

ABBREVIATIONS GENERAL NOTES

ACOUSTICAL TILE

ACCESS PANEL

CHILLED WATER

CAST IRON

CLEANOUT

CONTINUATION

CONTRACTOR

COLD WATER

DOWN

DRAWING

EXISTING

FLOOR

FOOT

ELEVATION

FLOOR CLEANOUT

FIXTURE NUMBER

FIRE PROTECTION

FLOW SWITCH

FLUSH VALVE

GALVANIZED

HANDICAPPED

INSIDE DIAMETER

INDIRECT WASTE

IDENTIFICATION

NORMALLY OPEN

NOT TO SCALE

NORMALLY CLOSED

NOT IN CONTRACT

OUTSIDE DIAMETER

PLUMBING CONTRACTOR

POUNDS PER SQUARE INCH

REDUCED PRESSURE BACKFLOW

SINK-FIXTURE IDENTIFICATION

URINAL-FIXTURE IDENTIFICATION

OPEN END DRAIN

PLUMBING

PREVENTER

SPECIFICATION

SOIL STACK

TYPICAL

VENT

WASTE

SHOCK ABSORBER

VACUUM BREAKER

VENT THRU ROOF

IDENTIFICATION

WATER CLOSET-FIXTURE

VENT STACK

MECHANICAL

HOT WATER

INVERT

FILTERED WATER

GENERAL CONTRACTOR

GALLONS PER MINUTE

HOT WATER CIRCULATING

LIMIT OF PLUMBING CONTRACTOR

MOP SERVICE BASIN-FIXTURE

GALLON PER FLUSH

CONNECT TO EXISTING

CEILING

CONTR

EL/ELEV

ARCHITECT

BUILDING

ABOVE FINISH FLOOR

CUBIC FEET PER HOUR

CUBIC FEET PER MINUTE

- PLUMBING WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE PLUMBING AND GAS CODE INCLUDING ALL LOCAL AMENDMENTS.
- . OBTAIN ALL PERMITS AND PAY ALL FEES ASSOCIATED WITH THIS WORK PRIOR TO COMMENCEMENT.
- PIPING AND EQUIPMENT IS SHOWN DIAGRAMMATICALLY. THE ACTUAL ROUTING OF PIPING AND
- EXACT LOCATION OF EQUIPMENT SHALL BE DETERMINED IN THE FIELD. 4. IN ADDITION TO REVIEWING AND COORDINATING WITH THE OTHER TRADES (CIVIL, STRUCTURAL,
- THE SITE AND FAMILIARIZE HIMSELF WITH DETAILS OF CONSTRUCTION. FURNISH AND INSTALL ALL NECESSARY PIPING, EQUIPMENT SUPPORTS AND ANY EQUIPMENT

ARCHITECTURAL, FIRE PROTECTION, HVAC, AND ELECTRICAL) THE CONTRACTOR SHALL VISIT

PROVIDE ACCESSIBLE SHUTOFF VALVES ON ALL BRANCH PIPING AND ON ALL SUPPLY PIPING TO

- NOT SHOWN ON DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS BUT NECESSARY TO PROVIDE A COMPLETE AND WORKABLE SYSTEM.
- INDIVIDUAL FIXTURES AND EQUIPMENT.
- 7. PROVIDE ACCESS TO ALL EQUIPMENT REQUIRING PERIODIC SERVICE AND MAINTENANCE.
- 8. FURNISH ACCESS PANELS TO THE GENERAL CONTRACTOR FOR INSTALLATION UNDER THE RELATED TRADES.
- 9. PITCH ALL WATER LINES TO DRAIN.
- 10. INSTALL HORIZONTAL RUNS OF WATER PIPING AS HIGH AS POSSIBLE AND PROVIDE DRAIN-OFFS AT ALL LOW POINTS.
- 11. HOT WATER TAKEOFFS SHALL HAVE NOT LESS THAN THREE ELBOW SWINGS.
- 12. PIPING SHALL RUN CONCEALED IN ALL AREAS WITH THE EXCEPTION OF MECHANICAL ROOMS, AREAS WHERE NO CEILING EXISTS OR WHERE NOTED ON THE PLANS.
- 13. INSTALL DIELECTRIC COUPLINGS BETWEEN DISSIMILAR MATERIALS.
- 14. PROVIDE DRIP LEGS FOR ALL GAS RISERS.
- 15. AN AIR GAP OF AT LEAST TWICE THE EFFECTIVE DIAMETER OF THE DRAIN SERVED SHALL BE PROVIDED ON ALL EQUIPMENT DRAINS PIPED TO DRAINS.
- WHEN PIPE PENETRATIONS ARE MADE.
- 17. REFER TO RISER DIAGRAMS AND DETAILS FOR PIPE AND EQUIPMENT SIZES NOT SHOWN ON THE

16. REQUIRED FIRE RESISTANCE RATING OF FLOORS, WALLS AND CEILINGS SHALL BE MAINTAINED

- 18. ALL WORK SHOWN ON RISER DIAGRAMS BUT NOT ON PLANS OR VICE VERSA SHALL BE INCLUDED AS IF SHOWN ON BOTH.
- 19. SEE SPECIFICATIONS FOR OTHER REQUIREMENTS.

