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ADBI | DESIGN SERVICES

PROJECT TITLE
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NY-312 & PUGSLEY RD, SOUTHEAST, NY 10509

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ELECTRICAL ENGINEER
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CITY, STATE ZIP

PLUMBING ENGINEER
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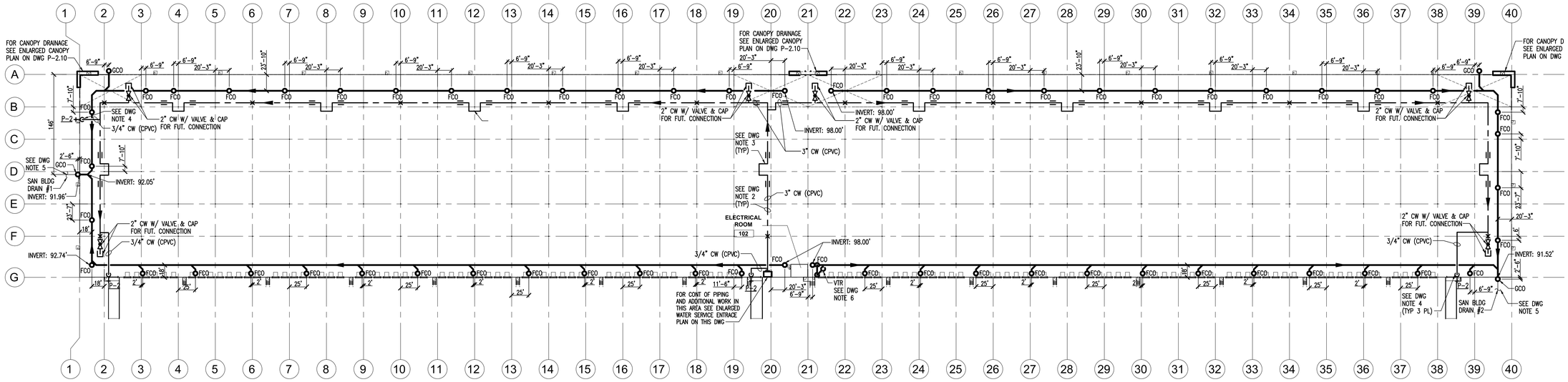
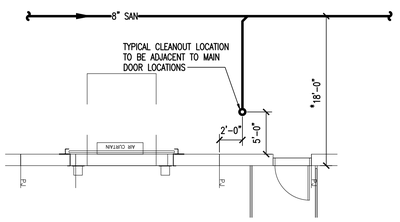
CITY, STATE ZIP

FIRE PROTECTION ENGINEER
COMPANY NAME
STREET ADDRESS
CITY, STATE ZIP

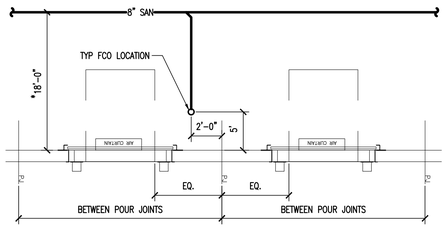


PLUMBING – BUILDING OVERALL FLOOR PLAN – DRAINAGE & WATER PIPING
SCALE: 1/64" = 1'-0" FIN FLR 100.00'

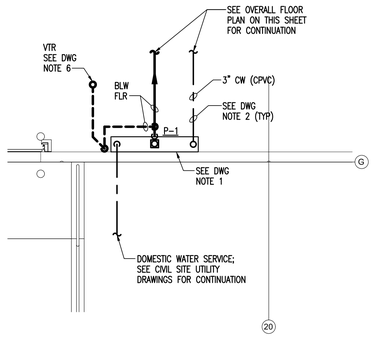


TYPICAL CLEANOUT DETAIL (MANDOOR)
NO SCALE (SOUTH SIDE)

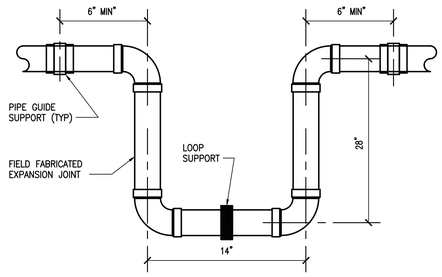
*NOTE: THIS DIMENSION IS 15'-0" AT CLEANOUTS ON SANITARY BLDG DRAIN #2 BETWEEN COLUMN LINES 30 TO 38



TYPICAL CLEANOUT DETAIL (OVERHEAD DOOR)
NO SCALE



PLUMBING – ENLARGED WATER SERVICE ENTRANCE PLAN
SCALE: 1/4" = 1'-0"



NOTES:
1. EXPANSION LOOP DIMENSIONS, BASIS OF DESIGN IS THREE (3) INCH CPVC PIPE, 50 DEGREE FAHRENHEIT TEMPERATURE CHANGE FOR A LENGTH OF PIPE BETWEEN ANCHORS 220 +/- FEET.
2. INSTALL EXPANSION LOOP AS CLOSELY AS POSSIBLE TO MID-POINT BETWEEN ANCHORS.
3. DO NOT INSTALL RIGID OR RESTRAINING SUPPORTS WITHIN LEG LENGTH OF LOOPS.
4. ALL PIPE AND FITTING CONNECTIONS SHALL BE SOLVENT CEMENT, DO NOT USE THREAD CONNECTIONS.
5. PIPE GUIDE SUPPORTS SHOULD RESTRICT LATERAL MOVEMENT AND DIRECT AXIAL MOVEMENT INTO THE LOOP.

