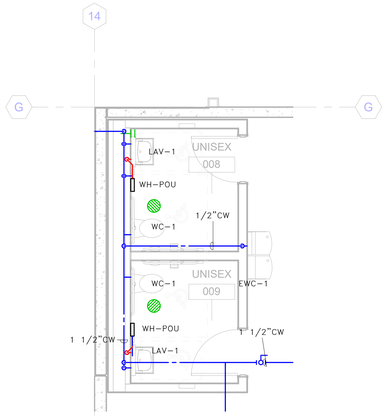
2 P205 ENLARGED BATHROOM 1 - WATER

1/4" = 1'-0"



4 P205 ENLARGED BATHROOM 2 - DWV

1/4" = 1'-0"



3 P205 ENLARGED BATHROOM 2 - WATER

1/4" = 1'-0"

DESIGN BUILDER:

ARCO DESIGN/BUILD

DESIGNER/ ENGINEER:

LES M. SAUNDERS JR., P.E.
127 CHURCH ST. NE - SUITE 300
MARIETTA, GA 30060
770.933.8842

OWNER:

PROJECT TITLE:

MUNTERS
PHASE 2

SHOOTING STAR WAY,
DALEVILLE, VA 24083

SEAL:

COMMONWEALTH OF VIRGINIA
LES M. SAUNDERS, JR.
No. 0402054025
PROFESSIONAL ENGINEER
07/09/2025

SUBMITTALS / REVISIONS:

NO.	DATE	DESCRIPTION
	07/09/2025	PERMIT SET

PROJECT NO.: -

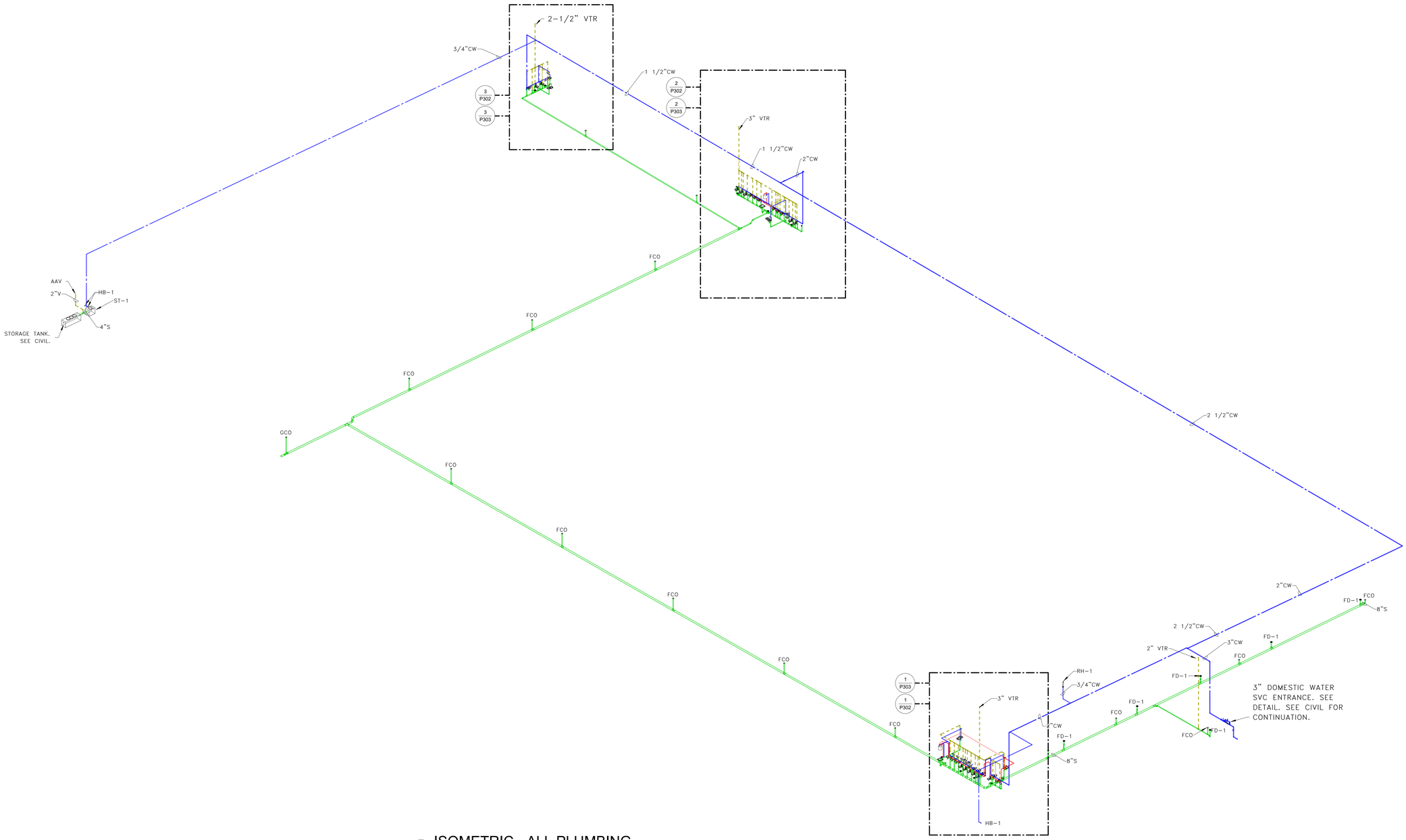
DRAWN BY: RS

SHEET TITLE:

PLUMBING ENLARGED BATHROOM VIEWS

SHEET NUMBER:

P205



1 P301 ISOMETRIC - ALL PLUMBING

DESIGN BUILDER:

ARCO DESIGN/BUILD

DESIGNER/ ENGINEER:

LES M. SAUNDERS JR., P.E.
127 CHURCH ST. NE - SUITE 300
MARIETTA, GA 30060
770.933.8842

OWNER:

PROJECT TITLE:

MUNTERS
PHASE 2

SHOOTING STAR WAY,
DALEVILLE, VA 24083

SEAL:

COMMONWEALTH OF VIRGINIA
LES M. SAUNDERS, JR.
No. 0402054025
PROFESSIONAL ENGINEER
07/09/2025

SUBMITTALS / REVISIONS:

NO.	DATE	DESCRIPTION
	07/09/2025	PERMIT SET

PROJECT NO.: -

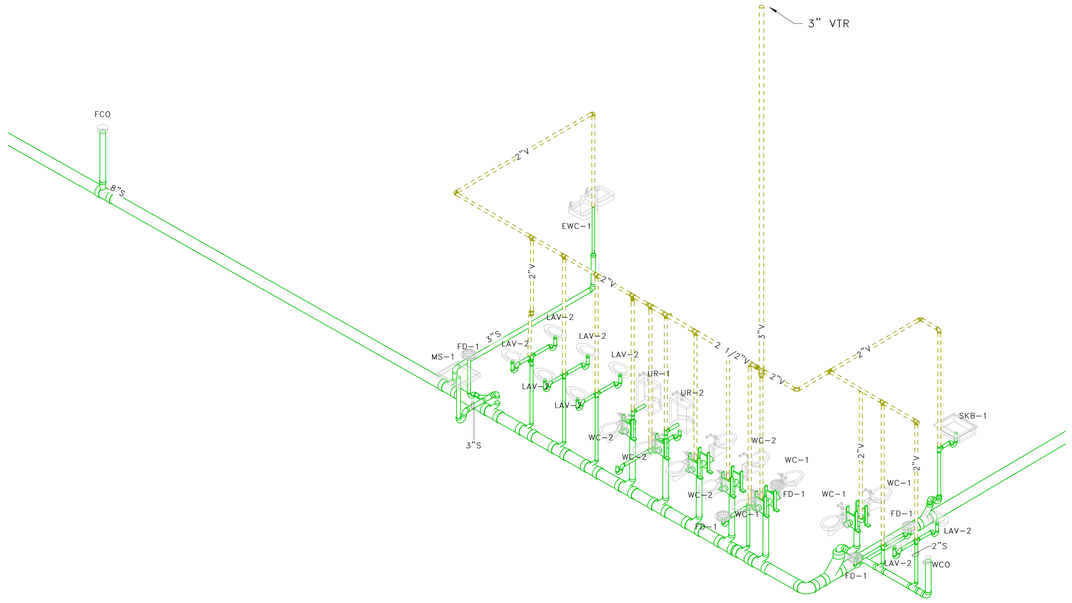
DRAWN BY: RS

SHEET TITLE:

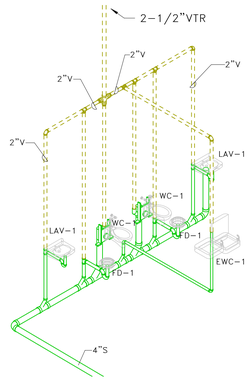
PLUMBING ISOMETRIC VIEWS - OVERALL

SHEET NUMBER:

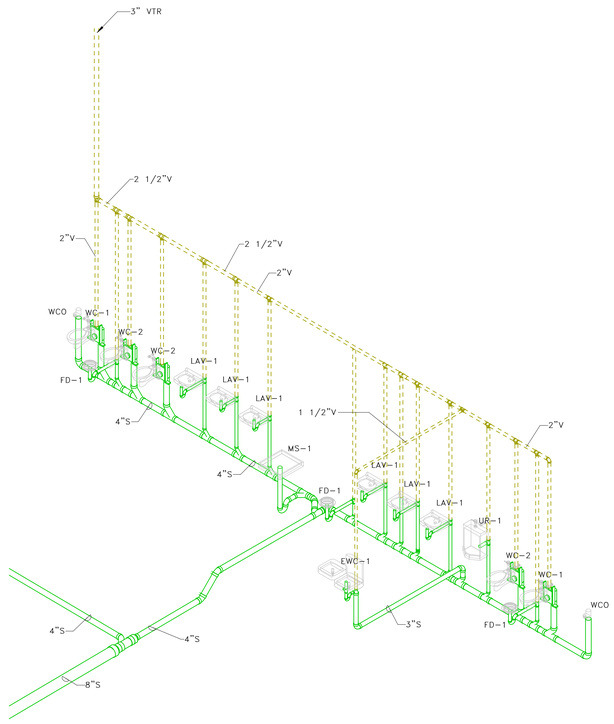
P301



1 P302 ISOMETRIC - DWV - MAIN OFFICE



3 P302 ISOMETRIC - DWV - BATHROOM 2



2 P302 ISOMETRIC - DWV - BATHROOM 1

DESIGN BUILDER:
ARCO DESIGN/BUILD

DESIGNER/ ENGINEER:
LES M. SAUNDERS JR., P.E.
127 CHURCH ST. NE - SUITE 300
MARIETTA, GA 30060
770.933.8842

OWNER:

PROJECT TITLE:
MUNTERS
PHASE 2

SHOOTING STAR WAY,
DALEVILLE, VA 24083

SEAL:
COMMONWEALTH OF VIRGINIA
LES M. SAUNDERS, JR.
No. 0402054025
PROFESSIONAL ENGINEER
07/09/2025

SUBMITTALS / REVISIONS:

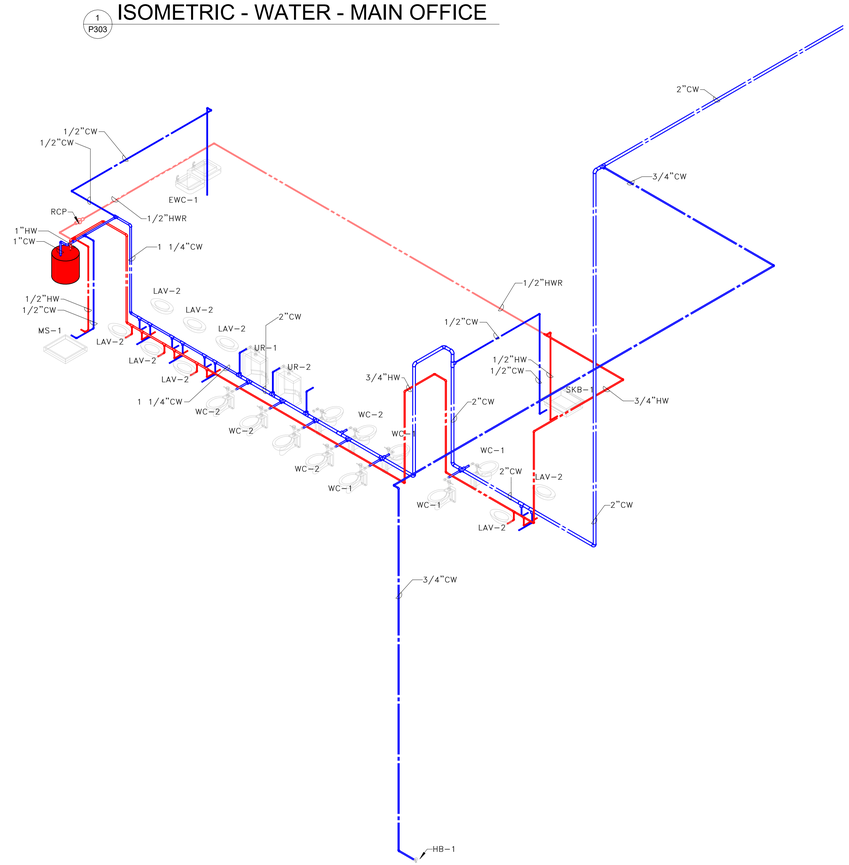
NO.	DATE	DESCRIPTION
	07/09/2025	PERMIT SET