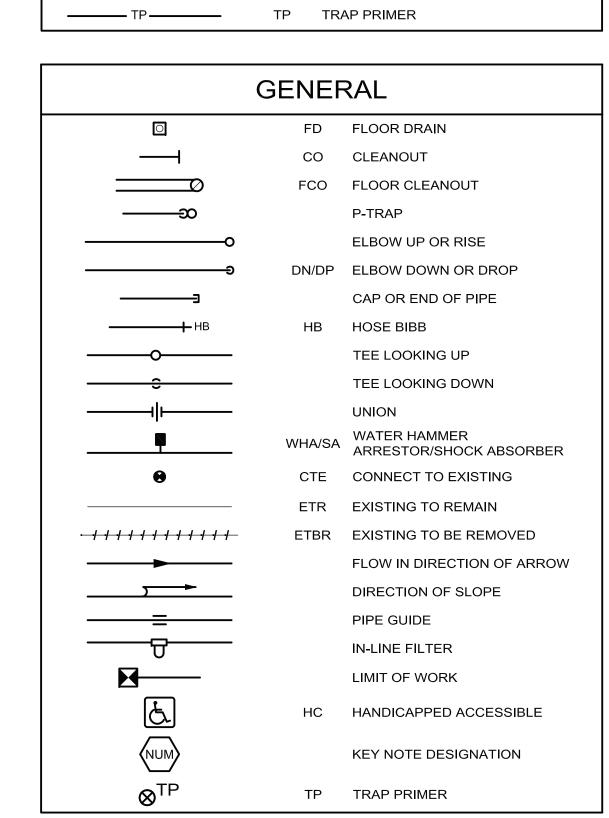
DEMOLITION NOTES

- REFER TO THE ARCHITECTURAL DRAWINGS FOR THE EXTENT OF THE DEMOLITION SCOPE OF WORK AND AREA.
- THE LOCATIONS OF EXISTING EQUIPMENT INCLUDING PIPING, DUCTWORK, EQUIPMENT, CONDUITS, ETC ARE SHOWN IN AN APPROXIMATE WAY ONLY. VISIT THE SITE PRIOR TO SUBMISSION OF THE BIDS AND COMMENCEMENT OF WORK TO BECOME FAMILIAR WITH THE ACTUAL CONDITIONS AND EXTENT OF THE
- TRACE AND LABEL ALL EXISTING SYSTEMS WITHIN THE DEMOLITION AREA AND BEYOND PRIOR TO DISCONNECTION AND REMOVAL TO ENSURE THAT NO AREA OUTSIDE THE DEMOLITION AREA IS AFFECTED. REVIEW IN DETAIL WITH THE GENERAL CONTRACTOR AND OWNER WHAT IS TO BE REMOVED AND REMAIN PRIOR TO WORK COMMENCING THE DEMOLITION. THERE SHALL BE NO INTERRUPTION OF SERVICES OUTSIDE THE DEMOLITION AREA WITHOUT APPROVAL FROM THE OWNER'S REPRESENTATIVE.
- COORDINATE EQUIPMENT REMOVAL WITH ALL PARTIES TO PROVIDE DISCONNECTION. REMOVE EQUIPMENT BY UNFASTENING AT THE SUPPORTS OR ATTACHMENTS. ALSO REMOVE THE ATTACHMENTS FROM THE BUILDING, LEAVING NO COMPONENT OF THE ORIGINAL INSTALLATION.
- EXERCISE CARE WITH EQUIPMENT THAT IS TO BE RELOCATED OR TURNED OVER TO THE OWNER. EXAMINE THE EQUIPMENT BEFORE REMOVAL IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE TO DETERMINE ITS CONDITION. DELIVER OWNER-RETAINED EQUIPMENT TO AN ON-SITE LOCATION DESIGNATED BY THE OWNER AND OBTAIN ACKNOWLEDGMENT OF RECEIPT IN ORIGINAL CONDITION.
- INSTALL RELOCATED EQUIPMENT IN ORIGINAL CONDITION ENSURING NO DAMAGE.
- PROMPTLY REPAIR ANY DAMAGE CAUSED DURING/BY THE EXECUTION OF WORK. DAMAGE INCLUDES BUT IS NOT LIMITED TO DESTRUCTION OF ITEMS INTENDED TO REMAIN OR TO BE SALVAGED.
- NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY OF ANY UNANTICIPATED HIDDEN CONDITIONS ENCOUNTERED DURING THE DEMOLITION.
- ALL ITEMS REMOVED SHALL BE OFFERED TO THE OWNER FOR SALVAGE. IF THE OWNER DOES NOT TAKE POSSESSION, DISPOSE OF THE ITEMS IN A SAFE AND LEGAL MANNER. ALL ITEMS CLASSIFIED AS HAZARDOUS SHALL BE DISPOSED AS HAZARDOUS WASTES AND A UNIFORM HAZARDOUS WASTE MANIFEST SHALL BE PROVIDED TO THE OWNER.
- ENSURE THE SAFE PASSAGE OF PERSONS IN AND AROUND THE BUILDING DURING DEMOLITION. PREVENT INJURY TO PERSONS AND DAMAGE TO PROPERTY. PROVIDE ADEQUATE SHORING AND BRACING TO PREVENT COLLAPSE. IMMEDIATELY REPAIR DAMAGED PROPERTY TO THE CONDITION BEFORE BEING DAMAGED. TAKE EFFECTIVE MEASURES TO PREVENT WINDBLOWN DUST.
- DO NOT USE CUTTING TORCHES UNTIL WORK AREA IS CLEARED OF FLAMMABLE MATERIALS. AT CONCEALED SPACES, SUCH AS DUCT AND PIPE INTERIORS, VERIFY CONDITION AND CONTENTS OF HIDDEN SPACE BEFORE STARTING FLAME-CUTTING OPERATIONS. MAINTAIN FIRE WATCH AND PORTABLE FIRE-SUPPRESSION DEVICES DURING FLAME-CUTTING OPERATIONS. MAINTAIN ADEQUATE VENTILATION WHEN USING CUTTING TORCHES.
- NOTIFY UTILITY COMPANIES IN ACCORDANCE WITH THEIR REQUIREMENTS PRIOR TO DEMOLITION. VERIFY THAT THE UTILITIES HAVE BEEN DISCONNECTED, VALVED, CAPPED AND MADE SAFE PRIOR TO

DEMOLITION.

- DRAIN, PURGE, OR OTHERWISE REMOVE, COLLECT, AND PROPERLY DISPOSE OF CHEMICALS, LIQUIDS, GASES, EXPLOSIVES, ACIDS, FLAMMABLES, OR OTHER DANGEROUS MATERIALS BEFORE PROCEEDING WITH DEMOLITION OPERATIONS.
- PROPERLY LABEL ALL UNLABELED SERVICE PIPELINES AND VALVES TO REMAIN WITH COLOR PIPE MARKERS AND VALVE TAGS. MOUNT A VALVE AND SERVICE CHART IN THE AREA OF DEMOLITION THAT IDENTIFIES ALL LABELED SERVICES. TURN ONE COPY OF SAME OVER TO THE OWNER.
- PRIOR TO DEMOLITION, MAKE SAFE ALL SERVICE PIPE TERMINATIONS TO THE AREA. PROVIDE VALVE AND CAPS ON PRESSURE SERVICES TO THE AREA THAT ARE TO REMAIN IN SERVICE.

PIPING LEGEND CHW CHILLED WATER FW FILTERED WATER CW DOMESTIC COLD WATER DOMESTIC COLD WATER BELOW SLAB HW DOMESTIC HOT WATER _____ HWC DOMESTIC HOT WATER CIRCULATING S or W SOIL OR WASTE ABOVE GROUND S or W SOIL OR WASTE BELOW SLAB -----VENT ABOVE GROUND VENT BELOW SLAB -----INDIRECT WASTE INDIRECT WASTE BELOW SLAB _____W___ NATURAL GAS PIPING



VALVE LEGEND

BALL VALVE

GATE VALVE

CHECK VALVE

GAS COCK

MIXING VALVE

ANGLE VALVE

AQUASTAT

THERMOMETER

PRESSURE GAUGE

SOLENOID VALVE

—— DETAIL DESIGNATION NUMBER

DETAIL DESIGNATION DRAWING

DESIGNATION INDICATOR

BALANCING VALVE

VACUUM RELIEF VALVE

PRESSURE REDUCING/REGULATING

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Landlord Comments:

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Drawing Sheet Number:

P-000

ABBREVIATIONS

Owner's Branch No.:

PART 1 - GENERAL

. GENERAL PROVISIONS: DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK

SCOPE: PERFORM WORK AND PROVIDE NEW MATERIAL AND EQUIPMENT AS SHOWN ON DRAWINGS AND AS SPECIFIED IN THIS SECTION OF THE SPECIFICATIONS. PROVIDE ALL COMPONENTS AND MATERIALS, WHETHER SPECIFICALLY SHOWN OR NOT, THAT ARE NECESSARY TO MAKE THE SYSTEMS COMPLETE AND FULLY OPERATIONAL AS INTENDED IN THE CONSTRUCTION DOCUMENTS. WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

a) THE DESIGN INTENT AS ILLUSTRATED ON THESE DRAWING b) ALL TESTING AND CERTIFICATIONS NECESSARY FOR COMPLIANCE AND ANY REQUIRED REMEDIAL ACTIONS AND RETESTING DUE TO FAILURE.

. SITE VISIT: VISIT AND CAREFULLY EXAMINE SITE TO IDENTIFY EXISTING CONDITIONS THAT MAY AFFECT WORK OF THIS SECTION BEFORE SUBMITTING BID. NO EXTRA PAYMENT WILL BE ALLOWED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY DISCERNED BY AN EXPERIENCED OBSERVER.

. RELATED WORK: THE FOLLOWING WORK IS NOT INCLUDED IN THIS SECTION AND WILL BE PROVIDED UNDER

a) PAINTING, EXCEPT AS SPECIFIED. b) TEMPORARY LIGHT, POWER, WATER, HEAT, GAS AND SANITARY FACILITIES FOR USE DURING CONSTRUCTION. c) ELECTRICAL POWER WIRING TO ALL EQUIPMENT.

. CODES, STANDARDS, AUTHORITIES AND PERMITS: CODES, LAWS AND ORDINANCES PROVIDE A BASIS FOR THE MINIMUM INSTALLATION CRITERIA. THESE DRAWINGS AND SPECIFICATIONS ILLUSTRATE THE SCOPE REQUIRED FOR THIS PROJECT, WHICH MAY EXCEED MINIMUM CODE, LAW AND STANDARDS CRITERIA. GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES AND BACKCHARGES AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES HAVING JURISDICTION AS REQUIRED FOR THE EXECUTION OF ALL WORK ASSOCIATED WITH THIS PROJECT. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITIONS OF:

a) THE STATE BUILDING CODE b) THE STATE PLUMBING AND FUEL GAS CODE c) THE STATE ELECTRICAL CODE

e) DEPARTMENT OF ENVIRONMENTAL PROTECTION

f) DEPARTMENT OF PUBLIC SAFETY CODES g) ARCHITECTURAL ACCESS BOARD

h) ALL OTHER APPLICABLE CODES, REGULATIONS, STANDARDS AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENT AND OTHER AUTHORITIES HAVING JURISDICTION. i) APPLICABLE BASE BUILDING STANDARDS AND SPECIFICATIONS.

. INTERPRETATIONS OF DOCUMENTS: WHERE DRAWINGS OR SPECIFICATIONS DO NOT COINCIDE WITH MANUFACTURER'S RECOMMENDATIONS, OR ARE UNCLEAR AS TO INTENT, OR REQUIRED MATERIAL QUALITY, ADVISE THE ENGINEER IN WRITING BEFORE PROCEDING WITH THE WORK. ALL COST FOR REWORK NECESSARY TO RESOLVE DISCREPANCIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

. REQUESTS FOR INFORMATION: ANY RFI FOR RESOLVING AN APPARENT CONFLICT OR UNCLARITY, OR A REQUEST FOR AN ADDITIONAL DETAIL, SHALL INCLUDE A SKETCH OR EQUIVALENT DESCRIPTION OF CONTRACTOR'S PROPOSED SOLUTION.