EXPANSION LOOP DIAGRAM
NO SCALE

LEGEND AND ABBREVIATIONS

———	SANITARY PIPING (SAN)
– – – –	SANITARY VENT PIPING (SV)
— — —	COLD WATER PIPING (CW)
———o	PIPE TURNING UP
———o	PIPE TURNING DOWN
———x———	PIPE ANCHOR
——=——=	PIPE GUIDE
⋈	BALL VALVE
+	WALL HYDRANT
P–__	FIXTURE REFERENCE NUMBER

CONT	CONTINUATION
DFU	DRAINAGE FIXTURE UNIT
DWG	DRAWING
EQUIP	EQUIPMENT
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FF. EL.	FINISHED FLOOR ELEVATION
GCO	GRADE CLEANOUT
INV. EL.	INVERT ELEVATION
TYP	TYPICAL
VTR	VENT THRU ROOF
WTR	WATER
#	NUMBER

GENERAL NOTES:

1. ALL PLUMBING WORK SHALL CONFORM TO THE NEW YORK UNIFORM CONSTRUCTION CODES, 2020 NEW YORK PLUMBING CODE (2018 INTERNATIONAL PLUMBING CODE) AND SUBSEQUENT AMENDMENTS THERETO AS ADOPTED BY THE TOWN OF SOUTHEAST, NEW YORK AND SUBSEQUENT AMENDMENTS THERETO.
2. DRAWINGS ARE DIAGRAMMATIC. COORDINATE ALL EQUIPMENT LOCATIONS AND PIPE ROUTING WITH OTHER TRADES AND ARCHITECTURAL DETAILS PRIOR TO INSTALLATION.
3. VERIFY LOCATIONS, MOUNTING HEIGHTS, TRIM LOCATIONS, ETC. FOR ALL PLUMBING FIXTURES WITH THE ARCHITECT PRIOR TO INSTALLATION. P–__ DESIGNATES FIXTURE AND FIXTURE TRIM. MOUNTING OF ALL ADA FIXTURES AND RELATED TRIM TO MEET THE AMERICAN DISABILITIES ACT GUIDELINES AND ANSI REQUIREMENTS FOR PEOPLE WITH DISABILITIES.
4. INTENT IS TO CONCEAL ALL PIPING IN WALLS/CHASE SPACE, BELOW FLOORS, AND ABOVE CEILINGS UNLESS OTHERWISE NOTED. INSTALL ALL WATER SUPPLY PIPING AT EXTERIOR WALLS ON THE INSIDE (WARM SIDE) OF THE BUILDING INSULATION. SEAL ALL PIPING PENETRATIONS THROUGH RATED ASSEMBLIES ACCORDINGLY. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE AND SOUND RATED PARTITIONS, CEILINGS, AND FLOORS.
5. THE PLUMBING CONTRACTORS UTILITY WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

   DOMESTIC WATER SYSTEM – NEW DOMESTIC WATER SYSTEM. CONNECT NEW WATER PIPING AS SHOW TO THE NEW WATER SERVICE.

   SANITARY DRAINAGE SYSTEM – CONNECTS OF THE TWO (2) SANITARY BUILDING DRAINS PIPING AS SHOWN TO THE SANITARY BUILDING SEWERS.

   STORM WATER DRAINAGE SYSTEM – CONNECT NEW ROOF DRAINAGE DOWNSPOUTS AND ROOF DRAIN CONDUCTORS TO THE STORM WATER BUILDING SEWER.

DRAWING NOTES:

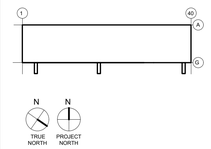
1. PROVIDE BUILDING DOMESTIC WATER SUPPLY DISTRIBUTION PIPING AND SERVICE ENTRANCE EQUIPMENT AND CONNECTION TO BUILDING WATER SUPPLY AS SHOWN. SEE "DOMESTIC WATER SERVICE ENTRANCE PIPING DIAGRAM" ON DRAWING P–3.10. PRIOR TO THE START OF ANY NEW WATER SUPPLY SYSTEM WORK THIS CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF TIE–IN POINT.
2. THE INSTALLATION OF ALL BUILDING WATER SUPPLY DISTRIBUTION PIPING SHALL BE ABOVE BOTTOM CHORD OF ROOF JOISTS.
3. PROVIDE FIELD FABRICATED EXPANSION LOOP. INSTALL AND ANCHOR IN ACCORDANCE WITH THE PIPING MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS. SEE "EXPANSION LOOP DIAGRAM" ON THIS DRAWING.
4. COORDINATE FINAL LOCATION OF WALL HYDRANT DROPS IN THE FIELD. INSTALL HYDRANT AT 18 INCHES ABOVE FINISH FLOOR AND PROVIDE BALL VALVE IN DROP TO WALL HYDRANT AT 5'-0" A.F.F. ALL PIPING DROPS TO HYDRANTS TO BE TYPE 'L' COPPER.
5. CONNECT SANITARY BUILDING DRAINAGE PIPING AS SHOWN TO SANITARY BUILDING SEWER. REFER TO SITE UTILITY PLANS FOR LOCATION. PRIOR TO THE START OF ANY NEW SANITARY DRAINAGE SYSTEM WORK THIS CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF INVERT ELEVATION AT TIE–IN POINT AND ROUTING WITH BUILDING FOOTINGS.
6. ROUTE VENT PIPING EXPOSED ON WALL AND CONNECT TO VENT THROUGH ROOF AS SHOWN ON SANITARY RISER DIAGRAM.

FINAL REVIEW 03/11/2022
NOT FOR CONSTRUCTION

SEAL

JOSEPH V. DIGIORGIO | NY: 042948

KEY PLAN



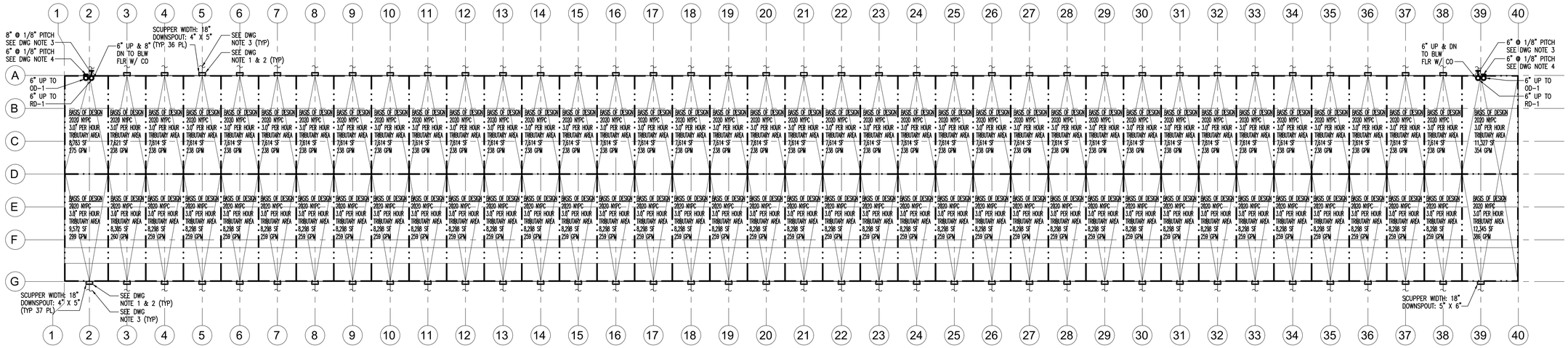
SUBMITTALS

NO.	DATE	DESCRIPTION

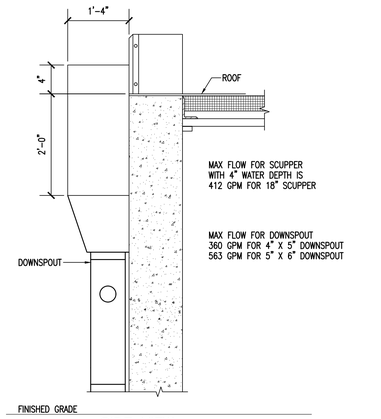
PROJECT NO. AS286-21/ NY131
DRAWN BY ZPC