PROJECT NO.: -
DRAWN BY: RS

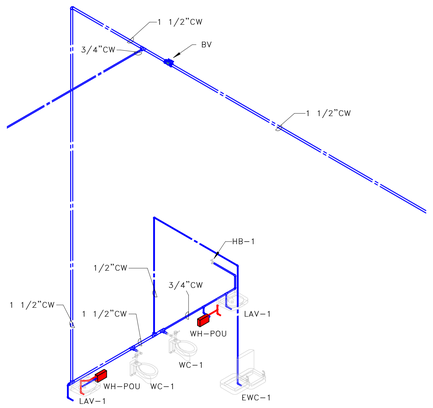
SHEET TITLE:
PLUMBING ISOMETRIC VIEWS - DWV

SHEET NUMBER:
P302

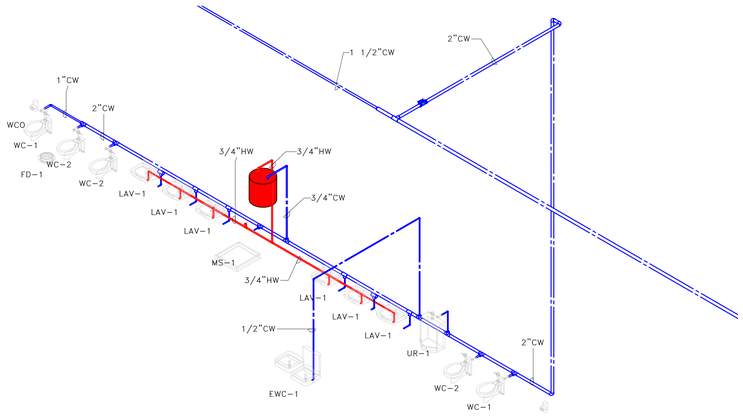
1 P303 ISOMETRIC - WATER - MAIN OFFICE



3 P303 ISOMETRIC - WATER - BATHROOM 2



2 P303 ISOMETRIC - WATER - BATHROOM 1



DESIGN BUILDER:
ARCO DESIGN/BUILD

DESIGNER/ ENGINEER:
LES M. SAUNDERS JR., P.E.
127 CHURCH ST. NE - SUITE 300
MARIETTA, GA 30060
770.933.8842

OWNER:

PROJECT TITLE:
MUNTERS
PHASE 2

SHOOTING STAR WAY,
DALEVILLE, VA 24083

SEAL:
COMMONWEALTH OF VIRGINIA
LES M. SAUNDERS, JR.
No. 0402054025
PROFESSIONAL ENGINEER
07/09/2025

SUBMITTALS / REVISIONS:

NO.	DATE	DESCRIPTION
	07/09/2025	PERMIT SET

PROJECT NO.: -
DRAWN BY: RS

SHEET TITLE:
PLUMBING ISOMETRIC VIEWS - WATER

SHEET NUMBER:
P303

PLUMBING LEGEND

COLD WATER (CW)	
HOT WATER (HW)	
HOT WATER RETURN (HWR)	
S — SANITARY (S)	
V — VENT (V)	
GW — GREASE WASTE (GW)	
SD — STORM DRAIN (SD)	
SSD — SECONDARY STORM DRAIN (SSD)	
PD — PUMPED DISCHARGE (PD)	
G — GAS (G)	
A — COMPRESSED AIR (A)	
T — TEMPERED WATER (T)	
AW — ACID WASTE (AW)	
AV — ACID VENT (AV)	
PCW — PROCESS COLD WATER (PCW)	
PHW — PROCESS HOT WATER (PHW)	
PS — PROCESS SANITARY (PS)	
PIPING BELOW FLOOR/GRADE	
EXISTING PIPING (E)	
DEMOLISHED PIPING	

BFF	BELOW FINISHED FLOOR
BOD	BASIS OF DESIGN
VTR	VENT THRU ROOF
BV	BALL VALVE
BAL	BALANCING VALVE
(E)	EXISTING
RCP	RECIRCULATION PUMP
POU	POINT OF USE
BTU	BRITISH THERMAL UNIT
MBH	1 MBH = 1,000 BTU
CFM	1 CFM = 1 MBH

PIPE BREAK / CONTINUATION

POINT OF CONNECTION

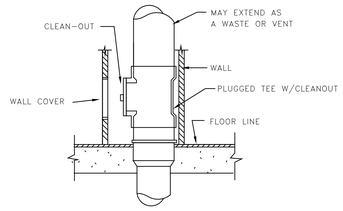
EXTENT OF DEMOLITION

ELECTRIC WATER HEATER SCHEDULE

NOTES:

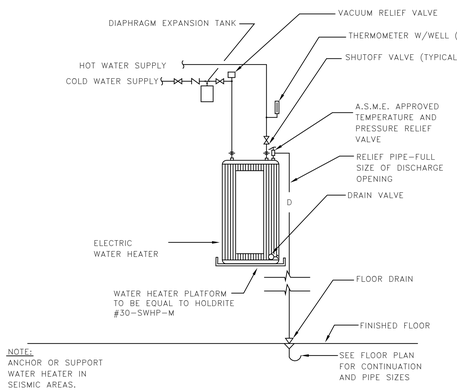
1. SET WATER HEATERS TO 120F
2. PROVIDE EXPANSION TANK. BOD: AMTROL ST-5
3. WALL MOUNT WITH ENGINEERED PLATFORM
4. HUNG FROM STRUCTURE ON ENGINEERED PLATFORM.
5. PROVIDE RECIRCULATION PUMP (RCP). BOD: TACO 007e. "SET TO GREEN MODE".