. SUBMITTALS: PROVIDE SPECIFIED ITEMS AND EQUIPMENT UNLESS "EQUAL" OR "APPROVED EQUAL" IS EXPLICITLY INDICATED ON THE DRAWINGS. DEVIATIONS TO SPECIFIED ITEMS SHALL BE AT THE SOLE RISK OF THE CONTRACTOR, WHO SHALL BE RESPONSIBLE FOR ALL ASSOCIATED CHANGES TO THIS AND OTHER TRADES. REVIEW OF THE SHOP DRAWINGS BY THE ENGINEER SHALL NOT ABSOLVE THE CONTRACTOR FROM MEETING THE FULL DESIGN INTENT OF THE ASSOCIATED SYSTEM(S). SUBMITTALS SHALL INDICATE PRIOR REVIEW AND APPROVAL BY THE RESPONSIBLE CONTRACTOR. SUBMIT FOR REVIEW (6) SETS OF MANUFACTURER'S PRODUCT DATA FOR THE FOLLOWING ITEMS:

a) FIXTURES b) PIPE MATERIALS

c) FITTINGS

d) VALVES e) WATER HEATERS AND DRAIN PANS

f) PUMPS a) DRAINS

h) BACKFLOW PREVENTERS

i) LEAK DETECTION i) COORDINATION DRAWINGS

k) INSULATION I) HANGERS

m) TEST REPORTS

n) ALL CERTIFICATES ALLOW ENGINEER A MINIMUM OF 10 WORKING DAYS FOR PROCESSING AND REVIEW OF EACH SUBMISSION.

. OPERATION AND MAINTENANCE DATA: SUBMIT (3) SETS OF OPERATING AND MAINTENANCE MANUALS PRIOR TO THE COMPLETION OF THE PROJECT. O&M MANUALS SHALL INCLUDE SYSTEM DESCRIPTIONS. WIRING DIAGRAMS, WRITTEN WARRANTEES, RECOMMENDED SPARE PARTS AND ROUTINE MAINTENANCE REQUIREMENTS WITH RECOMMENDED INTERVALS FOR ALL THE FOLLOWING:

a) SUMP PUMPS b) BACKFLOW PREVENTERS

c) WATER HEATERS d) RECIRCULATION PUMP

e) FIXTURES f) LEAK DETECTION

10.RECORD DRAWINGS: CAD RECORD DRAWING FILES SHALL BE SUBMITTED AT THE COMPLETION OF THE PROJECT SHOWING THE "AS-BUILT" CONDITION INCLUDING WORK INSTALLED AND ALL MODIFICATIONS OR ADDITIONS TO ORIGINAL DESIGN. OBTAIN THE AUTOCAD FILES FOR PREPARATION OF AS-BUILT DRAWINGS FROM THE ARCHITECT. THE ARCHITECT AND ENGINEER ARE NOT GRANTING ANY OWNERSHIP OR PROPERTY INTEREST IN THE CAD DRAWINGS BY THE DELIVERY OF THE CAD FILES. THE USE OF THE CAD FILES AND DRAWINGS ARE LIMITED FOR THE SOLE PURPOSE OF ASSISTING IN THE CONTRACTOR'S PERFORMANCE IN ITS CONTRACTURAL OBLIGATIONS WITH RESPECT TO THIS PROJECT. ANY REUSE AND/OR OTHER USE BY THE CONTRACTOR WILL BE AT THE CONTRACTOR'S SOLE RISK AND WITHOUT LIABILITY TO THE ARCHITECT AND ENGINEER.

1.WARRANTIES: WARRANTY INSTALLATION IN WRITING FOR ONE YEAR FROM DATE OF OWNER'S ACCEPTANCE OF CERTIFICATE OF SUBSTANTIAL COMPLETION. WHERE INDIVIDUAL EQUIPMENT SECTIONS SPECIFY LONGER WARRANTEES, PROVIDE THE LONGER WARRANTEE. REPAIR, REPLACE OR PROVIDE TEMPORARY ACCOMMODATIONS FOR DEFECTIVE MATERIALS, EQUIPMENT, WORKMANSHIP AND INSTALLATION THAT DEVELOP WITHIN 24 HOURS OF NOTIFICATION. WARRANTY SHALL INCLUDE A CONTACT PERSON (NAME AND 24 HOUR TELEPHONE NUMBER) FOR SERVICE REQUESTS. CORRECT DAMAGE CAUSED WHILE MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER WARRANTY PERIOD AT NO ADDITIONAL

2.COORDINATION: CONFER WITH ALL OTHER TRADES RELATIVE TO LOCATION OF ALL APPARATUS AND EQUIPMENT TO BE INSTALLED AND SELECT LOCATIONS SO AS NOT TO CONFLICT WITH OR HINDER THE PROGRESS OF THE WORK OF OTHER SECTIONS. WORK INSTALLED THAT CREATES INTERFERENCE OR RESTRICTS ACCESS REQUIRED BY CODE OR MAINTENANCE AND/OR ADJUSTMENTS SHALL BE MODIFIED AT NO ADDITIONAL COST TO THE OWNER.

3. PROVIDE A SET OF COORDINATION DRAWINGS FOR USE IN VERIFYING REQUIRED CODE CLEARANCES (AS WELL AS CLEARANCES FOR OPERATION, REPAIR, REMOAL AND TESTING) OF ALL EQUIPMENT AND FOR USE IN COORDINATING INSTALLATION OF EQUIPMENT WITH OTHER TRADES. THE INTENT OF FABRICATION AND INSTALLATION OF ANY MEP TRADE. THE HVAC CONTRACTORS'S FLOOR PLANS SHALL BE THE BASIS FOR THE FLOOR PLAN COORDINATION. THE ELECTRICAL CONTRACTOR'S REFLECTED CEILING SHALL BE THE BASIS FOR THE REFLECTED CEILING COORDINATION.

4.SUPPORTS: INCLUDE ALL STRUCTURAL STEEL SUPPORTS, HANGER BRACKETS, ETC., REQUIRED FOR THE EXECUTION OF THE WORK OF THIS SECTION. THE WELDS AND EDGES OF ALL BRACKETS SHALL BE FILED OR GROUND SMOOTH FOR PAINTING.

15.CUTTING AND PATCHING: INCLUDE ALL CORING, CUTTING, PATCHING AND FIREPROOFING NECESSARY FOR THE EXECUTION OF THE WORK OF THIS SECTION. STRUCTURAL ELEMENTS SHALL NOT BE CUT WITHOUT WRITTEN APPROVAL OF THE ARCHITECT. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING ALL PRECAUTIONS REQUIRED TO IDENTIFY HIDDEN PIPING, CONDUITS, ETC. BEFORE ANY CORE DRILLING AND/OR CUTTING OF SLABS COMMENCES,INCLUDING X-RAYING THE AFFECTED SLABS. PROVIDE FIRE STOPPING TO MAINTAIN THE FIRE RATING OF THE FIRE RESISTANCE-RATED ASSEMBLY, ALL PENETRATIONS AND ASSOCIATED FIRE STOPPING SHALL BE INSTALLED IN ACCORDANCE WITH THE FIRE STOPPING MANUFACTURER'S LISTED INSTALLATION DETAILS AND BE LISTED BY UL OR FM.

A. HOISTING, SCAFFOLDING AND PLANKING: INCLUDE THE FURNISHING, SET-UP AND MAINTENANCE OF ALL HOISTING MACHINERY, CRANES, SCAFFOLDS, STAGING AND PLANKING AS REQUIRED FOR THE EXECUTION OF WORK FOR THIS SECTION.

15.SAFETY PRECAUTIONS: LIFE SAFETY AND ACCIDENT PREVENTION SHALL BE A PRIMARY CONSIDERATION. COMPLY WITH ALL OF THE SAFETY REQUIREMENTS OF THE OWNER AND OSHA THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD OF THE PROJECT. FURNISH, PLACE AND MAINTAIN PROPER GUARDS AND ANY OTHER NECESSARY CONSTRUCTION REQUIRED TO SECURE SAFETY OF LIFE AND PROPERTY.

16.ACCESSIBILITY: ALL WORK PROVIDED UNDER THIS SECTION OF THE SPECIFICATION SHALL BE INSTALLED SO THAT PARTS REQUIRING PERIODIC INSPECTION, MAINTENANCE AND REPAIR ARE READILY ACCESSIBLE. WORK OF THIS TRADE SHALL NOT INFRINGE UPON CLEARANCES REQUIRED BY EQUIPMENT OF OTHER TRADES, ESPECIALLY CODE REQUIRED CLEARANCES TO ELECTRICAL EQUIPMENT.