SHEET TITLE
PLUMBING OVERALL FLOOR PLAN

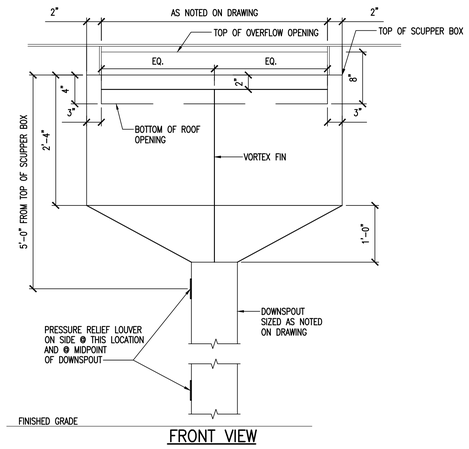
SHEET NO.
P-1.10



PLUMBING – BUILDING OVERALL ROOF PLAN – ROOF DRAINAGE
SCALE: 1/64" = 1'-0"

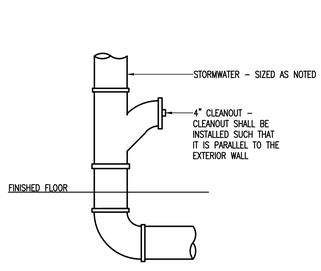


SIDE VIEW

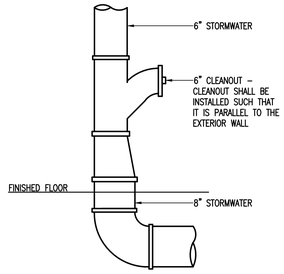


FRONT VIEW

ROOF SCUPPER BOX DIAGRAM
NO SCALE



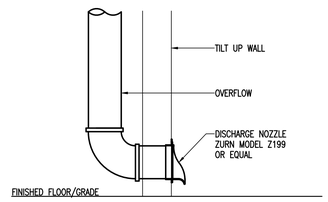
STORMWATER STACK BASE DETAIL
NO SCALE



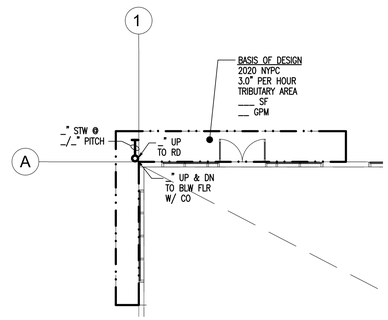
STORMWATER STACK BASE DETAIL
NO SCALE
(@ COLUMN LINE #2)

DRAWING NOTES:

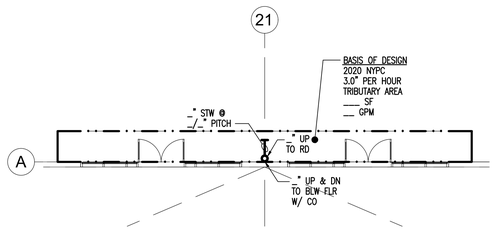
1. DRAWING SHOWS ROOF DRAINAGE TRIBUTARY AREAS, BASIS OF DESIGN AND SIZING INFORMATION. REFER TO ROOF PLAN ON ARCHITECTURAL DRAWINGS FOR ROOF SLOPES AND FINAL LOCATIONS OF ALL ROOF DRAINS, SCUPPER BOXES AND DOWNSPOUTS.
2. COMBINATION WALL SCUPPER BOX FOR BOTH PRIMARY AND SECONDARY (EMERGENCY) ROOF DRAINAGE. SEE "ROOF SCUPPER BOX DIAGRAM" ON THIS DRAWING FOR SCUPPER BOX OPENING WIDTHS AND DOWNSPOUT SIZES, REFER TO THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FINAL SCUPPER BOX DIMENSIONS, MATERIALS AND INSTALLATION DETAILS.
3. CONNECT STORM WATER BUILDING DRAINAGE PIPING AS SHOWN TO STORM WATER BUILDING SEWER. REFER TO SITE UTILITY PLANS FOR LOCATION. PRIOR TO THE START OF ANY NEW DRAINAGE SYSTEM WORK THIS CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF INVERT ELEVATION AT TIE-IN POINT AND ROUTING WITH BUILDING FOOTINGS.
4. TERMINATE OVERFLOW DISCHARGE WITH DOWNSPOUT NOZZLE, DISCHARGE SHALL BE ABOVE GRADE, IN A LOCATION THAT NORMALLY BE OBSERVED BY THE BUILDING OCCUPANTS OR MAINTENANCE PERSONNEL. SEE "OVERFLOW DISCHARGE NOZZLE DIAGRAM" ON THIS DRAWING
5. SEE DRAWING P–1.10 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.



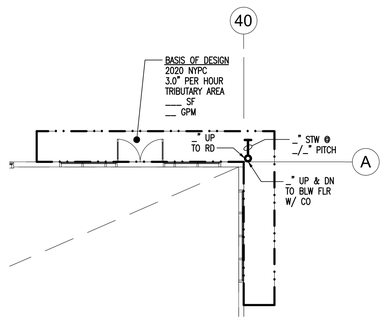
OVERFLOW DISCHARGE NOZZLE DETAIL
NO SCALE



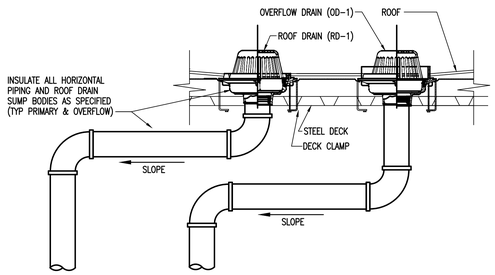
PLUMBING ENLARGED NORTHWEST CANOPY AREA – CANOPY DRAINAGE
SCALE: 1/8" = 1'-0"