TYPE MARK	DESCRIPTION	MANUFACTURER	MODEL	STORAGE (GAL.)	FUEL TYPE	ELECTRICAL	REFER TO NOTES ABOVE
WH-20	ELECTRIC TANK	A.O. SMITH	DEL-20-4.5	20	ELECTRIC	208V, 1PH, 4.5KW	1,2,3,5
WH-POU	POINT OF USE	CHRONOMITE	SR-20L/208	N/A	ELECTRIC	208V, 1PH, 4.16KW	



WALL CLEANOUT DETAIL

NOT TO SCALE



ELECTRIC WATER HEATER DETAIL

NOT TO SCALE - WITH AQUASTAT

PLUMBING FIXTURE SCHEDULE

NOTES:

1. PROVIDE WITH ASSE 1070 THERMOSTATIC MIXING VALVE (TMV-1)
2. FAUCET: DELTA 590T1150, MIXING VALVE: ZURN ZW3870XLT. PIPE COVER: TRUEBRO 82194 (FOR EXPOSED PIPING)
3. PROVIDE WITH CONCEALED ARM CARRIER
4. PROVIDE WITH CARRIER RATED FOR 500 LBS. COORDINATE CHASE DIMENSION WITH SELECTED CARRIER.
5. FAUCET: FIAT 830AA, HOSE & MOP BRACKET: FIAT 832AA/889CC, WALL GUARD: FIAT MSG2424
6. INCLUDED WITH ASSE 1011 VACUUM BREAKER.
7. REFER TO ARCHITECTURAL FOR MOUNTING HEIGHTS.
8. PROVIDE WITH WATER HAMMER ARRESTOR(S) (WHA)
9. FAUCET: DELTA 100-DST. INSULATE EXPOSED PIPING UNDER SINK. CONFIRM SINK SIZE WITH ARCHITECT BEFORE ORDERING
10. PROVIDE SLOAN G2 BATTERY POWERED AUTOMATIC FLUSH VALVE (1.28 GPF).
11. TEST TEE WITH STAINLESS STEEL COVER PLATE.
12. PROVIDE SURE SEAL #SSX009 TRAP SEALER ONE WAY VALVE
13. PROVIDE SLOAN ECOS 8186-0.125 BATTERY POWERED AUTOMATIC FLUSH VALVE
14. POLYETHYLENE CATCH BASIN WITH HIGHWAY RATED CAST IRON GRATE - LIQUID CAPACITY: 57 GAL, SOLID: 25 GAL...

TYPE MARK	DESCRIPTION	MANUFACTURER	MODEL	REFER TO NOTES ABOVE
EWC-1	ELECTRIC WATER COOLER (BI-LEVEL) (W/ BOTTLE FILL)	ELKAY	LZSTLGBWSLK	
FCO	FLOOR CLEANOUT	JAY R. SMITH	4220/4231S-FC-G	15
FD-1	FLOOR DRAIN	JAY R. SMITH	2005	12
GCO	CLEANOUT TO GRADE	SIOUX CHIEF	834-4PNR	
HB-1	HOSE BIB	PRIER	P-156	
LAV-1	LAVATORY DROP IN	KOHLER	BROOKLINE K-2202-1	1, 2
LAV-2	LAVATORY WALL HUNG	KOHLER	HUDSON K-2805-0	1, 2, 3
MS-1	MOP SINK	FIAT	MSB2424	5, 6
RH-1	ROOF HYDRANT	WOODFORD	SRH-MS	
SKB-1	BREAKROOM SINK DROP IN	ELKAY	LRAD312265	9
ST-1	SAND TRAP	STRIEM	CB-50-G	14
UR-1	URINAL (ADA)	KOHLER	BARDON K-4991-ET	7,13
UR-2	URINAL	KOHLER	BARDON K-4991-ET	7,13
WC-1	WATER CLOSET WALL MOUNT (ADA)	KOHLER	KINGSTON K-84325	4,7,10
WC-2	WATER CLOSET WALL MOUNT	KOHLER	KINGSTON K-84325	4, 7, 10
WCO	WALL CLEANOUT	JAY R. SMITH	9775	11

FIXTURE CONNECTION SCHEDULE

GENERAL NOTES:

1. SIZES SHOW ON THE FLOOR PLANS AND ISOMETRIC VIEWS SHALL OVERRIDE SIZES SHOWN ON THIS SCHEDULE.
2. VENT SIZES SHOWN ARE TO BE USE FOR INDIVIDUAL AND COMMONLY VENTED FIXTURES.
3. PROVIDE 2" VERTICAL DRAIN AND VENTS PIPING INSTALLED IN WALL TO ALL INDIVIDUALLY AND COMMON VENTED LAVATORIES.
2. PROVIDE INDIVIDUAL SHUT OFF VALVES FOR ALL FIXTURES OTHER THAN FLUSH VALVE TYPE FIXTURES.
5. PROVIDE STAINLESS STEEL BRAIDED SUPPLY LINES TO ALL SINKS, LAVATORIES AND TANK TYPE WATER CLOSETS.
6. FLOOR AND WALL CLEANOUTS (FCO/WCO) SHALL MATCH THE SIZE OF THE DRAIN SERVED. WHEN THE CLEANOUT SERVES A DRAIN LARGER THAN 4" THE CLEANOUT SHALL BE 4" MAX.

TYPE MARK	Description	CW SIZE	HW SIZE	SAN SIZE	VENT SIZE
EWC-1	ELECTRIC WATER COOLER (BI-LEVEL) (W/ BOTTLE FILL)	1/2"		1 1/2"	2"
FCO	FLOOR CLEANOUT				
FD-1	FLOOR DRAIN			<varies>	2"
GCO	CLEANOUT TO GRADE				
HB-1	HOSE BIB	3/4"	0"		
LAV-1	LAVATORY DROP IN	1/2"	1/2"	1 1/2"	2"
LAV-2	LAVATORY WALL HUNG	1/2"	1/2"	1 1/2"	2"
MS-1	MOP SINK	1/2"	1/2"	3"	2"
RH-1	ROOF HYDRANT	3/4"			
SKB-1	BREAKROOM SINK DROP IN	1/2"	1/2"	2"	2"
ST-1	SAND TRAP				
UR-1	URINAL (ADA)	1/2"		2"	1 1/2"
UR-2	URINAL	1/2"		2"	1 1/2"
WC-1	WATER CLOSET WALL MOUNT (ADA)	1"		4"	
WC-2	WATER CLOSET WALL MOUNT	1"		4"	
WCO	WALL CLEANOUT				

GENERAL CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL ACCEPT THE PROJECT SITE IN "AS IS" CONDITION. THEY SHALL VERIFY ALL THE EXISTING CONDITIONS AND THOSE FOR THE EXISTING WORK TO BE REUSED OR ALTERED. CONTRACTOR SHALL INCLUDE COSTS OF ALL REQUIRED MODIFICATIONS OR REPLACEMENTS IN ACCORDANCE WITH APPLICABLE PLANS AND SPECIFICATION SECTIONS.

2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE SITE, TAKE NECESSARY MEASUREMENTS, COUNTS AND FAMILIARIZE THEMSELVES WITH ALL THE JOB CONDITIONS PRIOR TO PROCEEDING WITH THE WORK.

3. CONFINE OPERATIONS AT THE SITE TO AREAS PERMITTED BY LAW, ORDINANCES, PERMITS, CONTRACT DOCUMENTS AND THE OWNER.

4. DO NOT UNREASONABLY ENCUMBER PREMISES WITH MATERIALS OR EQUIPMENT.

5. DO NOT LOAD STRUCTURES WITH WEIGHT THAT WILL ENDANGER STRUCTURE. ASSUME FULL RESPONSIBILITY FOR PROTECTION AND SAFEKEEPING OF PRODUCTS AND EQUIPMENT STORED ON PREMISES.

6. THE CONTRACT OPERATIONS SHOULD NOT CAUSE ANY HINDRANCE, NUISANCE, LACK OF SAFETY, BLOCKED MEANS OF ENTRANCE AND EXIT, DAMAGE TO EQUIPMENT OR PROPERTY OR PERSON, DISRUPTION OF UTILITIES, EXCESSIVE AND OFFENSIVE NOISE AND DUST TO ANY OF THE ADJOINING PROPERTIES AND PERSONS. REMOVE SUCH CONDITION FORTHWITH, SHOULD THEY OCCUR AND REPAIR OR REPLACE THE DAMAGE AT OWN COST TO THE APPROVAL OF THE ENGINEER AND/OR GENERAL CONTRACTOR.

7. DISPOSE OF ALL WASTE MATERIALS IMMEDIATELY AND KEEP PREMISES CLEAN AT ALL TIMES.

8. PROVIDE ACCESS TO OWNER'S AUTHORIZED PERSONS AND THE POLICE, FIRE OR OTHER DEPARTMENTS HAVING LEGAL JURISDICTION TO THE SITE AT ALL TIMES AND PROVIDE COOPERATION IN THEIR WORK.

GENERAL PLUMBING NOTES

9. FURNISH ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR A COMPLETE PLUMBING SYSTEM IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL CODES.

10. FURNISH AND INSTALL ALL SYSTEMS OF SOIL, WASTE, AND VENT PIPING, HOT WATER PIPING, COLD WATER PIPING AND DRAINAGE PIPING INCLUDING ALL FITTINGS, VALVES, ETC. AS REQUIRED.

11. FURNISH AND INSTALL ALL PLUMBING FIXTURES AND EQUIPMENT AS SHOWN ON THE DRAWINGS.

12. ALL PLUMBING WORK SHALL BE DONE UNDER THE SUPERVISION OF AND BY LICENSED AND QUALIFIED PLUMBERS PER ALL LOCAL, STATE, AND NATIONAL CODES AND TO THE COMPLETE SATISFACTION OF THE LOCAL PLUMBING INSPECTOR.

13. ALL MATERIALS SHALL BE NEW, CLEAN, AND WITHOUT DEFECTS. ANY DEFECTIVE MATERIALS SHALL BE REMOVED FROM JOB SITE.

14. THE PLUMBING PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER 'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.

15. WATER SERVICE ENTRANCE:
   15.1 BACKFLOW PREVENTER TO BE EQUAL TO WATTS SERIES LF007.
   15.2 WATER PRESSURE REDUCING VALVE TO BE EQUAL TO WATTS LF223-S (SET TO 50 PSIG).

16. DOMESTIC WATER SUPPLY PIPING:
   16.1 UNDERGROUND: TYPE K SOFT DRAWN COPPER TUBING WITH BRAZED CONNECTIONS.
   16.2 ABOVE GROUND:
      16.2.1 ALL HOT AND COLD WATER PIPING SHALL BE COPPER TYPE L WITH 125 PSIG SOLDERED JOINTS, WROUGHT COPPER OR BRASS FITTINGS. ALL SOLDER TO BE NO-LEAD TYPE.
      16.2.2 HOT AND COLD WATER PIPING GREATER THAN 3/4" MAY BE COPPER TYPE L AS ABOVE, OR CPVC.
      16.2.3 ALL HOT WATER PIPING SHALL BE INSULATED WITH 1" THICK FIBERGLASS OR ELASTOMERIC PIPE INSULATION.
   16.3 INSTALL AN ISOLATION VALVE FOR EACH FIXTURE CONNECTED.
   16.4 INSTALL WATER HAMMER ARRESTORS AT ALL QUICK CLOSING VALVES. SIZE AND LOCATE PER MANUFACTURER'S RECOMMENDATIONS.

17. SANITARY/STORM DRAINAGE AND VENT PIPING:
   17.1 UNDERGROUND:
      17.1.1 SANITARY, WASTE AND VENT PIPING BURIED WITHIN 5 FEET OF BUILDING SHALL BE ASTM D2665 SOLID CORE PVC SCH. 40 PIPE.
      17.1.2 SERVICE WEIGHT CAST IRON WITH BELL AND SPIGOT JOINTS MAY BE USED IN LIEU OF PVC.
      17.1.3 DRAINAGE PIPING SMALLER THAN 3" SHALL RUN AT A UNIFORM GRADE OF AT LEAST 1/4" PER FOOT, AND PIPING 3"-6" SHALL BE RUN AT A GRADE OF NO LESS THAN 1/8" PER FOOT.
      17.1.4 DRAINAGE PIPING SHALL BE RUN AS STRAIGHT AS POSSIBLE AND SHALL HAVE LONG TURN FITTINGS.
   17.2 ABOVE GROUND:
      17.2.1 SCHEDULE 40 ASTM D2665 SOLID CORE PVC WITH SOLVENT JOINTS.
      17.2.2 PVC PIPING SHALL NOT BE USED IN AIR PLENUM CEILINGS AND SHALL NOT CROSS FIRE-RATED WALLS, CEILINGS OR FLOORS. USE SERVICE WEIGHT CAST IRON WITH BELL AND SPIGOT JOINTS IN RETURN AIR PLENUMS.
      17.2.3 ALL VENT PIPING SHALL BE SLOPED TO DRAIN BACK TO FIXTURES.

18. CLEANOUT PLUGS SHALL BE INSTALLED IN ACCORDANCE WITH PLUMBING CODE REQUIREMENTS. CLEANOUTS SHALL BE PLACED IN READILY ACCESSIBLE LOCATIONS.

19. ALL FLOOR DRAINS ON THE SANITARY SYSTEM ARE TO HAVE AUTOMATIC TRAP PRIMERS. SURE SEAL #22X009 TRAP SEAL ONE-WAY VALVES OR EQUAL MAY BE USED IF ALLOWED BY LOCAL CODE.

20. ALL STUB-INS AND/OR SLAB OR WALL PENETRATION TO BE PER NFPA 20 SEC. 2-11.1 AND A.2-11.1. ALL PIPING PENETRATIONS OF BUILDING FOUNDATIONS OR FOOTINGS SHALL BE SLEEVED.

21. CONTRACTOR IS RESPONSIBLE FOR THE PROPER FLASHING OF THE VENT PIPING RUN THROUGH THE ROOF.

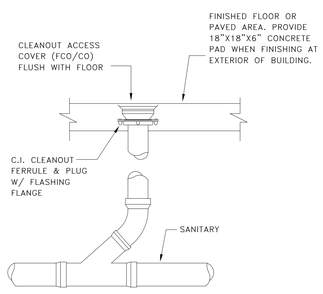
22. LOCATE ACCESS PANELS IN NON-ACCESSIBLE CEILINGS AND WALLS FOR ALL VALVES, SHOCK ABSORBERS, CLEANOUTS AND ALL OTHER ITEMS THAT REQUIRE ACCESS TO PROPERLY MAINTAIN OR SERVICE THE BUILDING.

23. CONNECTIONS BETWEEN WATER PIPE, FITTINGS AND EQUIPMENT OF FERROUS AND NON-FERROUS METALS SHALL BE MADE WITH DI-ELECTRIC INSULATING COUPLINGS.

24. SUPPORTS:
   24.1 PIPING SUPPORTS (ABOVE GRADE): ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE AND PREFORMED METAL TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL BE AS SPECIFIED IN THE IPC HANGER SPACING TABLE 308.5.
   24.2 PIPING SUPPORTS (BELOW GRADE): EARTH SHALL BE EXCAVATED TO A MINIMUM DEPTH WITH AN EVEN SURFACE TO ENSURE SOLID BEARING OF PIPE FOR ITS ENTIRE LENGTH.
      24.2.1 INTERIOR: THE PIPE SHALL BE INSTALLED (UNLESS SPECIFIED OTHERWISE) A MINIMUM OF 4 INCHES BELOW THE BOTTOM OF THE SLAB AND SHALL NOT BE IN ANY DIRECT CONTACT WITH THE CONCRETE AT ANY POINT.
      24.2.2 EXTERIOR: THE WATER PIPE SHALL HAVE A MINIMUM OF 3 FEET OF COVER AND SHALL COMPLY WITH LOCAL CODES.

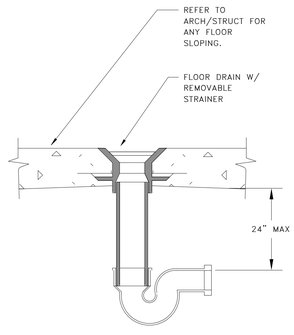
25. UPON COMPLETION OF THE WORK, TEST ALL PIPING SYSTEMS AS FOLLOWS:
   25.1 DRAINAGE SYSTEMS INCLUDING SANITARY SEWERS, ROOF DRAINAGE, AND SANITARY VENTS: PLUG LOW POINTS OF SYSTEM AND FILL WITH WATER TO UPPERMOST OUTLET OR TO 12 FEET HIGH, WHICHEVER IS LOWER. LET SYSTEM STAND FULL OF WATER WITH NO INDICATIONS OF LEAKS.
   25.2 DOMESTIC HOT AND COLD WATER: 150 PSIG HYDROSTATIC TEST. HOLD HYDROSTATIC TESTS FOR A MINIMUM OF EIGHT HOURS WITHOUT LOSS OF PRESSURE. HOLD AIR TESTS FOR A MINIMUM OF ONE HOUR WITHOUT SIGNIFICANT LOSS OF PRESSURE. WITH APPROVAL OF ARCHITECT, AIR TESTING MAY BE SUBSTITUTED FOR HYDROSTATIC TESTING IN FREEZING WEATHER.

26. RETESTING: RETEST PIPING FAILING INITIAL TESTS FOLLOWING CORRECTION OF DEFECTIVE WORK. REQUIREMENTS OF INITIAL TESTS SHALL APPLY.



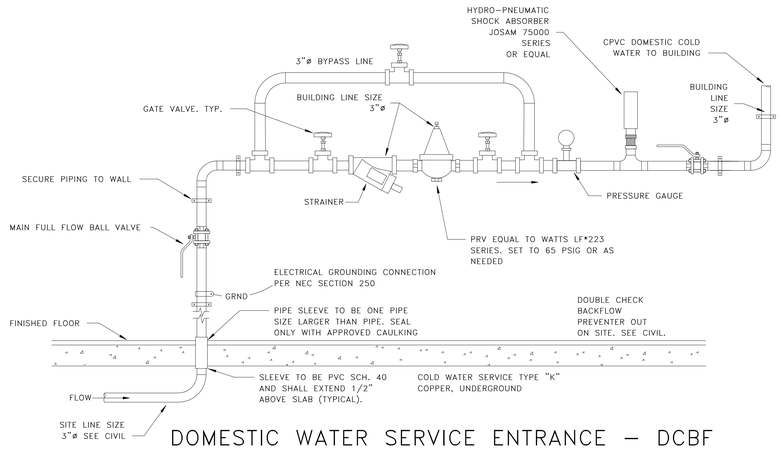
CLEANOUT DETAIL

NOT TO SCALE



FLOOR DRAIN DETAIL

NOT TO SCALE



DOMESTIC WATER SERVICE ENTRANCE - DCBF

NOT TO SCALE

DESIGN BUILDER:

ARCO DESIGN/BUILD

DESIGNER/ ENGINEER:

LES M. SAUNDERS JR., P.E.
127 CHURCH ST. NE - SUITE 300
MARIETTA, GA 30060
770.933.8842

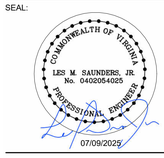
OWNER:

PROJECT TITLE:

MUNTERS
PHASE 2

SHOOTING STAR WAY,
DALEVILLE, VA 24083

SEAL:



SUBMITTALS / REVISIONS:

NO.	DATE	DESCRIPTION
	07/09/2025	PERMIT SET

PROJECT NO.: -

DRAWN BY: RS

SHEET TITLE:

PLUMBING NOTES, SCHEDULES AND DETAILS

SHEET NUMBER:

P401