17.PROTECTION OF WORK AND PROPERTY: THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE CARE AND PROTECTION OF ALL WORK INCLUDED UNDER THIS SECTION UNTIL THE COMPLETION AND FINAL ACCEPTANCE OF THIS PROJECT. PROTECT ALL EQUIPMENT AND MATERIALS FROM DAMAGE FROM ALL CAUSES INCLUDING, BUT NOT LIMITED TO, FIRE, VANDALISM AND THEFT. ALL MATERIALS AND EQUIPMENT DAMAGED OR STOLEN SHALL BE REPAIRED OR REPLACED WITH EQUAL MATERIAL OR EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER. PROTECT ALL EQUIPMENT, OUTLETS AND OPENINGS, AND ROOF PENETRATIONS WITH TEMPORARY PLUGS, CAPS AND COVERS. PROTECT WORK AND MATERIALS OF OTHER TRADES FROM DAMAGE THAT MIGHT BE CAUSED BY WORK OR WORKMEN UNDER THIS SECTION AND MAKE GOOD DAMAGE THUS CAUSED. DAMAGED MATERIALS ARE TO BE REMOVED FROM THE SITE; NO SITE STORAGE OF DAMAGED MATERIALS WILL BE ALLOWED. ANY DAMAGE TO EXISTING SYSTEMS AND EQUIPMENT CAUSED BY THIS CONTRACTOR DURING INSTALLATION SHALL BE REPAIRED AND/OR REPLACED AT THIS CONTRACTOR'S EXPENSE TO THE COMPLETE SATISFACTION OF THE BUILDING OWNER.

18.SEISMIC RESTRAINT REQUIREMENTS: PROVIDE SEISMIC RESTRAINTS AS REQUIRED IN ACCORDANCE WITH THE STATE BUILDING CODE. A REGISTERED PROFESSIONAL STRUCTURAL ENGINEER, LICENSED IN THE APPLICABLE STATE FOR THE PROJECT LOCATION, SHALL PREPARE THE SEISMIC RESTRAINT DESIGN AND CERTIFY THAT THE DESIGN IS IN COMPLIANCE WITH THE STATE BUILDING CODE REQUIREMENTS.

19.PROJECT CLOSEOUT: A CERTIFICATE OF COMPLETION SHALL BE ISSUED BY THE CONTRACTOR INDICATING THAT THE INSTALLATION IS IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND ALL APPLICABLE LOCAL, STATE AND FEDERAL STATUTES AND CODES. ALL SUBMITTALS, AS-BUILTS, O&M MANUALS, AND TESTING AND BALANCING REPORTS ARE TO BE PROVIDED. FOR ENGINEER'S REVIEW, PRIOR TO REQUEST FOR COMPLETION CERTIFICATES. IN ADDITION, AND ALSO PRIOR TO REQUEST FOR COMPLETION CERTIFICATES, ALL PUNCH LIST ITEMS MUST BE COMPLETED TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR MUST VERIFY THAT ALL SEQUENCES OF OPERATIONS AND CONTROLS HAVE BEEN INCORPORATED AND ALL SYSTEMS AND EQUIPMENT ARE WORKING PER THE SPECIFIED SEQUENCES OF OPERATIONS. A BLANK CONTRACTOR'S CERTIFICATE FORM CAN BE FURNISHED BY RDK ENGINEERS UPON REQUEST. FINAL INSPECTION BY THE ENGINEER SHALL BE CONDUCTED AFTER RECEIPT OF THE CERTIFICATE OF COMPLETION. PREMATURE REQUESTS FOR FINAL INSPECTIONS THAT REQUIRE REINSPECTION OF DEFICIENT ITEMS WILL RESULT IN BACK CHARGES OF THE COSTS ASSOCIATED WITH THE REINSPECTION.

20. ELECTRICAL WORK: ALL ELECTRICAL APPARATUS AND CONTROLS FURNISHED AND THE INSTALLATION THERE OF, AS A PART OF PLUMBING WORK, SHALL CONFORM TO APPLICABLE REQUIREMENTS UNDER THE ELECTRICAL DRAWINGS AND SPECIFICATION.

PART 2 - PRODUCTS

1. PLUMBING FIXTURES AND TRIM: REFER TO ARCHITECTURAL AND PLUMBING DRAWINGS FOR TYPE, QUANTITIES, LOCATIONS AND MOUNTING HEIGHTS OF FIXTURES PROVIDED UNDER THIS SECTION. FIXTURE TRIM, TRAPS, FAUCETS, ESCUTCHEONS AND WASTE PIPES EXPOSED TO VIEW IN THE FINISHED SPACES SHALL BE I.P.S. BRASS WITH POLISHED CHROMIUM PLATING OVER NICKEL FINISH.

2. PIPE MATERIALS (REFER TO SCHEDULES ON DRAWINGS):

3. ALL PIPE, FITTINGS, AND VALVES USED IN THIS DISTRIBUTION SYSTEM AND INSTALLED AFTER JANUARY 4, 2014 MUST COMPLY WITH THE NEW FEDERAL MANDATE KNOWN AS THE "REDUCTION OF LEAD IN DRINKING WATER ACT-2014". THEREFORE, AFTER THE ENACTMENT DATE OF 1/4/14, ALL PRODUCTS INSTALLED MUST COMPLY. ANY PRODUCT PIPE, FITTINGS OR VALVE INSTALLED AFTER THE ENACTMENT DATE THAT DOES NOT COMPLY, SHALL BE REMOVED AND CHANGED BY THIS CONTRACTOR AT HIS/HER OWN EXPENSE TO COMPLY WITH THE FEDERAL LAW.

4. VALVES (DOMESTIC WATER SYSTEMS):

A. GENERAL - VALVES IN THE INTERIOR DOMESTIC WATER PIPING SYSTEMS (COLD WATER, HOT WATER. AND HOT WATER RETURN) SHALL BE AS MANUFACTURED BY APOLLO. MILWAUKEE. NIBCO OR CONBRACO. MANUFACTURER'S MODEL NUMBERS USED HEREIN ARE INTENDED AS A GUIDE TO QUALITY AND TYPE OF VALVE TO BE PROVIDED.

a. VALVES USED FOR THROTTLING OF FLOW SHALL BE BUTTERFLY TYPE WITH MEMORY STOP. BALL VALVES SHALL NOT BE ACCEPTABLE ON HOT WATER RETURN PIPING b. VALVES SHALL BE PROVIDED WITH BUNA-N, TFE OR EPDM SEATS SUITABLE FOR THE SERVICE

INTENDED. c. THE PRESSURE CLASSIFICATION FOR VALVES SPECIFIED HEREIN ARE WORKING STEAM OR WATER.

OIL, GAS (WOG) PRESSURE RATINGS. d. LEVER HANDLES ON ALL VALVES SHALL BE COLOR CODED IN CONFORMANCE WITH ANSI

STANDARD A-13.1. e. SHUT-OFF VALVES ON THE INCOMING WATER SERVICE AND ON THE DISCHARGE OF THE WATER

METER SHALL BE A GATE VALVE OR OTHER FULL-WAY VALVE. 3. BALL VALVES (2" AND SMALLER) SHALL HAVE THREADED OR SOLDER ENDS WITH A BRONZE BODY, FULL

PLATED CARBON STEEL STEM EXTENSION ASSEMBLY AND BE RATED FOR 600 PSI WOG. BALL VALVES SHALL BE EQUAL TO APOLLO SERIES 82LF-200. C. BUTTERFLY VALVES, 2.5 INCHES AND LARGER: APOLLO LUG TYPE MODEL 143, CAST IRON BODY, EPDM

PORT STAINLESS STEEL BALL AND STEM, RPTFE SEATS, A LEVER HANDLE WITH A 1 1/4 INCH ZINC

OR BUNA-N SEAT, 10 POSITION LEVER HANDLE. D. DRAIN VALVES: APOLLO 70LF-100-HC SERIES ¾ INCH ALL BRONZE HOSE END BALL VALVE WITH CAP

AND CHAIN, PROVIDE HOSE END VACUUM BREAKER. E. BALANCING VALVES FOR THE DOMESTIC HOT WATER SYSTEM SHALL BE OF BRONZE BODY/BRASS BALL CONSTRUCTION, WITH DIFFERENTIAL READ OUT PORTS, MEMORY STOP WITH CALIBRATED NAMEPLATE, AND DRAIN PORT. BALANCING VALVE SHALL BE TACO ACCU-FLO WITH PRESSURE GAUGE DUAL READOUT METER (NO. 779); BELL & GOSSETT CIRCUIT SETTER PLUS, OR WATTS SERIES CSM-61-M1. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.

5. VALVES (NATURAL GAS) A. GENERAL - VALVES IN THE GAS PIPING SYSTEM SHALL BE AS MANUFACTURED BY APOLLO, MILWAUKEE,

NIBCO, WALWORTH MILLIKEN OR NORDSTROM. B. FOR PIPE SIZES 2-INCH AND SMALLER: VALVES SHALL BE BRONZE BODY, UL LISTED GAS SERVICE BALL VALVE WITH SCREWED END T-HANDLE, AND RATED FOR 250 PSIG LP-GAS. GAS VALVE SHALL BE EQUAL TO APOLLO 80 - 100 SERIES.

C. FOR PIPE SIZES 2½ INCH AND LARGER: VALVES SHALL BE AN IRON BODY LUBRICATED PLUG VALVE WITH FLANGED ENDS, VALVE SHALL BE WALWORTH 1797F OR EQUAL BY MILLIKEN VALVE CO., INC. OR NORDSTROM VALVE CO., INC.