PLUMBING ENLARGED NORTH CANOPY AREA – CANOPY DRAINAGE
SCALE: 1/8" = 1'-0"



PLUMBING ENLARGED NORTHEAST CANOPY AREA – CANOPY DRAINAGE
SCALE: 1/8" = 1'-0"



ROOF DRAIN & OVERFLOW DETAIL
NO SCALE

FINAL REVIEW 03/11/2022
NOT FOR CONSTRUCTION

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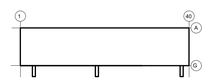
SEAL

JOSEPH V. DIGIORGIO | NY: 042948

KEY PLAN



SUBMITTALS

NO.	DATE	DESCRIPTION

PROJECT NO. AS286-21/ NY131
DRAWN BY ZPC

SHEET TITLE
PLUMBING OVERALL ROOF PLAN

SHEET NO.
P-2.10

PRINTED ARCH E1 36" x 42" 2/3/2022 2:56:57 PM

PLUMBING SPECIFICATIONS:

1.1 THE ARCHITECTURAL GENERAL CONDITIONS SHALL APPLY TO AND FORM A PART OF THIS SECTION OF THESE SPECIFICATION.

1.2 PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND SUPERVISION AND PERFORM ALL OPERATIONS NECESSARY FOR THE PROPER AND COMPLETE EXECUTION OF ALL PLUMBING WORK IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS.

1.3 ALL WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE NEW YORK BUILDING AND PLUMBING CODES, NATIONAL FIRE PROTECTION ASSOCIATION, NATIONAL ELECTRIC CODE, OSHA, ALL OTHER STATE AND LOCAL AUTHORITIES HAVING JURISDICTION AND APPLICABLE MANUFACTURER'S RECOMMENDATIONS.

1.4 THE CONTRACTOR SHALL VISIT THE SITE, EXAMINE ALL CONDITIONS, AND MAKE ALLOWANCES FOR DIFFICULTIES AND CONTINGENCIES AFFECTING THE PROPER EXECUTION OF THIS CONTRACT.

1.5 THE CONTRACTOR SHALL OBTAIN AND PAY ALL FEES NECESSARY FOR PERMITS AND INSPECTIONS REQUIRED WITH THIS WORK.

1.6 THE CONTRACTOR SHALL VERIFY ALL UTILITY SERVICE INFORMATION SHOWN ON THE DRAWINGS WITH THE LOCAL UTILITY COMPANY PRIOR TO SUBMITTING A BID. ANY CHANGES OR SERVICE CHARGES IMPOSED BY THE UTILITY COMPANY SHALL BE QUALIFIED AND INCLUDED IN THE BID.

1.7 ALL EQUIPMENT SHALL BE TESTED, LISTED AND LABELED BY AN APPROVED AUTHORITY (UL, AGA, ETL) AND SHALL BE INSTALLED IN ACCORDANCE WITH ITS LISTING.

1.8 ALL EQUIPMENT, MATERIALS, AND WORKMANSHIP SHALL BE GUARANTEED FOR A MINIMUM OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.

1.9 WHERE PRODUCTS ARE SPECIFIED BY BRAND NAME, CATALOG NUMBERS OR BY NAMES OF MANUFACTURERS, THE REFERENCE IS INTENDED TO BE DESCRIPTIVE AND NOT RESTRICTIVE AND IS SOLELY FOR THE PURPOSE OF INDICATING THE TYPE OF QUALITY OF ITEM THAT WILL BE ACCEPTABLE. AN APPROVED EQUAL WILL BE CONSIDERED UNLESS INDICATED OTHERWISE.

1.10 SUBMIT SHOP DRAWINGS REVIEW AND APPROVAL PRIOR TO ORDERING ANY MATERIALS OR EQUIPMENT.

1.11 THE CONTRACTOR RESPONSIBLE FOR WORK COVERED BY THESE SPECIFICATIONS SHALL COORDINATE AND COOPERATE WITH ALL OTHER TRADES. TRADES THAT HAVE WORK CONNECTED WITH THE PLUMBING WORK SHALL BE NOTIFIED FOR INSTALLATION REQUIREMENTS AND SCHEDULING. THE CONTRACTOR SHALL SCHEDULE HIS WORK TO AVOID ANY INTERRUPTION OF ANY UTILITY SERVICES TO THE OPERATION AREAS OF THE BUILDING DURING NORMAL WORKING HOURS. INTERRUPTION OF SERVICES SHALL BE DONE DURING OFF HOURS AT NO ADDITIONAL COST TO THE OWNER.

1.12 ALL CUTTING AND PATCHING OF EVERY NATURE REQUIRED IN CONNECTION WITH THIS CONTRACT SHALL BE DONE BY THIS CONTRACTOR WITH MECHANICS EXPERIENCED IN THEIR RESPECTIVE TRADES. ALL PATCHING SHALL MATCH ADJACENT FINISHES. ALL WORK SHALL BE COORDINATED TO AVOID CUTTING OF WORK IN PLACE AND INTERFERING WITH OTHER OPERATIONS.

1.13 IN COMPLIANCE WITH ACT 38, CONTACT INDIVIDUAL COMPANIES TO HAVE UTILITY LOCATIONS MARKED IN THE FIELD AND TO OTHERWISE LOCATE UNDERGROUND OBJECTS AS MAY BE NECESSARY PRIOR TO THE START OF CONSTRUCTION. CALL DIG SAFELY NEW YORK, INC. ONE CALL (1-800-962-7962, AS OF THIS WRITING).

1.14 ALL EXCAVATIONS REQUIRED FOR INSTALLATION OF PIPE SHALL HAVE SOLID, UNDISTURBED BOTTOMS, AND SHALL BE SUBJECT TO APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO PIPING PLACEMENT. SHOULD BOTTOMS BECOME SOFT OR WET BEFORE PIPING IS PLACED, ALL SUCH UNSUITABLE BOTTOMS SHALL BE REMOVED AT NO COST TO THE OWNER AND FILLED WITH CONCRETE.

1.15 BACKFILL ALL EXCAVATIONS PERFORMED UNDER THIS CONTRACT AS REQUIRED TO SATISFY FINISHED GRADE REQUIREMENTS.

1.16 FURNISH AND INSTALL ALL NECESSARY HANGERS, INSERTS, SUPPORTS SUPPLEMENTARY STEEL, ETC., TO PROPERLY SUPPORT ALL EQUIPMENT AND PIPING IN AN APPROVED MANNER AND IN FULL ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

1.17 ALL DOMESTIC COLD WATER PIPING WITHIN THE BUILDING SHALL BE HARD DRAWN TYPE "L" COPPER TUBING IN ACCORDANCE WITH ASTM-B88. FITTINGS SHALL BE WROUGHT COPPER OR CAST BRASS. VALVES SHALL BE CAST BRASS UNLESS NOTED OTHERWISE. HANGERS FOR SUPPORTING COPPER TUBING SHALL BE COPPERIZED. HANGER SPACING SHALL BE MAXIMUM OF 6 FEET HORIZONTAL FOR SIZES 1-1/4" AND LESS, 10 FEET HORIZONTAL FOR SIZES 1-1/2" AND GREATER AND 10 FEET VERTICAL FOR ALL SIZES IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS AND PLUMBING CODE.

A. WHERE INDICATED ON THE DRAWINGS, ALTERNATIVE MATERIAL OF CONSTRUCTION FOR DOMESTIC WATER PIPING SHALL BE SCHEDULE 40 OR SCHEDULE 80, CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPE CONFORMING TO NSF61, IN ACCORDANCE WITH ASTM F441. FITTINGS SHALL BE APPROVED FOR INSTALLATION WITH THE PIPING MATERIAL IN ACCORDANCE WITH ASTM F437, F438, F439 OR F441. JOINTS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS, ASTM D2846, ASTM F493. CPVC PIPE SHALL NOT BE USED WITHOUT WRITTEN AUTHORIZATION FROM THE AUTHORITY HAVING JURISDICTION AND THE LOCAL FIRE MARSHAL. PIPING SHALL MEET UL 84E SMOKE AND FLAME SPREAD RATINGS FOR USE IN RETURN AIR PLENUM CEILINGS OR FIRE-RATED CEILING ASSEMBLIES. INSTALLATION OF THE CPVC PIPING MATERIAL SHALL INCLUDE APPROPRIATE PIPING SUPPORTS AND HANGER SPACING (MAXIMUM OF 6 FEET) IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS AND PLUMBING CODE.

1. CPVC SHALL ONLY BE ALLOWED FOR MAINS. ALL DROPS AND PIPING OUTSIDE OF THE ROOF JOISTS ARE TO BE TYPE "L" COPPER

1.18 PROVIDE PIPE GUIDES, ANCHORS AND EXPANSION LOOPS WHERE INDICATED ON THE DRAWINGS AND WHERE REQUIRED TO MINIMIZE STRESS IN PIPING SYSTEM. EXPANSION LOOPS SHALL BE FIELD FABRICATED. PIPE GUIDES SHALL BE METRAFLEX STYLE IV SIZE 25. APPROVED FITTINGS AND JOINTS SHALL BE UTILIZED FOR PIPING LOOP CONSTRUCTION FROM PIPING SYSTEM MATERIALS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE PIPE AND FITTING MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS.

1.19 ALL STORM WATER, SANITARY AND VENT PIPING ABOVE THE FINISHED FLOOR SHALL BE NO-HUB SERVICE WEIGHT CAST IRON IN ACCORDANCE WITH ASTM A74; JOINTS SHALL BE A NEOPRENE GASKET WITH STAINLESS STEEL CLAMP AND SHIELD ASSEMBLY, INSTALL IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. STORM WATER, SANITARY AND VENT PIPING LOCATED BELOW THE FLOOR SHALL BE SERVICE WEIGHT CAST IRON WITH HUB AND SPIGOT ENDS. JOINTS SHALL BE CONNECTED WITH NEOPRENE PUSH-ON COMPRESSION GASKETS, INSTALL IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. HANGER AND SUPPORT SPACING SHALL BE MAXIMUM OF 5 FEET HORIZONTAL FOR PIPE SECTIONS LESS THAN 10 FEET IN LENGTH, 10 FEET WHERE PIPE SECTIONS 10 FEET IN LENGTH ARE INSTALLED AND 15 FEET VERTICAL IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS AND PLUMBING CODE.

A. WHERE PERMITTED BY THE LOCAL AUTHORITY ALL SANITARY AND VENT PIPING SHALL BE SCHEDULE 40 PVC, ASTM D2665, D2949, WITH PVC FITTINGS (DWV TYPE) AND SOLVENT WELD JOINTS. PVC PIPING SHALL NOT BE USED IN RETURN AIR PLENUM TYPE CEILINGS OR IN FIRE-RATED CEILING ASSEMBLIES (CONTRACTOR TO VERIFY THESE AREAS WITH ARCHITECT). PVC PIPING SHALL NOT BE USED WITHOUT WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITY HAVING JURISDICTION AND THE LOCAL FIRE MARSHALL.

1.20 WHERE PIPING PASSES THROUGH FIRE RESISTING PORTIONS OF THE STRUCTURE, AN APPROVED FIRE-STOPPING DEVICE SHALL BE INSTALLED TO MAINTAIN THE FIRE RATING OF THAT PORTION OF THE STRUCTURE. ALL FIRE STOPPING DEVICES USED SHALL BE LISTED INTUMESCENT MATERIALS SUCH AS A CAULK, SEALANT, PUTTY, WRAP STRIPS, ETC. AS REQUIRED TO PROPERLY FIRE STOP ALL VOIDS. FIRE STOPPING MATERIAL SHALL BE AS MANUFACTURED BY 3M, HILTI, PRO-SET SYSTEMS OR EQUAL.

1.21 INSTALL CLEANOUT FITTINGS WHERE INDICATED AND AS REQUIRED. CLEANOUTS SHALL BE MADE BY MEANS OF LONG SWEEP ELL OR Y AND BEND. CLEANOUTS SHALL BE THE SAME SIZE AS PIPING UP TO AND INCLUDING 4-INCH LINE SIZE, AND IN 6 INCH LINE SIZE OR ABOVE CLEANOUTS SHALL BE 6 INCH. CLEANOUTS IN FLOORS FOR CONCEALED PIPING SHALL BE ADJUSTABLE GALVANIZED CAST IRON BODY WITH ABS PLUG (GASKET SEAL), EXTRA HEAVY-DUTY SCORIATED CAST IRON TOP WITH VANDALPROOF SCREWS AND FLANGE WITH FLASHING CLAMP. FLOOR CLEANOUTS SHALL BE JAY R. SMITH SERIES 4220S OR 4223S, RATED FOR HEAVY LOAD TRAFFIC. CLEANOUTS IN WALLS FOR CONCEALED PIPING SHALL BE CAST IRON T BRANCH CLEANOUT WITH BRONZE RAISED HEAD PLUG, LEAD SEAL AND VANDALPROOF POLISHED STAINLESS-STEEL ROUND ACCESS COVER.