6. INSULATION:

A. ALL INTERIOR COLD WATER, TEMPERED WATER, TEMPERED WATER RETURN, HOT WATER AND HOT WATER RETURN PIPING SHALL BE INSULATED WITH A PREFORMED FIBERGLASS INSULATION WHICH MEETS THE PROPERTY REQUIREMENTS OF ASTM C547, "STANDARD SPECIFICATION FOR MINERAL FIBER PIPE INSULATION". PIPE INSULATION SHALL HAVE A WHITE, FACTORY APPLIED, FIRE RETARDANT, REINFORCED VAPOR BARRIER JACKET.

a. INSULATION SHALL BE CONTINUOUS THROUGH SLEEVES AND HAVE A THICKNESS OF 1-INCH. b. ENDS OF INSULATION AT TERMINATION POINTS SHALL BE SEALED TO THE PIPE WITH A PRE-MOLDED PVC TYPE FITTING. PIPE FITTINGS AND VALVES SHALL BE PROVIDED WITH PRE-MOLDED PVC COVERS WITH FIBERGLASS INSERTS.

c. PIPE INSULATION WITHIN 6'-0" OF FINISHED FLOOR, IN EXPOSED INSTALLATIONS, SHALL BE PROVIDED WITH 20 MIL. PVC CONTINUOUS COVERS IN ADDITION TO THE VAPOR BARRIER JACKET. FITTINGS AND SEAMS SHALL BE SOLVENT WELDED.

d. INSULATION SHALL BE MANUFACTURED BY OWENS-CORNING FIBER GLASS CORP., KNAUF FIBERGLASS, CERTAINTEED OR EQUAL.

B. DIRECT BURIED PIPING

a. FOR DIRECT BURIED TRAP PRIMER, PROVIDE 1½ - INCH THICK CELLULAR GLASS INSULATION WITH A 70 MIL THICK SELF-SEALING FLEXIBLE VAPOR PROOF JACKET.

b. INSULATION SHALL BE EQUAL TO PITTSBURGH CORNING FOAMGLAS INSULATION WITH A PITTWRAP "CW-PLUS" JACKETING.

C. HANDICAPPED ACCESSIBLE LAVATORIES AND SINKS

a. INSULATION OF WASTE, TRAP, HOT AND COLD AND TEMPERED WATER SUPPLIES AT ALL HANDICAPPED ACCESSIBLE LAVATORIES AND SINKS SHALL BE FULLY MOLDED, PAINTABLE AND FLEXIBLE VINYL INSULATION SYSTEM.

D. HORIZONTAL STORM DRAIN AND ROOF DRAIN BODIES

16 GAUGE FOR HANGERS LARGER THAN 5 INCHES IN SIZE.

a. MINERAL CEMENT SHALL BE INSTALLED ON ALL ROOF DRAIN BODIES TO A THICKNESS OF 1 INCH AND COVERED WITH GLASS JACKET EMBEDDED IN FIRE-RETARDANT VAPOR-PROOF ADHESIVE.

b. HORIZONTAL STORM DRAIN PIPING SHALL BE INSULATED SAME AS FOR WATER LINES.

7. HANGERS, ANCHORS, CLAMPS AND INSERTS:

a) HANGERS SHALL BE INSTALLED, AS REQUIRED, TO MEET CODE COMPLIANCE AS TO LOCATION/SPACING AND MANUFACTURER'S STANDARDIZATION SOCIETY (MSS), STANDARD PRACTICE BULLETINS SP-58 & 69. b) HANGER MATERIAL SHALL BE COMPATIBLE WITH PIPING MATERIALS WITH WHICH IT COMES INTO CONTACT. c) HANGERS SHALL BE INSTALLED, IN ADDITION TO THE ABOVE, AT ALL CHANGES OF DIRECTION (HORIZONTAL AND

VERTICAL), VALVES AND EQUIPMENT CONNECTIONS. HANGERS SHALL BE LOCATED SO THAT THEIR REMOVAL IS NOT REQUIRED TO SERVICE, ASSEMBLE OR REMOVE EQUIPMENT. d) VERTICAL SUPPORT SHALL BE BY MEANS OF RISER CLAMPS (ANCHORS WITH SPLIT RING TYPE ALLOWABLE UP

TO 2" SIZE ONLY) AND ADJUSTABLE PIPE SUPPORT WITH FLANGE ANCHORED TO FLOOR. e) PROVIDE STEEL BAND HANGERS FOR PIPING 4" AND SMALLER. PIPING LARGER THAN 4" SHALL BE SUPPORTED

WITH CLEVIS TYPE HANGERS. SUPPORT PIPING FROM BUILDING STRUCTURE TO MAINTAIN REQUIRED GRADE

AND PITCH OF PIPE LINES, PREVENT VIBRATION, SECURE PIPING IN PLACE. SECURE HANGERS TO INSERTS

WHERE PRACTICAL. HANGER RODS SHALL HAVE MACHINE THREADS. f) HANGER RODS SHALL BE CONNECTED TO BEAM CLAMP, UL-APPROVED CONCRETE INSERTS OR PHILLIPS OR

APPROVED EQUAL EXPANSION SHIELDS. RAMSET OR POWER DRIVEN INSERTS WILL NOT BE ALLOWED. g) ALL HANGERS, RODS AND CLAMPS INSTALLED IN EXTERIOR LOCATIONS OR SUBJECT TO A CORROSIVE

ATMOSPHERE SHALL BE ELECTRO-GALVANIZED COATED. h) INSULATION PROTECTORS (SHIELDS) FOR HORIZONTAL PIPING SHALL BE CONSTRUCTED OF GALVANIZED STEEL lacksquareFORMED TO A 180 DEGREE ARC AND 12 INCHES LONG, 18 GAUGE FOR HANGERS 5 INCHES IN SIZE AND SMALLER,

8. SLEEVES AND PENETRATIONS:

a) PIPE SLEEVES THROUGH FIRE-RATED CONSTRUCTION SHALL BE SCHEDULE 40 STEEL. SLEEVES THROUGH PARTITIONS AND NON-FIRE-RATED CONSTRUCTION SHALL BE 22 GAUGE GALVANIZED STEEL WITH LOCK

LONGITUDINAL SEAMS. b) FIRE STOP PENETRATION SEALS IN FIRE-RATED CONSTRUCTION SHALL BE CERAMIC FIBRE, MINERAL FIBRE, OR SILICONE FOAM. PROVIDE MINERAL FIBRE BOARD, MATTING OR PUTTY FOR DAMMING AND FORMING. FINISH SEALS FLUSH TO WALL SURFACE AND FILL GAPS WITH SILICONE ADHESIVE SEALANT CAULKING.

c) PACKING FOR SLEEVES THAT DO NOT REQUIRE MAINTENANCE OF FIRE RATING SHALL BE OAKUM, SILICATE FOAM, CERAMIC FIBRE OR MINERAL FIBRE WITH APPROVED SEALANT. PACK OR FOAM TO WITHIN ONE INCH OF BOTH WALL SURFACES. SEAL PENETRATION PACKING WITH APPROVED CAULKING AND PAINTABLE WATER-PROOF MASTIC SURFACE FINISH OR SILICONE CAULKING.

9. WATER HAMMER ARRESTORS: STAINLESS STEEL WATER HAMMER ARRESTORS SHALL BE INSTALLED ON WATER SUPPLY LINES TO PLUMBING FIXTURES TO CONTROL WATER HAMMER. WATER HAMMER ARRESTORS SHALL BE SIZED AND SELECTED IN ACCORDANCE WITH P.D.I. STANDARD WH201. WATER HAMMER ARRESTORS SHALL BE ZURN Z1700, JAY R. SMITH, JOSAM OR APPROVED EQUAL. PROVIDE ACCESS PANEL AT WATER HAMMER ARRESTORS, WHERE REQUIRED.

PART 3 - EXECUTION

a) FURNISH AND AFFIX APPROVED ADHESIVE BANDS IDENTIFYING THE SERVICE AND DIRECTION OF FLOW OF EACH PIPING SYSTEM INSTALLED UNDER THIS WORK. b) PROVIDE VALVE TAGS ON ALL VALVES. VALVE NUMBERS AND LEGEND ON VALVE TAGS SHALL CORRESPOND TO NUMBERS INDICATED ON RECORD DRAWINGS AND VALVE LIST.

2. TESTING: THE PLUMBING SYSTEMS SHALL BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLUMBING CODE AND FUEL GAS CODE.

3. MATERIALS AND WORKMANSHIP: MAINTAIN MAXIMUM HEADROOM AT ALL TIMES. DO NOT RUN PIPES EXPOSED UNLESS SHOWN EXPOSED ON DRAWINGS. MATERIAL AND EQUIPMENT SHALL BE NEW AND INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDED BEST PRACTICE SO THAT COMPLETED INSTALLATION SHALL OPERATE SAFELY AND EFFICIENTLY.