1.22 ROOF DRAINS

A. PRIMARY ROOF DRAINS (RD): ANSI A112.21.2; LACQUERED CAST IRON BODY WITH SUMP RECEIVER, REMOVABLE CAST IRON DOME STRAINER, MEMBRANE FLANGE AND MEMBRANE CLAMP WITH INTEGRAL GRAVEL STOP, WITH ADJUSTABLE UNDERDECK CLAMP, ADJUSTABLE EXTENSION SLEEVE FOR INSULATION, OUTLET SIZE TO MATCH PIPE SIZE INDICATED ON THE DRAWINGS; MODEL Z100, MANUFACTURED BY ZURN.

B. EMERGENCY (SECONDARY) ROOF DRAINS (OD): ANSI A112.21.2; LACQUERED CAST IRON BODY WITH SUMP RECEIVER, REMOVABLE CAST IRON DOME STRAINER, MEMBRANE FLANGE AND MEMBRANE CLAMP WITH INTEGRAL GRAVEL STOP, WITH ADJUSTABLE UNDERDECK CLAMP, ADJUSTABLE EXTENSION SLEEVE FOR INSULATION, TWO INCH WATER DAM, OUTLET SIZE TO MATCH PIPE SIZE INDICATED ON THE DRAWINGS; MODEL Z100-W2, MANUFACTURED BY ZURN.

1.23 ALL SHUTOFF VALVES SHALL BE BALL VALVES. ALL BALL AND CHECK VALVES SHALL BE ALL BRONZE, SWEATED PATTERN SUITABLE FOR 125-PSI WORKING PRESSURE.

1.24 ALL BACKFLOW PREVENTERS SHALL BE AS REQUIRED BY THE LOCAL AUTHORITY.

A. REDUCED PRESSURE BACKFLOW PREVENTERS: ANSI/ASSE 1013; BRONZE BODY WITH BRONZE AND PLASTIC INTERNAL PARTS AND STAINLESS STEEL SPRINGS; TWO INDEPENDENTLY OPERATING, SPRING LOADED CHECK VALVES; DIAPHRAGM TYPE DIFFERENTIAL PRESSURE RELIEF VALVE LOCATED BETWEEN CHECK VALVES; THIRD CHECK VALVE WHICH OPENS UNDER BACK PRESSURE IN CASE OF DIAPHRAGM FAILURE; NON-THREADED VENT OUTLET; ASSEMBLED WITH TWO GATE VALVES, STRAINER AND FOUR TEST COCKS; MODEL 909, MANUFACTURED BY WATTS. BACKFLOW PREVENTER SHALL BE INSTALLED WITH AN AIR GAP DRAIN ASSEMBLY, WATTS MODEL 909AG. EXTEND DRAIN LINE TO NEAREST FLOOR DRAIN.

1.25 INSULATION

A. INSTALL INSULATION ON ALL COLD-WATER PIPING, ROOF DRAIN BODIES (SUMPS), HORIZONTAL STORM WATER PIPING, FITTINGS, VALVES AND STRAINERS WITH MATERIALS HAVING A "K" FACTOR OF 0.27 AT 75 DEGREES F MEAN TEMPERATURE, A FLAME SPREAD RATING OF 25 OR LESS AND SMOKE DEVELOPED RATING OF 50 OR LESS.

B. ALL INSULATION SHALL COMPLY WITH THE REQUIREMENTS OF ASTM E-84. ALL INSULATION SHALL BE CONTINUOUS AT HANGERS AND SUPPORTS (THE PIPE SHALL NOT CONTACT THE HANGER OR SUPPORT) EXCEPT WHERE PIPE ANCHORS AND GUIDES ARE INSTALLED. AT THESE LOCATIONS, COMPLETELY INSULATE THE ANCHOR AND/OR GUIDE BACK TO A DISTANCE THAT IS AT LEAST FOUR PIPE DIAMETERS OF THE PIPE. PROVIDE INSULATION SHIELDS ON ALL WATER SUPPLY DISTRIBUTION MAINS TO KEEP THE INSULATION FROM COMPRESSING SIGNIFICANTLY UNDER THE WEIGHT OF THE PIPE.

1. THICKNESS:

- COLD WATER PIPE SIZES UP TO 1 INCH = 1/2-INCH THICK
- COLD WATER PIPE SIZES FROM 1-1/4 TO 2 INCHES = 3/4-INCH THICK
- COLD WATER PIPE SIZES 2-1/2 INCHES AND LARGER = ONE INCH THICK
- HORIZONTAL STORM WATER = 1/2 INCH THICK
- ROOF DRAIN BODIES (SUMPS) = 1/2 INCH THICK

2. MATERIALS:

- VAPOR BARRIER ALL SERVICE JACKETED FIBERGLASS WITH FITTINGS COVERED WITH PRE-SHAPED PLASTIC COVERS.

3. MANUFACTURERS - CERTAINTEED, MANVILLE, OWENS CORNING, KNAUF, ARMSTRONG OR APPROVED EQUAL.

1.26 TRAP SEALING COMPONENT

A. PROVIDE TRAP SEALING COMPONENT AT ALL FLOOR DRAINS AND FUNNEL DRAINS. THE INSTALLATION OF A SEALING COMPONENT ON THE FIXTURE DRAIN OUTLET TO REDUCE TRAP SEAL LOSS SHALL BE PERMITTED IN LIEU OF A TRAP PRIMER WHERE APPROVED BY THE LOCAL AUTHORITY.

B. TRAP SEALING COMPONENT SHALL BE PROSET TRAP GUARD, MANUFACTURED BY PROSET SYSTEMS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

1.27 FIXTURES AND FIXTURE TRIMMINGS SHALL BE FURNISHED AND INSTALLED AS SPECIFIED HEREIN. FIXTURES SHALL BE COMPLETE WITH ALL NECESSARY WALL HANGERS AND SUPPORTS, SUPPLY STOP VALVES (LOOSE-KEY STOPS FOR EXPOSED PIPING IN PUBLIC TOILET ROOMS), 17-GAUGE CHROME-PLATED BRASS DRAINAGE FITTINGS/P-TRAPS AND ONE-PIECE CHROME-PLATED ESCUTCHEONS. ALL PIPING EXPOSED TO VIEW SHALL BE CHROME-PLATED BRASS. THE FOLLOWING ITEM NUMBERS CORRESPOND WITH THE "P" NUMBERS NOTED ON THE PLUMBING FIXTURE SCHEDULE AND ON THE DRAWINGS.

P-1 FLOOR DRAIN, ASME A112.6.3. - TWELVE INCH ROUND STRAINER HEAVY DUTY DRAIN WITH CAST IRON TRACTOR GRATE, DUCO CAST IRON DEEP BODY AND FLASHING COLLAR AND A FOUR INCH BOTTOM OUTLET; MODEL 2141Y, MANUFACTURED BY JAY R. SMITH MFG. CO.

P-2 WALL HYDRANT - SHALL BE ZURN MODEL Z-1310; EXPOSED, NON-FREEZE HYDRANT WITH STAINLESS STEEL FACE AND LOOSE KEY OPERATOR.

1.28 STERILIZATION OF DOMESTIC WATER SYSTEM

A. BEFORE BEING PLACED IN SERVICE, ALL DOMESTIC WATER LINES SHALL BE CHLORINATED USING A METHOD THAT IS SATISFACTORY TO THE WATER AUTHORITY OR THE AUTHORITY HAVING JURISDICTION. IN THE ABSENCE OF A PRESCRIBED METHOD, THE PROCEDURE LISTED IN AWWA C651 OR AWWA C652 OR AS DESCRIBED BELOW SHALL BE USED.

B. PRIOR TO CHLORINATION, ALL DIRT AND FOREIGN MATTER SHALL BE REMOVED BY A THOROUGH FLUSHING. THIS SHALL BE DONE AFTER THE PRESSURE TEST AND LEAKAGE TEST.

C. A CHLORINE HYPOCHLORITE SOLUTION SHALL BE APPLIED BY MEANS OF A SOLUTION FEED DEVICE OR THE GAS SHALL BE FED DIRECTLY FROM A CHLORINE CYLINDER EQUIPPED WITH PROPER DEVICES FOR REGULATING THE RATE OF FLOW AND THE EFFECTIVE DIFFUSE OF GAS WITHIN THE PIPE.

D. WATER SHALL BE CONTROLLED TO FLOW SLOWLY INTO THE SYSTEM DURING THE APPLICATION OF CHLORINE IN SUCH PROPORTIONS THAT THE CHLORINE DOSE APPLIED TO THE WATER ENTERING THE PIPE SHALL BE AT LEAST 50 PARTS PER MILLION.

E. TREATED WATER SHALL BE RETAINED IN THE SYSTEM LONG ENOUGH TO DESTROY ALL NON-SPORE FORMING BACTERIA. THIS PERIOD SHALL BE AT LEAST TWENTY-FOUR HOURS. A LONGER CHLORINE CONTACT TIME MAY BE REQUESTED BY THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER.

F. AFTER THE CHLORINE TREATED WATER HAS BEEN RETAINED FOR THE REQUIRED TIME, THE CHLORINE RESIDUAL AT THE PIPE EXTREMITIES AND AT OTHER REPRESENTATIVE POINTS SHALL BE AT LEAST FIVE PARTS PER MILLIONS.

G. FOLLOWING CHLORINATION, ALL TREATED WATER SHALL BE THOROUGHLY FLUSHED FROM THE SYSTEM AT ITS EXTREMITIES UNTIL THE REPLACEMENT WATER THROUGHOUT ITS LENGTH SHALL, UPON TEST, BE EQUAL TO THE WATER QUALITY SERVED FROM THE WATER SUPPLY SYSTEM.

H. SHOULD THE INITIAL TREATMENT IN THE OPINION OF THE OWNER'S REPRESENTATIVE PROVE INEFFECTIVE, THE CHLORINATION PROCEDURE SHALL BE REPEATED UNTIL CONFIRMED TESTS SHOW THAT WATER SAMPLED FROM THE SYSTEM CONFORMS TO THE REQUIREMENTS.

1.29 TEST OF DRAINAGE SYSTEMS

A. ALL SANITARY AND STORM WATER DRAINAGE PIPING SHALL BE TESTED BY PLUGGING ALL OPENINGS AND FILLING SYSTEM WITH WATER TO NO LESS THAN TEN (10) FOOT HEAD OF WATER. THE WATER SHALL STAND FOR 30 MINUTES BEFORE INSPECTION STARTS; THE SYSTEM SHALL BE TIGHT AT ALL POINTS. ANY ADDITIONAL TESTING BY AIR, SMOKE OR PEPPERMINT SHALLCOMPLY WITH LOCAL AUTHORITYREQUIREMENTS.

1.30 TEST OF DOMESTIC WATER PIPING

A. ALL WATER LINES SHALL BE TESTED TO A HYDROSTATIC PRESSURE EQUAL TO 1-1/2 TIMES THE MAXIMUM OPERATING PRESSURE. THE SYSTEM SHALL BE LEAK-FREE FOR 24 HOURS AT THIS PRESSURE.

1.31 TESTING OF BACKFLOW PREVENTION ASSEMBLIES

A. PROVIDE TEST AT THE TIME OF INSTALLATION AND IMMEDIATELY AFTER REPAIRS AND OR RELOCATION FOR THE FOLLOWING: REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLIES, DOUBLE CHECK-VALVE ASSEMBLIES, PRESSURE VACUUM BREAKER ASSEMBLIES, REDUCED PRESSURE DETECTOR FIRE PROTECTION BACKFLOW PREVENTION ASSEMBLIES, DOUBLE CHECK DETECTOR FIRE PROTECTION BACKFLOW PREVENTION ASSEMBLIES, HOSE CONNECTION BACKFLOW PREVENTERS AND SPILLPROOF VACUUM BREAKERS.

1. CERTIFIED INDIVIDUALS APPROVED BY AN AGENCY ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION SHALL PERFORM TESTING AND REPAIR OF DEVICES. TESTER QUALIFICATIONS SHALL BE IN ACCORDANCE WITH ASSE 5000 SERIES STANDARDS OR EQUIVALENT. CERTIFICATION FOR REPAIR SHALL BE IN ACCORDANCE WITH ASSE 5030 OR EQUIVALENT. CERTIFICATION SHALL INCLUDE NOT LESS THAN 32 HOURS OF COMBINED CLASSROOM AND PRACTICE TRAINING AND SUCCESSFUL COMPLETION OF A WRITTEN AND PRACTICAL EXAMINATION.
2. PERFORM TESTING PROCEDURES IN ACCORDANCE WITH ONE OF THE FOLLOWING STANDARDS: ASSE 5013, ASSE 5015, ASSE 5020, ASSE 5013, ASSE 5047, ASSE 5048, ASSE 5052, ASSE 5056, CSA B64.10 OR CSA B64.10.1.