4. CONTINUITY OF SERVICES: DO NOT INTERRUPT EXISTING SERVICES WITHOUT OWNER'S APPROVAL.

5. ACCESS: PROVIDE PROPER ACCESS TO EQUIPMENT THAT REQUIRE INSPECTION, REPLACEMENT OR REPAIR. ACCESS PANELS SHALL BE A MINIMUM OF 16" X 16".

6. CLEANING: a) CLEAN SYSTEMS THOROUGHLY BEFORE TESTING. FIXTURES, EQUIPMENT, PIPE, VALVES AND FITTINGS SHALL BE FREE OF GREASE, METAL CUTTINGS, DIRT AND OTHER FOREIGN MATERIAL.

b) REPAIR DISCOLORATION AND DAMAGE TO PARTS OF BUILDING FINISH AND FURNISHINGS DUE TO FAILURE TO PROPERLY CLEAN PIPING SYSTEM.

7. DISINFECTION OF WATER SYSTEMS: WATER PIPING SYSTEMS SHALL BE THOROUGHLY DISINFECTED WITH A SOLUTION CONTAINING NO LESS THAN 50 PARTS PER MILLION OF AVAILABLE CHLORINE. CHLORINATING MATERIALS SHALL BE EITHER LIQUID CHLORINE OR SODIUM HYPOCHLORITE SOLUTION, SHALL BE INTRODUCED INTO THE SYSTEM AND DRAWN TO ALL POINTS IN THE SYSTEM. DISINFECTION SOLUTION SHALL BE ALLOWED TO REMAIN IN SYSTEM FOR 24 HOURS, DURING THIS TIME, VALVES AND FAUCETS SHALL BE OPENED AND CLOSED SEVERAL TIMES. AFTER DISINFECTION, SOLUTION SHALL BE FLUSHED FROM THE SYSTEM WITH CLEAR WATER UNTIL RESIDUAL CHLORINE CONTENT IS NO GREATER THAN 0.2 PARTS PER

PART 4 - PROJECT CLOSEOUT

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ITEMS ASSOCIATED WITH PROJECT CLOSEOUT. ALLOW SUFFICIENT TIME IN THE CONSTRUCTION SCHEDULE TO ENSURE THAT THE INSTALLATION IS SUBSTANTIALLY COMPLETE AND ALL REQUIRED TESTING AND ACCURATELY COMPLETED DOCUMENTATION IS DELIVERED TO THE ENGINEER AT LEAST TWO WEEKS PRIOR TO ENGINEER'S SUBSTANTIAL COMPLETION SITE VISIT. FAILURE TO ADEQUATELY PLAN OR SUBMISSION OF INCOMPLETE/INCORRECT DOCUMENTATION WILL RESULT IN BACK CHARGES OF ALL COSTS ASSOCIATED WITH ADDED WORK PERFORMED BY NV5 ENGINEERS.

2. PROVIDE THE CONTRACTOR CERTIFICATE OF COMPLETION IN ACCORDANCE WITH STATE BUILDING CODE INDICATING THAT THE INSTALLATION IS IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND ALL APPLICABLE LOCAL, STATE AND FEDERAL STATUTES AND CODES. PROVIDE CERTIFICATION FROM BOTH THE GENERAL CONTRACTOR AND ASSOCIATED TRADE CONTRACTOR FOR COMPLIANCE WITH STATE BUILDING CODE.

3. THE WATER SYSTEM SHALL NOT BE PERMITTED FOR USE UNTIL FULL DISINFECTION OF THE ADDED PIPING IS PERFORMED. PROVIDE DOCUMENTATION TO THE ARCHITECT/ENGINEER REGARDING CERTIFICATION OF PERFORMANCE.

4. SUBSTANTIAL COMPLETION SITE VISIT BY THE ENGINEER SHALL BE CONDUCTED AFTER RECEIPT AND REVIEW OF THE CONTRACTORS CERTIFICATE OF COMPLETION AND ALL CODE MANDATED TEST REPORTS AND SUBMISSIONS LISTED ABOVE. SUBSTANTIAL COMPLETION SITE VISITS SHALL NOT BE REQUESTED UNTIL THE PROJECT IS SUBSTANTIALLY COMPLETE.

5. PREMATURE REQUESTS THAT REQUIRE ADDITIONAL/FOLLOW UP SITE VISITS BY THE ENGINEER OF DEFICIENT ITEMS (AREAS INCOMPLETE, SYSTEMS NOT OPERATIONAL, ETC.) WILL RESULT IN BACK CHARGES OF THE COSTS ASSOCIATED WITH ANY ADDED VISITS.

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General Notes:

Seals:



Fidelity Investor Center 2142 Fashion Drive

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Drawing Sheet Title: **PLUMBING SPECIFICATIONS**

Drawing Sheet Number:

P-001

Owner's Branch No.:



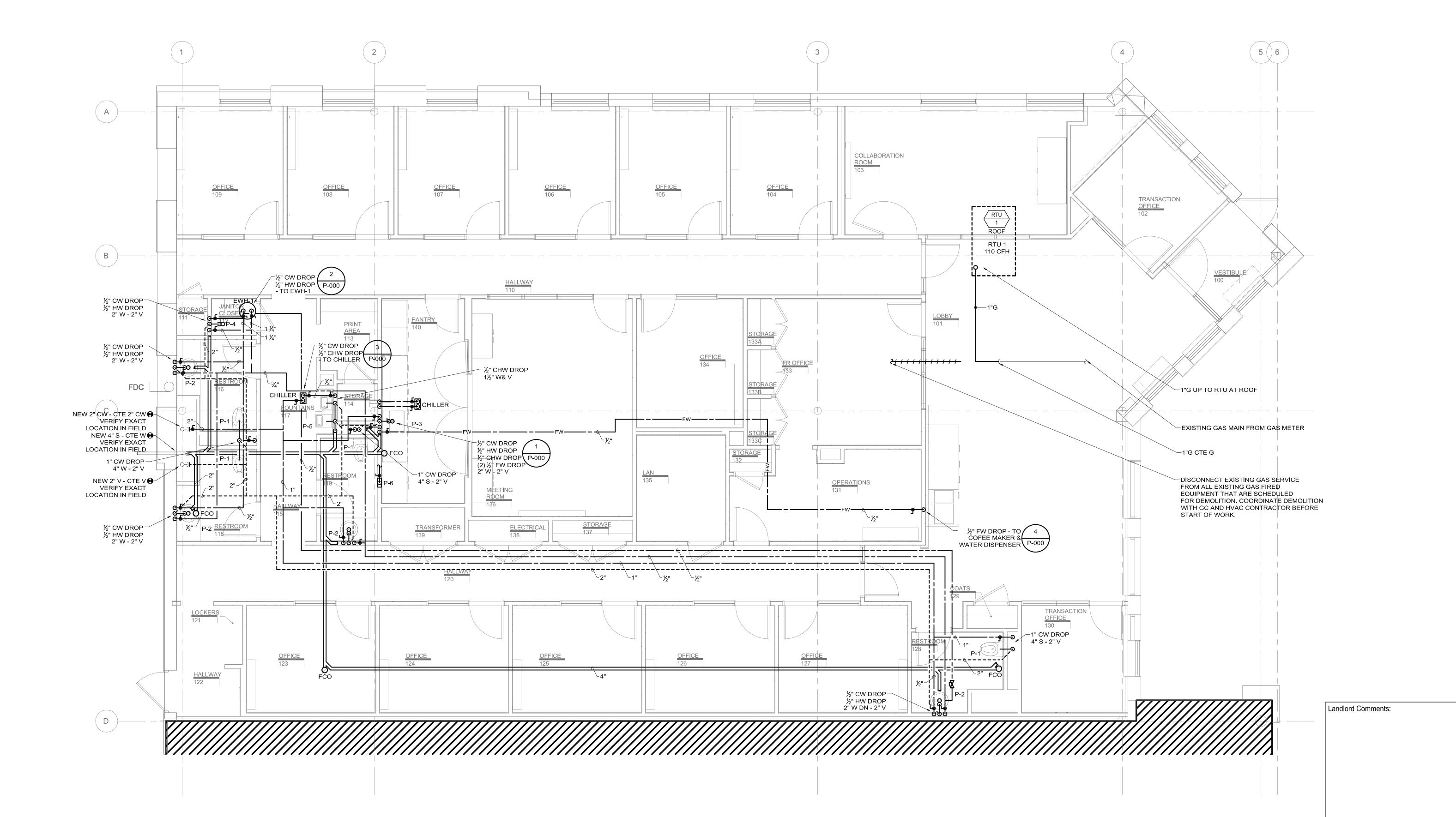
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General Notes:

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PLUMBING PLAN

P-201 SCALE: 1/4" = 1'-0"

Project Title:

Fidelity Real Estate Company 245 Summer Street Boston, MA20110

Fidelity Investor Center 2142 Fashion Drive Nanuet, NY 10954

Number	Description	Date
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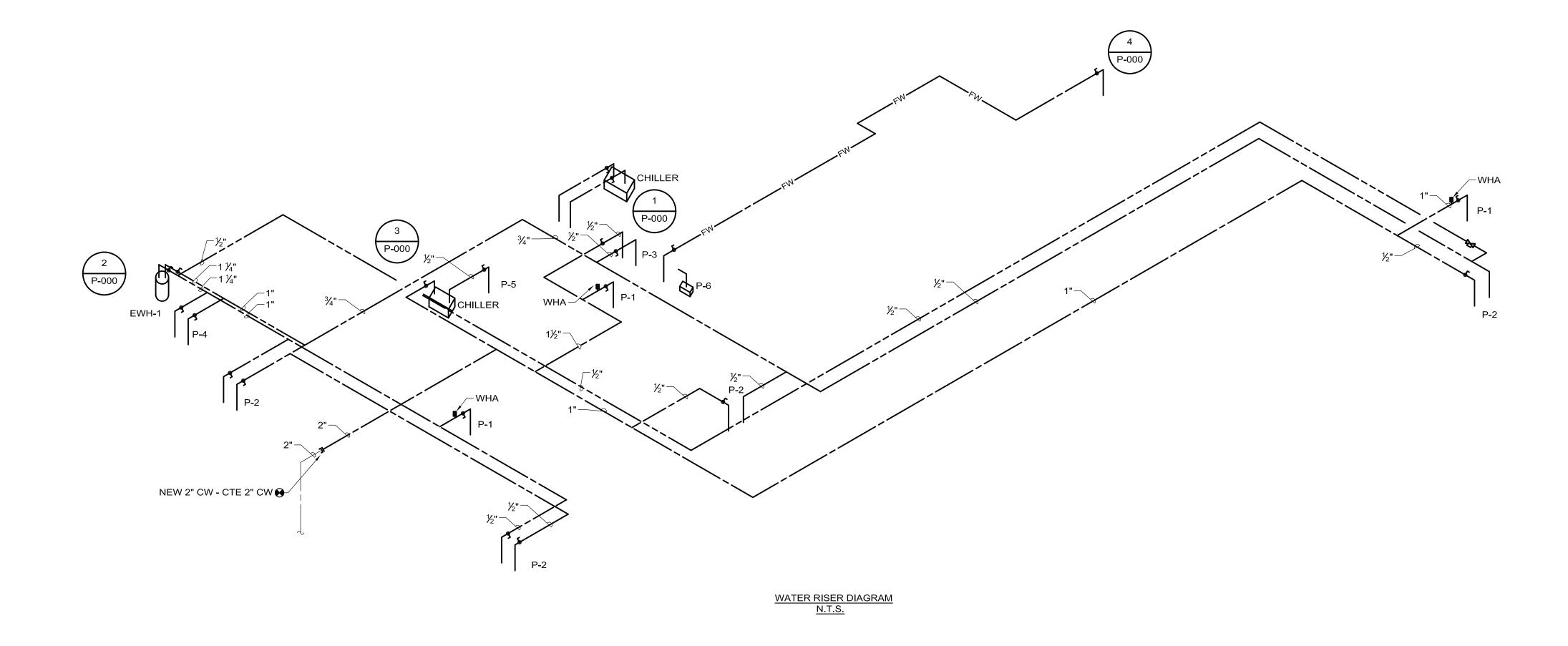
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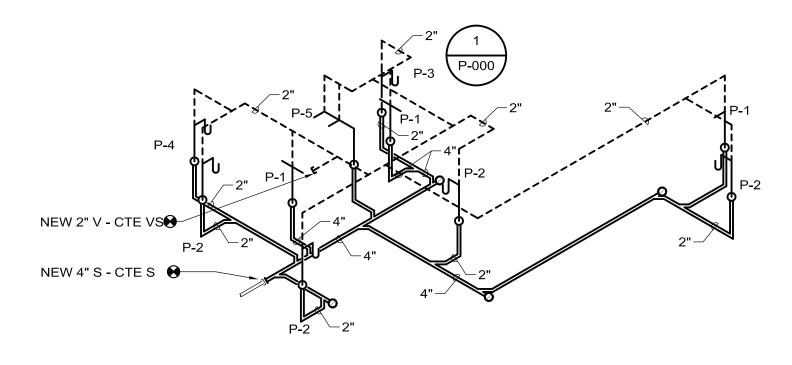
PLUMBING 1ST FLOOR PLAN

Drawing Sheet Number:

P-201

Owner's Branch No.:





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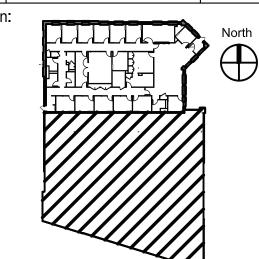
General Notes:

Project Title:

Fidelity Real Estate Company 245 Summer Street Boston, MA20110

Fidelity Investor Center 2142 Fashion Drive Nanuet, NY 10954

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Drawing Sheet Title: PLUMBING RISER

DIAGRAMS

Drawing Sheet Number:

P-500

Owner's Branch No.:

	ELECTRIC WATER HEATER SCHEDULE												
	STORAGE RECOVERY ELECTRICAL DA	L DATA		TEMP.		MODEL							
TAG NO.	CAPACITY (gal.)	RATE (GPH)	DEG. RISE (°F)	NO. OF ELEMENTS	TOTAL KW	VOLTS	PHASE	SETTING (°F)	MANUFACTURER	NO.	REMARKS		
EWH-1	10	12	100°	1	3	208	1	110°	A.O. SMITH	DEL-10	MOUNT WATER HEATER ON SHELF ABOVE JANITORS' SINK. PROVIDE DRIP PAN PIPED TO JANITORS' SINK. PROVIDE LEAK DETECTION SYSTEM AS DETAILED, PROVIDE SYMMONS MODEL 7-230-CK-FS MIXING VALVE ON HOT WATER SUPPLY.		

	DOMESTIC HOT WATER RECIRCULATION PUMP SCHEDULE												
TAG NO.	TYPE	CAPACITY	HEAD (FT)		E	LECTRICAL DAT	Α	MANUFACTURER	MODEL NO.	REMARKS			
		(GPM)	, ,	HP	VOLTS	HZ	PHASE	RPM] =, u t		
CP-1	CARTRIDGE	1/2	4.5	1/40	115	60	1	3250	TACO	003B	-		

	WATER HAMMER ARRESTER SCHEDULE										
TYPE	FIXTURE UNIT RATING	MODEL									
SA "A"	1-11	JAY R. SMITH 5005									
SA "B"	12-32	JAY R. SMITH 5010									

	MAXIMUM SERVICE OPERATING LIMITS			PIPE SIZE RANGE									
055)//05			MITS	PIPE			½" TO 3"	4" AND LARGER					
SERVICE	LEGEN D	PRESS (PSIG)	TEMP (°F)	CLASS	PIPE	FITTINGS	JOINTS	MECHANICAL JOINTS	PIPE	FITTINGS	JOINTS		
DOMESTIC COLD WATER	CW	100	250	A10		Wrought copper,	ASTM B-32 solder filler material, Alloy Sb5 "95/5." ASTM	Cast copper alloy unions, hexagonal stock with	tube, drawn temper, Type L or K. ASTM B-88.	A-536. Grade "E" EPDM elastomer gasket, ASTM D-2000. Equal to Victaulic Style 606 coupling. ASTM B-75 copper alloy fittings. ASTM B-584 grooved end	Rolled groove prepared and assembled in accordance with manufacturer instructions.		
DOMESTIC HOT WATER	HW	100	250	A10	Seamless copper water tube, drawn temper, Type L								
DOMESTIC HOT WATER RECIRCULATION	HWC	100	250	A10	or K. ASTM B-88. See Note 1.	solder-joint. ASME B16.22	B-813 liquid or paste flux. Soldering procedures shall comply with ASTM B-828.	ball-and-socket joint, solder joint ends. ASME B16.18.					
NON-POTABLE WATER	NPW	100	250	A10						cast bronze fittings for 6" pipe size.			

1. Below grade water piping 3" and smaller shall be Type K copper with bituminous coating and copper brazed joints, BcuP filler alloy. ANSI/AWS A5.8. procedures shall be per ANSI/AWS B2.2.

2. Contact between dissimilar metals shall be made with di-electric couplings or di-electric flanges. Contact between ferrous and stud bolts and bronze flanges shall be electrically insulated with non-metallic washers.