B. WHERE TESTS INDICATE THAT THE DEVICE IS NOT FUNCTIONING PROPERLY, IT SHALL BE SERVICED OR REPAIRED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND BE RETESTED.

C. COPIES OF TEST REPORTS FOR THE INITIAL INSTALLATION SHALL BE SENT TO THE OWNER, AUTHORITY HAVING JURISDICTION AND TO THE WATER SUPPLIER.

D. THE OWNER IS RESPONSIBLE FOR ANNUAL INSPECTIONS OF ALL BACKFLOW PREVENTION ASSEMBLIES TO VERIFY STILL OPERABLE.

1.32 THE CONTRACTOR SHALL FURNISH THREE SETS OF INSTRUCTION MANUALS TO THE OWNER AT COMPLETION OF CONSTRUCTION.

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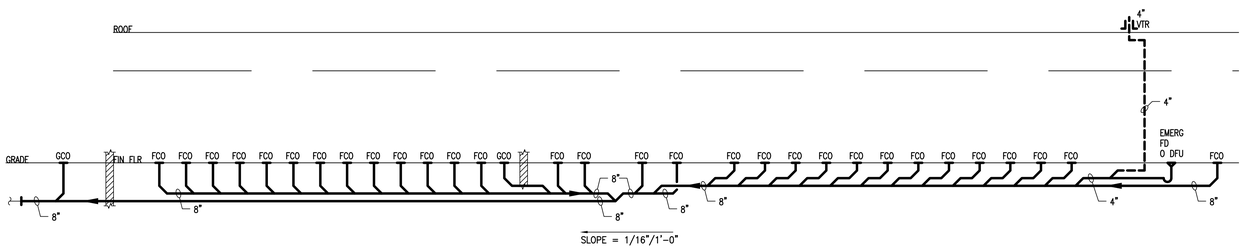
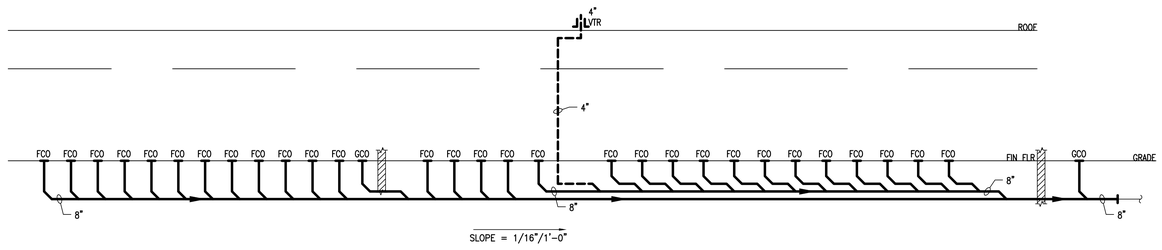


SANITARY RISER DIAGRAM
NO SCALE (SAN BUILDING DRAIN #1)



SANITARY RISER DIAGRAM
NO SCALE (SAN BUILDING DRAIN #2)

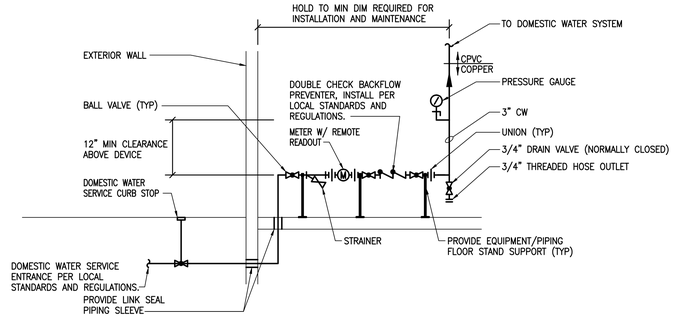
GENERAL SANITARY RISER NOTES:

1. ALL SANITARY PIPING LESS THAN 3"ø SHALL BE SLOPED AT 1/4"/1'-0". ALL SANITARY PIPING LARGER THAN 3"ø BUT LESS THAN 8"ø SHALL BE AT 1/8"/1'-0". ALL SANITARY PIPING 8"ø OR LARGER SHALL BE SLOPED AT 1/16"/1'-0" (IN ACCORDANCE WITH THE PLUMBING CODE AND ALL LOCAL REQUIREMENTS).
2. ALL SANITARY PIPING LOCATED BELOW THE FLOOR SLAB SHALL BE NO LESS THAN 2"ø.
3. ALL VENT THROUGH THE ROOF PENETRATIONS (VTR'S) SHALL BE LOCATED NO LESS THEN 30'-0" FROM ALL EXISTING OR NEW OUTSIDE AIR INTAKES. COORDINATE WITH MECHANICAL CONTRACTOR IN THE FIELD.

PLUMBING FIXTURE SCHEDULE

REF NO	FIXTURE	CW (IN)	HW (IN)	SAN (IN)	TRAP (IN)	VENT (IN)	REMARKS
P-1	FLOOR DRAIN			4	4	2	WITH TRAP SEAL PROTECTION, SEE NOTE 1
P-2	WALL HYDRANT	3/4					WALL MOUNT, EXPOSED, NON-FREEZE, ANTI-SIPHON, AUTOMATIC DRAINING. SEE NOTE 2

NOTES:
1. PROVIDE WITH BARRIER TYPE FLOOR DRAIN TRAP SEAL PROTECTION DEVICE COMPLYING WITH ASSE 1072.
2. COORDINATE WALL THICKNESS FOR EACH LOCATION WITH THE GENERAL CONTRACTOR.



NOTES: 1. WATER METER SHALL BE AS REQUIRED BY THE LOCAL WATER AUTHORITY.
2. PROVIDE COPPER PIPING FOR SERVICE ENTRANCE SUPPLY LINE AND ALL PIPING TO POINT INDICATED.
3. THE BOTTOM OF BACKFLOW PREVENTION ASSEMBLY SHALL BE LOCATED BETWEEN 12 AND 30 INCHES FROM THE FINISH FLOOR, AND A MINIMUM OF 18 INCHES FROM ANY WALL.

WATER SERVICE ENTRANCE PIPING DIAGRAM
NO SCALE

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NOT FOR CONSTRUCTION

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SHEET TITLE
PLUMBING DIAGRAMS, SCHEDULE & SPECIFICATION

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P-3.10