3. Provide mechanical joint connections to all equipment such as water heaters, pumps, compressors, etc.

MAXIMUM SERVIC			ICE		PIPE SIZE RANGE							
SERVICE	OPEF	RATING LIM		PIPE CLASS ½" TO 2"				2½" AND LARGER				
PRESS		PRESS. (PSIG)	TEMP (°F)	2 02/100	PIPE	FITTINGS	UNIONS	PIPE	FITTINGS	UNIONS		
GAS (NATURAL)	G	50	70	A11	Schedule 40 Carbon Steel ASTM A53 Grade B, A106	Screwed Malleable Iron 125	Screwed 150# Malleable Iron	Schedule 40 Carbon Steel ASTM A53 Grade B, A106	Butt Weld Carbon Steel Schedule	Use Flanges.		
GAS VENT	GV	50	70	A11	Grade A Or A120.	PSI.	A105 Grade li.	Grade A Or A120.	40, A 234.	ose i ialiges.		

Notes:
1. For Laboratory Gas Piping Systems, Supply an Emergency Gas Shut-Off Ball Valve to Each Lab.
2. Provide a branch ball valve and positive silent check valve on each pipe branch within each laboratory the gas pipe floor main to lab fixtures.
3. Provide Two Wrenches For Each Gas Cock Size.
4. Kitchen Solenoid Shall Be Wired To The Hood Suppression System By This Contractor. Field Verify Voltage Solenoid Valve Requirements With Kitchen Supplier.
5. The Contractor, At His Option, May Weld Piping Down To 1-1/4 If Permitted By Local Codes.
6. All Welders For Gas Piping Must Be Certified Per The Requirements Of Section 15000.

7. All above ground exterior gas piping or piping located in a corrosive atmosphere shall be protected by a coating of high density polyethylene or a wrapping of an inert material.

055) 405		IMUM SERVI RATING LIMI		DIDE OLAGO		ABOVE GRADE	BELOW GRADE			
SERVICE	LEGEND	PRESS. (PSIG)	TEMP (°F)	PIPE CLASS	PIPE	FITTINGS	JOINTS	PIPE	FITTINGS	JOINTS
SANITARY WASTE & VENT	S, W, V	GRAVITY	120	D10	3" And Larger: Hubless Cast Iron Soil Pipe, Service Weight. ASTM-A-888, CISPI 301. 2½" And Smaller: Hubless Cast Iron Soil Pipe, Service Weight. ASTM A-888, CISPI 301 Or Type L Copper Tubing. ASTM B8872. See Note 1.	3" And Larger: Hubless Cast Iron Fittings, Service Weight. ASTM-A-888, CISPI 801. 2½" And Larger: Hubless Cast Iron Fittings, Service Weight. ASTM A-888, CISPI 301 Or Wrought Copper DWV Fittings. See Note 1.	Hubless Cast Iron: Heavy Duty Stainless Steel Band Coupling With Neoprene Gasket. Bank Torque Of 80 Foot-Pounds. 15 PSIg Pressure Rating. Husky SD 4000 Or Clamp-All Hi-Torq 80. See Note 2. Copper: 95/5 Solder.	Extra Heavy. ASTM A-74 Or	2" And Larger: Hub And Spigot Cast Iron Fittings, Extra Heavy. ASTM A-74. Asphalt Or Coal Tar Pitch Coated. DWV Pattern.	Neoprene Compression Gasket Conforming To ASTN C-564.

2. CISPI 310 No-Hub Couplings Will Not Be Accepted As Equal To Manufacturers Listed.
3. Piping through electric rooms: sanitary, storm, and vent piping through electric rooms shall be sleeved through a sufficiently sized schedule 10 galvanized sleeve piping with Grooved style fittings and couplings. Extend dual wall piping to a distance of 1 foot beyond the exterior on each side of the electric room. Terminate with a closure method comprised of a caulked joint at each end with a closed 3/4" ball valve available to monitor the containment area of the piping system

	MAX	IMUM SERV	/ICE			PIPE SIZE RANGE							
050/405	OPERATING LIMITS		1ITS		½" TO 1½"				2" AND LARGER				
SERVICE	LEGEND	PRESS. TEMP (°F)				PIPE CLASS	PIPE	FITTINGS	JOINTS	PIPE	FITTINGS	JOINTS	
INDIRECT WASTE	IVV	GRAVITY	80	A17	Seamless copper water tube, drawn temper, Type L or K. ASTM B-88. See Note 1.	Wrought copper, solder-joint. ASME B16.22	ASTM B-32 solder filler material, Alloy Sb5 "95/5." ASTM B-813 liquid or paste flux. Soldering procedures shall comply with ASTM B-828.	Hubless Cast Iron Soil Pipe, Service Weight. ASTM-A-888, CISPI 301.	Hubless Cast Iron Fit-tings, Service Weight. ASTM-A-888, CISPI 801.	Heavy Duty Stainless Steel Band Coupling With Neoprene Gasket. Bank Torque Of 80 Foot-Pounds. 15 PSIg Pressure Rating. Husky SD 4000 Or Clamp-All Hi-Torq 80. See Note 2.			

1. CISPI 310 No-Hub couplings will not be accepted as equal to manufacturers listed.

	PLUMBING FIXTURE SCHEDULE										
TAG NO.	FIXTURE				FITTING				TRAP	CARRIER	DEMARKO
TAG NO.	TYPE	MANUFACTURER	MODEL	SIZE	TYPE	MANUFACTURER	MODEL	SUPPLY	TRAP	CARRIER	REMARKS
P-1/1A	WATER CLOSET	KOHLER	KINGSTON K-4325	-	AUTOMATIC FLUSHOMETER	KOHLER	WAVE K-10673-SV	1"CW	INTEGRAL	J.R. SMITH 0210Y	PROVIDE WALL CARRIER TO SUIT. FURNISH AND INSTALL SOLID PLASTIC ELONGATED OPEN FRONT SEAT.
P-2	URINAL	KOHLER	BARDON K-4991-ET-0	-	AUTOMATIC FLUSHOMETER	KOHLER	WAVE K-10676-SV-CP	3/4"CW	INTEGRAL	J.R. SMITH 0636	PROVIDE WALL CARRIER TO SUIT. MOUNT AT ADA HEIGHT.
P-3	LAVATORY	KOHLER	CAXTON K-2210	19¼" X 16¼"	MOTION SENSOR FAUCET	MAC FAUCETS	FA444HD-31 (18- OIL RUBBED BRONZE FINISH)	1/2"CW 1/2"HW	1½"OFFSET POLISHED CHROME	UNDER COUNTER MOUNT	PROVIDE W/ 0.5GPM AERATOR. PROVIDE W/ AC PLUG-IN ADAPTER. PROVIDE OFFSET GRID DRAIN ASSEMBLY W/ TRUE BRO INSULATION ON PIPING UNDER LAVATORY. PROVIDE NEW C.P.SUPPLIES AND ANGLE STOPS. PROVIDE LEONARD LF-170 MIXING VALVE BELOW SINK.
P-4	BREAK ROOM SINK	ELKAY	ELUHAD211545	23½" X 18¼"	DECK MOUNTED SINGLE CONTROL	WATERSTONE	FULTON 7825-ORB	1/2"CW 1/2"HW	OFFSET POLISHED CP TRAP & TAILPIECE	UNDERMOUNT	PROVIDE ELKAY LKAD35 ADA ACCESSIBLE BASKET STRAINER W/ OFFSET P-TRAP & TAIL PIECE W/1/2"CP ANGLE SUPPLIES (2). PROVIDE TRUE BRO INSULATION ON PIPING BENEATH SINK.
P-5	MOP RECEPTOR	FIAT	TSB-100	24" X 24"	SERVICE SINK FAUCET	CHICAGO FAUCETS	897-CP	1/2"CW 1/2"HW	-	-	3/4" HOSE CONNECTION WITH VB AND PAIL HOOK.
P-6	DRINKING FOUNTAIN	HALSEY TAYLOR	HRF-SEBP SJ8 CHILLER MOUNTED ABOVE CEILING OF JANITORS CLOSET	37" X 18"	-	-	-	1/2"CW	(2) P-TRAPS	IN-WALL	PROVIDE (1) MODEL HWF172 WATER FILTER AT CW INLET FOR EACH FOUNTAIN, (2) FILTERS TOTAL. REMOTE CHILLER UNIT MOUNTED ABOVE CEILING. REFER TO REMOTE CHILLER DETAIL.
P-7	REFRIGERATOR SUPPLY BOX	IPS CORP	AB9700 HA 87978	5¾" x 4½" x 3½"	-	-	-	1/2"FW	-	-	PROVIDE WHITE POWDER COAT FINISHED, RECESSED ICE MAKER OUTLET BOX WITH QUARTER TURN VALVE AND WATER HAMMER ARRESTOR.
НВ	HOSE BIBB	WOODFORD	24P-1/2	-	-	-	-	1/2"CW	-	-	PROVIDE WITH LOOSE KEY HANDLE.

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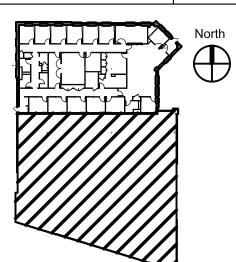
General Notes:

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PLUMBING SCHEDULES

Drawing Sheet Number:

P-700

Owner's Branch No.: