



29 FEB 2024

 PROJECT: 24 01 17
 RED SQUARE DENTAL,
 4909 PECCAN BLVD,
 MCALLEN TX, 78501

General Notes - Plumb

GENERAL NOTES - PLUMBING

A. PLUMBING CONDITIONS FOR PLUMBING WORK:
 A.1. ALL WORK UNDER THIS CONTRACT SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH FEDERAL, STATE, AND LOCAL CODES, WHERE THESE PLANS AND SPECIFICATIONS ARE CONFORMED WITH SUCH CODES. ALL PLUMBING, DRAIN, AND SANITARY SYSTEMS SHALL BE CONFORMED TO THE REQUIREMENTS REQUIRED TO COMPLY WITH ALL SUCH CODES. ANY ITEMS REQUIRED AND/OR MISSED IN THESE BASIS OF DESIGN DOCUMENT, SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR AT CONTRACTOR'S EXPENSE AND ZERO EXPENSE TO THE OWNER AND/OR DESIGN TEAM. CONTRACTOR SHALL PAY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS AND CERTIFICATES OF INSPECTION.

A.2. CONTRACTOR SHALL STUDY CONTRACT DOCUMENTS, FULLY UNDERSTAND AND ACCEPT THE BASIS OF DESIGN AND SCOPE OF WORK. SUBMISSION OF BID INDICATES CONTRACTOR'S COMPLETE APPROVAL AND ACCEPTANCE OF CONSTRUCTION DOCUMENTS.

A.3. CONTRACTOR SHALL USE ADEQUATE NUMBERS OF SKILLED WORKERS TRAINED LICENSED AND EXPERIENCED IN COMMERCIAL PLUMBING, AND WHO ARE FAMILIAR WITH THE CONSTRUCTION DOCUMENTS AND METHODS OF PERFORMING THE WORK REQUIRED.

A.4. CONTRACTOR SHALL PROVIDE A MINIMUM ONE (1) YEAR WARRANTY ON ALL LABOR AND MATERIALS INSTALLED. CONTRACTOR SHALL MAKE ALL WARRANTED REPAIRS OR REPLACEMENT WITHIN SEVEN (7) CALENDAR DAYS, AT NO ADDITIONAL COST TO THE OWNER.

B. BASIS OF DESIGN:
 B.1. ALL CONSTRUCTION DOCUMENTS PROVIDED BY OWNER, INCLUDING ENGINEERING DRAWINGS, NOTES, SCHEDULE, DETAILS, CALCULATIONS AND SPECIFICATIONS PROVIDED, ALONG WITH EQUIPMENT MANUFACTURER'S DRAWINGS AND SPECIFICATIONS, FROM THE BASIS OF DESIGN AND GENERALLY SCHEMATIC IN NATURE. PIPING SYSTEMS AND EQUIPMENT SHOWN ON DRAWINGS IS UNDERSTOOD TO BE THE GENERAL ARRANGEMENT ONLY, TO BE FIELD ADJUSTED AS REQUIRED.

B.2. DRAWINGS DO NOT SHOW EVERY DETAIL OR ITEM REQUIRED FOR FIXTURE AND EQUIPMENT INSTALLATIONS. REFER TO ALL EQUIPMENT MANUFACTURER'S INSTRUCTIONS FOR ADDITIONAL REQUIRED PARTS AND ACCESSORIES NEEDED FOR COMPLETE INSTALLATIONS.

B.3. INVERT ELEVATIONS (IE) OF SANITARY DRAIN PIPING, SHOW ON PLANS IS ESTIMATED MINIMUM DEPTH BEING USED FOR DRAINS. FOR ADDITIONAL INFORMATION NOT SHOWN.

B.4. THESE DRAWINGS ARE INTENDED TO GENERALLY SHOW THE EXISTING BUILDING AND PLUMBING SYSTEMS MODIFICATION REQUIRED FOR THIS PROJECT. INFORMATION PROVIDED INCLUDES LOCATION, QUANTITY, TYPE, SIZE, CAPACITY AND FUNCTION OF SPECIFIC COMPONENTS OF THE NEW/MODIFIED PLUMBING SYSTEMS TO BE PROVIDED BY CONTRACTOR.

B.5. FOR CLARITY, SEE PLUMBING FIXTURE AND DRAIN SCHEDULES FOR ALL PIPING CONNECTIONS SIZES NOT SHOWN ON PLANS.

B.6. INCIDENTAL MODIFICATIONS FOR DEMOLITION OF EXISTING PLUMBING SYSTEMS AND COMPONENTS AS REQUIRED FOR INSTALLATION OF NEW WORK IS INCLUDED AS PART OF THE PROJECT, WHETHER SHOWN ON PLANS OR NOT. CONTRACTOR SHALL VERIFY ALL REQUIREMENTS PRIOR TO BIDDING PROJECT.

B.7. CEILING TILE AND GRID REMOVAL, MODIFICATIONS AND REINSTALLATION AS REQUIRED FOR WORK SHOWN SHALL BE PROVIDED BY OTHERS AND IS NOT CONSIDERED PART OF THE PLUMBING CONTRACTOR'S SCOPE OF WORK. COORDINATE WITH OWNER TO PROVIDE THE REQUIRED WORK ACCESS ABOVE ALL LAY-IN CEILINGS.

B.8. RELOCATION OF EXISTING BUILDING SYSTEMS AND EQUIPMENT, SUCH AS LIGHT FIXTURES, FIRE SPRINKLER PIPING AND HEADS, SMOKE DETECTORS, ELECTRICAL CONDUITS, DUCTWORK, ETC., AS REQUIRED FOR INSTALLATION OF NEW WORK IS TO BE PROVIDED BY OTHERS AND IS NOT CONSIDERED PART OF THE PLUMBING CONTRACTOR'S SCOPE OF WORK. COORDINATE WITH OWNER TO PROVIDE THE REQUIRED INTERFERENCE REMOVAL OF OTHER TRADES.

B.9. THE EXISTING BUILDING PLUMBING SYSTEMS ARE INTENDED TO BE REUSED AS SHOWN ON PLANS OR AS INSTALLED IF NOT SHOWN ON PLANS. ALL EXISTING PLUMBING SYSTEMS AND EQUIPMENT SHOWN ON PLANS IS FOR REFERENCE ONLY AND MAY BE DIFFERENT IN THE FIELD. CONTRACTOR SHALL FURNISH, TEST AND INSPECT ALL EXISTING PLUMBING SYSTEMS PRIOR TO BIDDING TO ENSURE HE UNDERSTANDS AND ACCEPTS ALL EXISTING CONDITIONS.

B.10. THE EXISTING GAS EQUIPMENT LOCATIONS SHOWN ON PLANS IS FOR REFERENCE ONLY TO ASSIST WITH MODIFICATIONS TO BE PROVIDED BY THE PLUMBING CONTRACTOR AND GAS UTILITY COMPANY. FIELD VERIFY ALL ACTUAL GAS LOADS PRIOR TO COORDINATING MODIFICATIONS WITH GAS UTILITY. GAS DESIGN, SIZING, LAYOUT, AND MODIFICATIONS ESTIMATES SHOWN ON PLANS ARE STRICTLY PRELIMINARY.

C. SCOPE OF WORK:
 C.1. FURNISH ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO PERFORM THE WORK DESCRIBED IN THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL MAKE ALL INSTALLATIONS ACCORDING TO MANUFACTURE'S INSTRUCTIONS AND SPECIFICATION, IN ADDITION TO THOSE SHOWN ON PLANS.

C.2. INSTALL COMPLETE AND OPERABLE PLUMBING SYSTEMS AS DESCRIBED BY THE BASIS OF DESIGN DOCUMENTS. INCIDENTAL ITEMS NOT SPECIFIED, BUT WHICH ARE ESSENTIAL FOR THE PROPER OPERATION OF SPECIFIED SYSTEMS, EQUIPMENT ARE INCLUDED IN THE SCOPE OF WORK AND SHALL BE PROVIDED BY CONTRACTOR AT NO ADDITIONAL COST.

C.3. COMPLY WITH COMMISSIONING PLAN SHOWN ON DRAWINGS AND AS IMPLEMENTED BY OWNER'S DESIGNATED COMMISSIONING AGENT/AUTHORITY (CA).

C.4. PROVIDE STRUCTURAL ENGINEERING DESIGN, DRAWINGS AND MODIFICATIONS FOR INSTALLATION OF PLUMBING EQUIPMENT OVER 100 LBS., UTILIZING THE BUILDING STRUCTURE OR FOUNDATION FOR SUPPORT, UNLESS PROVIDED IN ADVANCE BY OWNER

D. CODE COMPLIANCE:
 D.1. ALL WORK SHALL BE PREPARED IN ACCORDANCE WITH ALL LOCALLY ADOPTED MECHANICAL FUEL GAS AND PLUMBING CODES, ACCORDING TO THE LOCAL AUTHORITY HAVING JURISDICTION(AHJ).
 D.2. THE BASIS OF DESIGN IS INTENDED TO COMPLY WITH ALL LOCAL CODES ENFORCED BY THE AHJ OVER THOSE PROJECTS. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS MADE BY THE AHJ, WHETHER SPECIFICALLY SHOWN ON PLANS OR NOT.

E. DISCREPANCIES:
 E.1. IN THE CASE OF A DISCREPANCY BETWEEN DRAWINGS, SPECIFICATIONS OR MANUFACTURER'S REQUIREMENTS, THE MOST STRINGENT SHALL APPLY AND BE COMPLIED WITH BY THE CONTRACTOR.
 E.2. IN THE CASE OF A DISCREPANCY BETWEEN CODES AND THE CONSTRUCTION DOCUMENTS OR MANUFACTURER'S REQUIREMENTS, THE AHJ SHALL DETERMINE WHICH SHOULD BE COMPLIED WITH BY THE CONTRACTOR

F. JOBSITE CONDITIONS:
 F.1. CONTRACTOR SHALL EXAMINE THE JOBSITE PRIOR TO BIDDING AND FULLY UNDERSTAND THE CONDITIONS IN WHICH THE WORK IS TO BE PERFORMED BY SUBMITTING A BID FOR WORK.
 F.2. CONTRACTOR ACCEPTS ALL JOB CONDITIONS AS-IS WITHOUT EXTRA COMPENSATION.
 F.3. CONTRACTOR SHALL LOCATE AND UNCOVER THE EXISTING UTILITY SERVICES, INCLUDING GAS, WATER AND SEWER PIPING, TO DETERMINE EXISTING SIZE AND DEPTH OF EACH PRIOR TO STARTING WORK. SERVICE CONNECTIONS SHOWN ON THE PLANS ARE PRELIMINARY ONLY.

G. PERMITS AND FEES:
 G.1. CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS, LICENSES, AND CERTIFICATIONS REQUIRED BY THE AHJ AND PAY FOR ALL PERMITTING FEES.

H. COORDINATION WITH OTHER TRADES:
 H.1. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID INTERFERENCES, PROPERLY SEQUENCE INSTALLATIONS, AND PROVIDE MANUFACTURER'S REQUIRED SERVICE CLEARANCES. WHERE REQUIRED, CONTRACTOR SHALL MAKE THE ADJUSTMENTS TO PLUMBING SYSTEMS AND OR INSTALLATION SCHEDULE.

H.2. ALL FUEL GAS CONNECTIONS TO HVAC EQUIPMENT, INCLUDING SERVICE VALVE REGULATORS, FLEXIBLE COUPLINGS, AND OTHER FITTINGS SHALL BE PROVIDED BY PLUMBING CONTRACTOR AS REQUIRED BY MANUFACTURER'S INSTALLATION INSTRUCTIONS, OBTAIN COMPLETE AND FINAL FUEL PIPING REQUIREMENTS FROM EQUIPMENT SUPPLIER.

H.3. ALL ELECTRICAL CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR, INCLUDING DISCONNECTS, ENCLOSURES REQUIREMENTS FOR EQUIPMENT FURNISHED.

H.4. COORDINATE WITH ROOFING CONTRACTOR TO SEAL ALL PIPING PENETRATION THROUGH ROOF PER ARCHITECTURAL ROOFING SPECIFICATIONS, PROVIDE ALL WEATHERPROOFING REQUIRED.

I. UTILITY CONNECTIONS:
 I.1. COORDINATE WITH UTILITY TO DETERMINE ACTUAL REQUIREMENTS FOR NEW SERVICE CONNECTION AND METERING. INSTALL ALL UTILITY CONNECTIONS AS REQUIRED BY UTILITY SPECIFICATIONS.
 I.2. PAY ALL UTILITY REQUIRED FEES FOR SERVICE CONNECTIONS OR MODIFICATIONS SHOWN ON PLANS.

J. CONTRACTOR FURNISHED EQUIPMENT & MATERIALS:
 J.1. SHALL BE NEW, MANUFACTURED CERTIFIED TO COMPLY WITH THE BASIS OF DESIGN, FREE OF DEFECT AND COVERED UNDER A MINIMUM 1-YEAR FACTORY WARRANTY, UNLESS SPECIFIED DIFFERENTLY ELSEWHERE.

J.2. SHALL BE AS SPECIFIED IN CONSTRUCTION DOCUMENTS OR AN ACCEPTABLE SUBSTITUTION OF EQUAL ITEM. ALL SUBSTITUTIONS MUST BE APPROVED THROUGH THE COMMISSIONING PROCESS TO BE ACCEPTABLE.

J.3. SHALL BE COMMERCIAL GRADE EQUIPMENT AND MATERIALS, UNLESS OTHERWISE INDICATED IN CONSTRUCTION DOCUMENTS.

K. CUTTING AND PATCHING:
 K.1. WHERE CUTTING AND PATCHING ARE REQUIRED TO INSTALL PLUMBING SYSTEMS, CONTRACTOR SHALL PROVIDE THE CUTTING SERVICE AND DO SO AS TO MINIMIZE THE AMOUNT OF OPENING. AFTER PLUMBING SYSTEMS HAVE BEEN INSTALLED, PATCH ALL OPENINGS TO MATCH ADJACENT FINISHED SURFACES.

K.2. FINISHED TEXTURING AND PAINTING TO BE PROVIDED BY OTHERS BUT AT THE PLUMBING CONTRACTOR'S EXPENSES.

L. PIPING AND SUPPORTS:
 L.1. OPEN PIPING SYSTEMS, INCLUDING FLOOR DRAINS, FLOOR SINKS, HUB DRAINS, ETC., SHALL BE CAPPED OR PLUGGED DURING ALL CONSTRUCTION TO PREVENT DAMAGE AND THE ENTRANCE OF FOREIGN MATERIALS. REMOVE ALL PROTECTIVE COVERINGS UPON COMPLETION OF ALL WORK.

SYMBOL LEGEND - PLUMBING:

— SANITARY SEWER LINE
— VENT
— SANITARY VENT LINE
— DOMESTIC COLD WATER LINE
— DOMESTIC HOT WATER LINE (INSULATED)
— DOMESTIC HW RE-CIRCULATION LINE
— GAS
— NATURAL GAS LINE
— GW
— GREASE WASTE LINE
— O2
— OXYGEN LINE (1/2" COPPER, UON)
— N2O
— MED GAS (NITROUS OXIDE) PIPING (3/8" COPPER, UON)
— AIR
— COMPRESSED AIR LINE (1/2" COPPER, UON)
— VAC
— VACUUM LINE (1/2" PVC, UON) CONNECTED TO SCAVENGE
— POINT OF CONNECTION TO EXISTING WATER PIPING
— PIPE ELBOW, 90 DEG TURNED DOWN
— PIPE ELBOW, 90 DEG TURNED UP
— PIPE TEE, BRANCH TURNED DOWN
— PIPE TEE, BRANCH TURNED UP
— VENT STACK CONNECTION TO WASTE LINE BELOW
— WASTE STACK THROUGH FLOOR
— CLEANOUT, FLOOR OR GRADE, WITH PROPER COVER
— WALL CLEANOUT PLUG AND COVER
— WALL HYDRANT, FREEZEPROOF WITH VACUUM BREAKER
— GATE VALVE, LINE SIZED
— BALL VALVE, LINE SIZED
— GAS COCK, LINE SIZED
— CHECK VALVE OR BACKFLOW PREVENTOR AS NOTED
— PRESSURE REGULATOR VALVE, GAS OR WATER
— BALANCING VALVE OR CIRCUIT SETTER
— PIPE UNION COUPLING
— PIPE FLEXIBLE COUPLING
— HW RECIRCULATION PUMP (WITH AQUASTAT)
— NEW PLUMBING FIXTURE
— NEW FLOOR DRAIN
— FLOOR SINK
— TEMPERING VALVE
— A
— OUTLET PORT - AIR 1/2" UON
— N
— OUTLET PORT - NITROUS OXIDE 3/8" UON
— O
— OUTLET PORT - OXYGEN 1/2" UON
— S

E. COMMISSIONING PLAN - PLUMBING:
 A. COMMISSIONING AGENT
 THE OWNER'S PROJECT MANAGER OR OTHER PERSON DESIGNATED SHALL FUNCTION AS THE COMMISSIONING AGENT (CA) FOR THE PROJECT.

B. SUBMITTALS
 B.1. IN ORDER TO OBTAIN OFFICIAL APPROVAL PRIOR TO ORDERING OF EQUIPMENT, CONTRACTOR SHALL PROVIDE THE CA WITH MANUFACTURE'S SUBMITTAL DATA ON ALL NEW EQUIPMENT TO BE FURNISHED. PRE-CONSTRUCTION SUBMITTALS SHALL INCLUDE MANUFACTURER'S SPECIFICATIONS, SHOP DRAWINGS AND INSTALLATION MANUALS. PROVIDE SUBMITTALS FOR THE FOLLOWING MAJOR COMPONENTS AND EQUIPMENT PRIOR TO ORDERING:
 B.1.1. PLUMBING FIXTURES, PLUMBING FIXTURE ACCESSORIES, FAUCETS, VALVES, ETC., WATER HEATERS, HOT WATER CIRCULATION PUMPS, PIPING (HOT, DOMESTIC, AND NATURAL GAS)

C. FIELD INSPECTIONS:
 C.1. WHERE REQUIRED BY CA, COORDINATE FIELD INSPECTIONS OF CRITICAL CONSTRUCTION DETAILS FOR APPROVAL, PRIOR TO PROCEEDING WITH ADDITIONAL WORK. AT A MINIMUM, FIELD INSPECTIONS SHALL INCLUDE:
 C.1.1. PIPING SYSTEM STARTUP AND TESTING, EQUIPMENT STARTUP AND TESTING, OPERATIONS AND MAINTENANCE TRAINING

D. STARTUP AND TESTING:
 D.1. PRESSURE TEST THE WASTE/VENT PIPING SYSTEMS BY PLUGGING BUILDING MAIN DRAIN CONNECTION TO SEWER, AND FILLING ENTIRE SYSTEM FULL OF WATER FROM LOWEST POINT TO HIGHEST POINT.
 D.2. PRESSURE TEST THE POTABLE WATER SYSTEMS TO MINIMUM OF 60 PSIG, USING POTABLE WATER OR AIR, FOR A MINIMUM OF 60 MINUTES WITHOUT LEAKS. FLUSH TO REMOVE DEBRIS AND PROVIDE DISINFECTION AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
 D.3. FOLLOW ALL EQUIPMENT MANUFACTURERS INSTALLATION INSTRUCTIONS TO PROVIDE COMPLETE STARTUP AND TESTING OF NEW PLUMBING EQUIPMENT. MAKE MODIFICATION ADJUSTMENTS AS REQUIRED TO MEET PERFORMANCE SPECIFICATIONS ON PLANS. PROVIDE THE CA WITH COMPLETED MANUFACTURE'S STARTUP SHEETS AS RECORD OF SUCCESSFUL INSTALLATION. PROVIDE STARTUP FOR THE FOLLOWING:
 D.3.1. NATURAL GAS FIRED WATER HEATERS, CIRCULATION PUMPS, NATURAL GAS FIRED DRIERS

E. Q&M DOCUMENTATION:
 E.1. PROVIDE THE CA WITH A MINIMUM OF TWO (2) SETS OF BINDERS FOR THE PROJECT. EACH BINDER SHOULD INCLUDE THE FOLLOWING ITEMS:
 E.1.1. AS-BUILT DRAWING MARKUPS SHOWING MODIFICATIONS WHERE INSTALLATIONS ARE DIFFERENT THAN DESIGN DRAWINGS.
 E.1.2. EQUIPMENT MANUFACTURE'S INSTALLATION, OPERATION MAINTENANCE MANUALS.
 E.1.3. COMPLETED MANUFACTURE'S EQUIPMENT STARTUP SHEETS.
 E.1.4. EQUIPMENT SET-POINTS DETERMINED AT STARTUP.
 E.1.5. EQUIPMENT WARRANTIES

F. TRAINING:
 F.1. PROVIDE A MINIMUM OF ONE (1) TRAINING SESSION OF NO LESS THAN TWO (2) HOURS ON-SITE TRAINING FOR OWNER'S OPERATIONAL STAFF UPON COMPLETION OF ALL STARTUP WORK. TRAINING SHALL COVER OPERATIONS AND MAINTENANCE ON ALL NEW PLUMBING SYSTEMS AND EQUIPMENT INSTALLED BY CONTRACTOR. TRAINING SHALL UTILIZE MANUFACTURER'S OPERATIONS AND MAINTENANCE MANUALS AS BASIS FOR INSTRUCTION.

G. EQUIPMENT & MATERIALS - PLUMBING:
 A.1. NATURAL GAS EQUIPMENT:
 A.1.1. GAS PIPING: BLACK STEEL, CONFORMING TO ASTM A 53 OR ASTM A 106. SCHEDULE 40 WITH SCREWED OR WELDED JOINTS AND FITTINGS OF SAME MATERIAL AS PIPING. SCREWED FITTINGS SHALL USE JOINT TAPES. MALE THREADS WELDED JOINTS SHALL USE AN APPROVED METAL FILLER MATERIAL FOR NATURAL GAS.

A.2. GAS COCK: FLAT TEE HEAD GAS PLUG VALVE. BRONZE BODY, RATED TO 2 PSIG, FNPT THREADED, AS MANUFACTURED BY A.Y. MCDONALD OR EQUALS. SELECT VALVE SUITABLE FOR LOCATION WHERE INSTALLED.

A.3. VENT PIPING: SHALL BE AS SPECIFIED BY GAS FIRED EQUIPMENT MANUFACTURER'S INSTRUCTIONS AS FOLLOWS:
 A.3.1. TYPE B, HEAVY-GAUGE, DOUBLE WALL, AIR-INSULATED PIPE, GALVANIZED STEEL OUTER WALL, ALUMINUM INNER WALL, UL LISTED, AS MANUFACTURED BY AMERIVENT, OR EQUAL. FITTINGS AND ACCESSORIES SHALL BE SAME MANUFACTURER AS VENT PIPING.

A.3.2. SCHEDULE 40 PVC PIPING AND FITTINGS, AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS. PROVIDE FACTORY WALL CAP AT TERMINATION; PROVIDE CONDENSATE DRAIN PIPING AND FITTINGS AND ROUTE TO APPROVED DRAIN LOCATIONS, PER MANUFACTURE'S INSTRUCTIONS. WHERE REQUIRED FOR PROPER DRAINAGE, PROVIDE FACTORY CONDENSATE DRAIN PUMP AND CONDENSATE NEUTRALIZER.

B. DOMESTIC WATER PIPING:
 B.1. WATER SERVICE PIPING (OUTSIDE BUILDING): MINIMUM 160 PSI PRESSURE RATED, CONFORMING TO NSF 61 STANDARDS, OF THE FOLLOWING APPROVED TYPES:
 B.1.1. TYPE K COPPER, WITH JOINTS AND FITTINGS OF SAME MATERIAL. SOLDER JOINTS SHALL HAVE A MAXIMUM OF 8% LEAD CONTENT.

DESIGN WITHOUT CONSTRUCTION ADMINISTRATION:
 IT IS UNDERSTOOD AND AGREED THAT THE ARCHITECT/ENGINEER'S SCOPE DOES NOT INCLUDE PROJECT OBSERVATION OR REVIEW OF THE CONTRACTOR'S PERFORMANCE OR ANY OTHER CONSTRUCTION ACTIVITIES. THE ARCHITECT/ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION TIMES AND ANY AND ALL POTENTIAL LIABILITY ARISING FROM SUCH ADMINISTRATION. THE OWNER ASSUMES ALL RESPONSIBILITY FOR INTERPRETATION OF THE CONTRACT DOCUMENTS AND FOR CONSTRUCTION OBSERVATION AND THE OWNERS WAIVES ANY CLAIMS AGAINST THE ARCHITECT/ENGINEER THAT MAY BE IN ANY WAY CONNECTED THERETO. THE ARCHITECT/ENGINEER WILL NOT RESPOND TO ANY QUESTIONS DIRECTED TO THE INTERPRETATION OF THE CONTRACT DOCUMENTS OR IN RESPONSE TO ISSUES ENCOUNTERED BY AND AS RELAYED BY THE CONTRACTOR IN THE FIELD.

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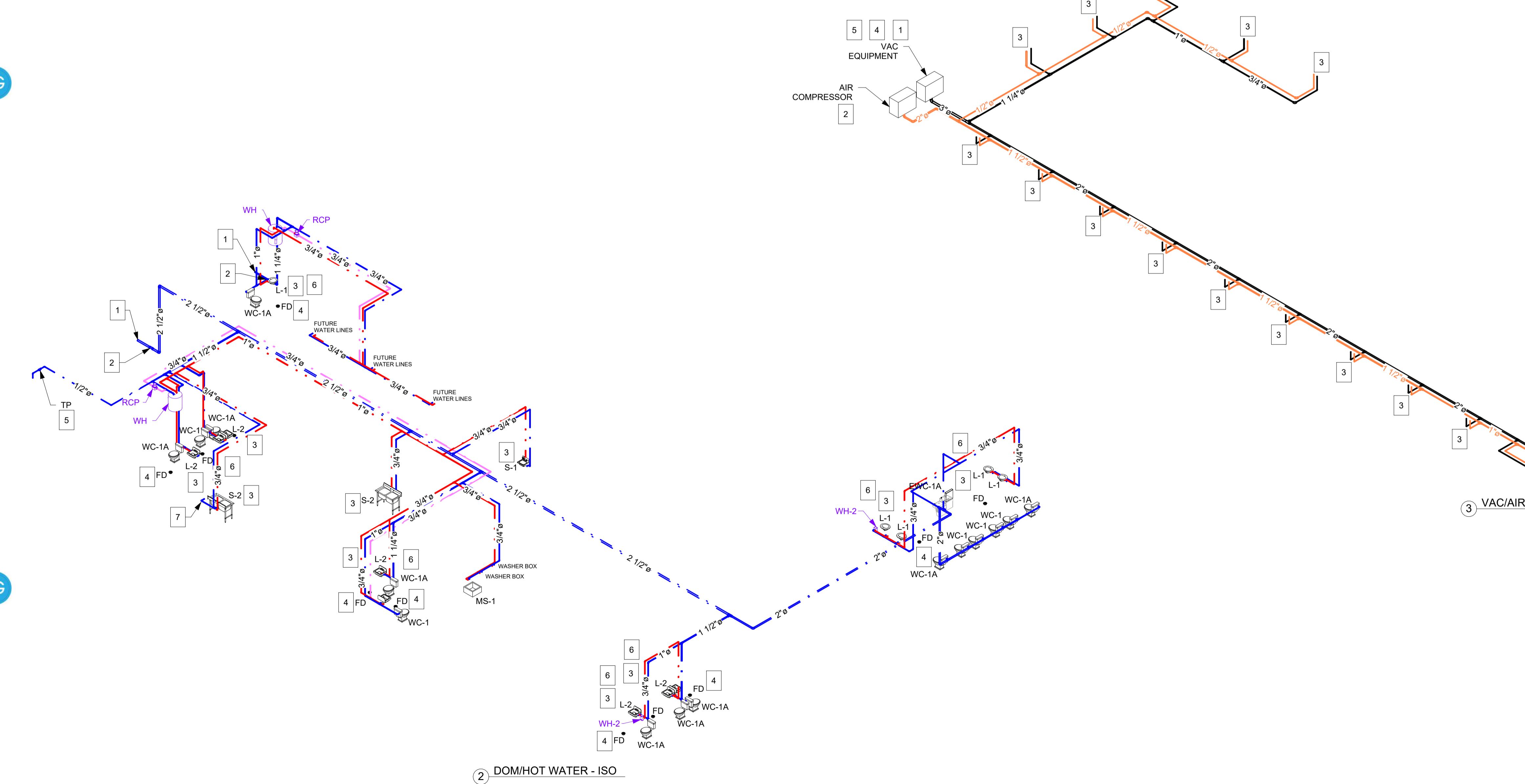
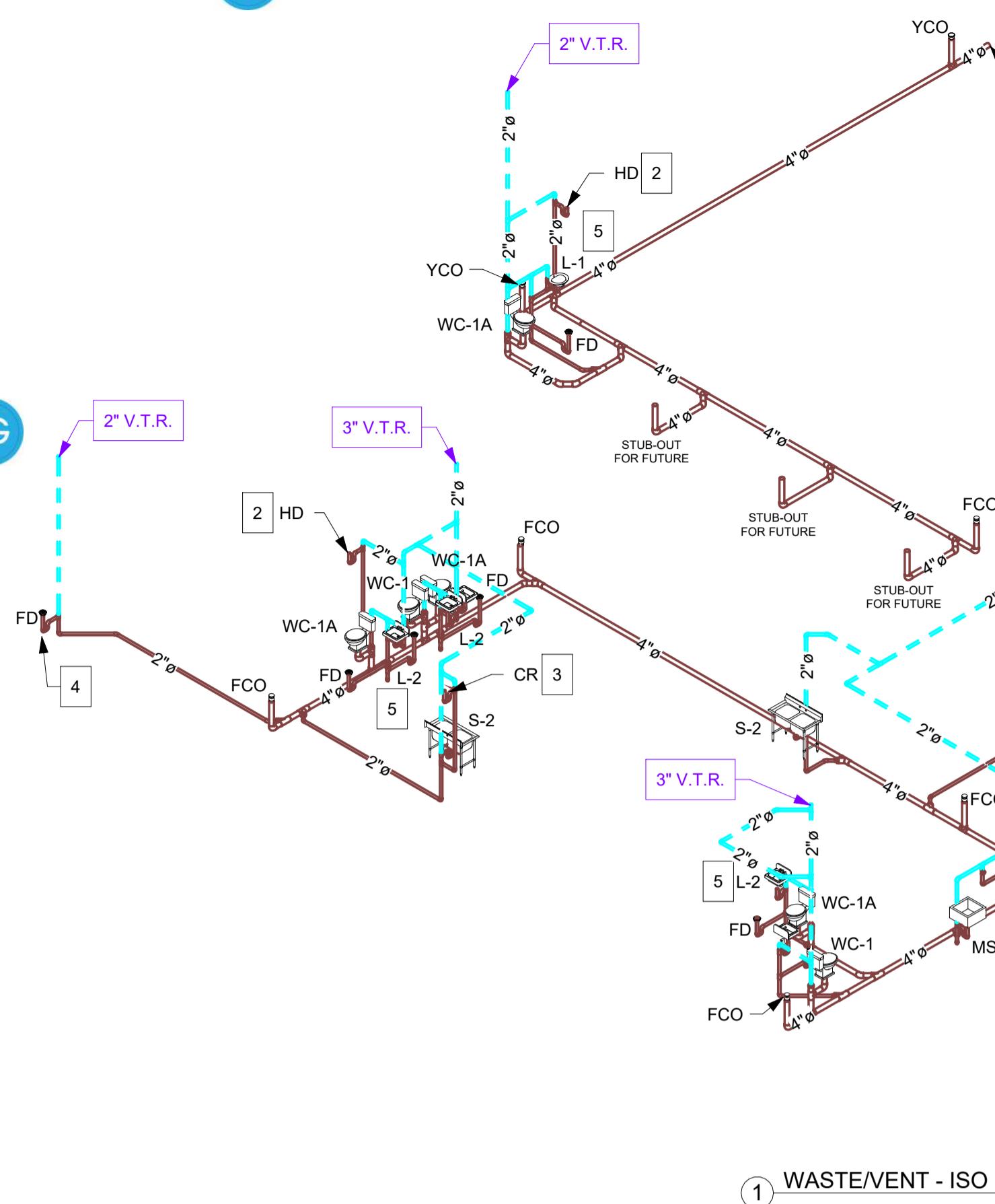
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 PROJECT: 24 01 17
RED SQUARE DENTAL
 4909 PECAN BLVD,
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WASTE/VENT KEYED NOTES:

1. CONNECT NEW SANITARY SEWER LINE TO EXISTING SANITARY SEWER LINE BELOW SLAB. REFER TO CIVIL DRAWINGS FOR EXACT POINT OF CONNECTION PRIOR BIDDING.
2. 2" HUB DRAIN LOCATED UNDER WATER HEATER COLLECTION PAN. COORDINATE HEIGHT AND LOCATION REQUIREMENTS PRIOR TO BIDDING.
3. DRAIN PIPING VERTICALLY INSIDE WALL FROM ROOFTOP UNITS TO CONDENSATE RECEPTOR. COORDINATE EXACT LOCATION OF CONDENSATE RECEPTOR PRIOR TO BIDDING.
4. PROVIDE INDIRECT WASTE CONNECTION FROM VACUUM EQUIPMENT TO FLOOR DRAIN.
5. REFER TO ARCHITECTURAL PLANS FOR HEIGHT REQUIREMENT FOR ACCESSIBLE AND USABLE A.D.A. (AMERICANS WITH DISABILITIES ACT) TO MEETS THE GUIDELINES OF LOCAL CODES.

DOM/HOT WATER KEYED NOTES:

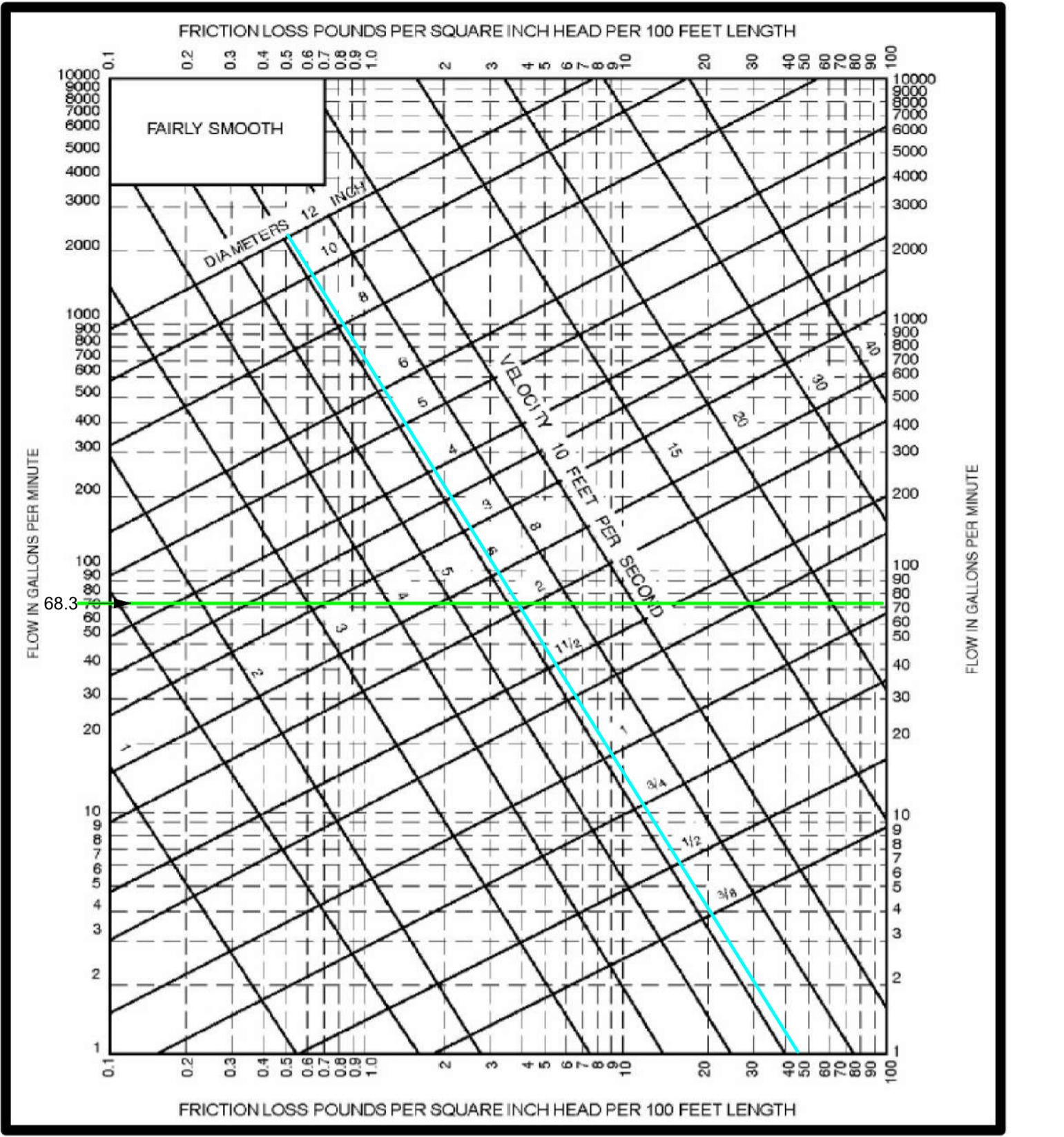
1. THE CONTRACTOR SHALL CONNECT NEW WATER LINE TO EXISTING DOMESTIC WATER LINE BELOW SLAB. REFER TO CIVIL DRAWINGS FOR EXACT LOCATION OF WATER METER PRIOR TO ANY WORK.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL A BALL VALVE ON PIPE. PLUMBING CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION.
3. THE CONTRACTOR SHALL PROVIDE AND INSTALL AN INDIVIDUALLY THERMOSTATIC TEMPERING MIXING VALVE, MODEL WATTS#FLFM495, HYDROGUARD TYPE, ASSE 1069 AND 1070 LISTED AND CSA B125 CERTIFIED.
4. THE CONTRACTOR SHALL PROVIDE AND INSTALL A TRAP PRIMER SYSTEM WITH 1/2" SOFT DRAWN COPPER PIPING ROUTED FROM WATER CLOSET TO FLOOR DRAIN. ALL PIPING SHALL BE CONCEALED IN WALLS AND BELOW CONCRETE SLAB.
5. THE CONTRACTOR SHALL PROVIDE AND INSTALL A TRAP PRIMER SYSTEM WITH 1/2" SOFT DRAWN COPPER PIPING ABOVE CEILING. ALL PIPING SHALL BE CONCEALED IN WALLS AND BELOW CONCRETE SLAB.
6. REFER TO ARCHITECTURAL PLANS FOR HEIGHT REQUIREMENT FOR ACCESSIBLE AND USABLE A.D.A. (AMERICANS WITH DISABILITIES ACT) TO MEETS THE GUIDELINES OF LOCAL CODES.
7. THE CONTRACTOR SHALL PROVIDE AND INSTALL A BALL VALVE IN A RECESSED BOX WITH FLEX TUBING ROUTED TO REFRIGERATOR ICE MAKER.

VAC/AIR KEYED NOTES:

1. VACUUM PUMP SHALL BE SUPPLIED BY OTHERS. PLUMBING CONTRACTOR SHALL PROVIDE AND INSTALL THE FOLLOWING:
 * VACUUM PUMP LINE TO ALL USE POINTS AS PROVIDED (SIZES BY DENTAL DEALER).
 * 2" VENT TRAP AND DRAIN. THERE SHOULD BE NO "TS" OR 90 DEGREE FITTINGS USED ON THE VACUUM LINES. USE ONLY LONG RADIUS SWEEP OR 45 DEGREE FITTINGS.
 * THE VACUUM PUMP TO BE INSTALLED BY A MASTER PLUMBER WITH LICENSE ENDORSED BY THE STATE OF TEXAS IN MEDICAL GAS INSTALLATIONS.
2. AIR COMPRESSOR SHALL BE SUPPLIED BY OTHERS AND INSTALLED BY PLUMBING CONTRACTOR. PLUMBING CONTRACTOR SHALL PROVIDE AND INSTALL AN AIR LINE WITH A GATE VALVE WITH 1/2" MALE NPT @ 18-30° A.F.T. (VERIFY HEIGHT WITH DENTAL DEALER). MASTER PLUMBER TO RUN AIR LINES (1/2" COPPER) TO ALL USE POINTS AS SHOWN.
3. UNDERGROUND VACUUM LINE AND AIR LINE ROUTED UP ABOVE FINISH FLOOR. CONTRACTOR SHALL CONNECT VACUUM AND AIR LINE TO JUNCTION BOX. CONTRACTOR SHALL VERIFY DENTIST CHAIR UTILITY CONNECTION REQUIREMENTS WITH ARCHITECT/OWNER PRIOR TO COMMENCEMENT OF WORK TO AVOID CONFLICT.
4. TANKS PROVIDED BY DENTAL DEALER AND INSTALLED BY A MASTER PLUMBER WITH LICENSE ENDORSED BY THE STATE OF TEXAS IN MEDICAL GAS INSTALLATIONS.
5. VACUUM EXHAUST SHALL BE SCHEDULE 80 AS PER MANUFACTURER'S RECOMMENDATIONS.

WATER SUPPLY FIXTURE UNITS (2018 IPC-Table E103.3(2))

| DEVICE | WSFU PER DEVICE | | | | TOTAL WSFU | | |
|---------------------------------------|-----------------|------|-------|-----|------------|------|-------|
| | COLD | HOT | TOTAL | QTY | COLD | HOT | TOTAL |
| BATHTUB (PRIVATE) | 1.0 | 1.0 | 1.4 | 0 | 0.00 | 0.00 | 0.00 |
| BATHTUB (PUBLIC) | 3.0 | 3.0 | 4.0 | 0 | 0.00 | 0.00 | 0.00 |
| LAVATORY (PRIVATE) | 0.5 | 0.5 | 0.7 | 12 | 6.00 | 6.00 | 8.40 |
| LAVATORY (PUBLIC) | 1.5 | 1.5 | 2.0 | 0 | 0.00 | 0.00 | 0.00 |
| WATER CLOSET (PRIVATE FLUSH TANK) | 2.2 | 0.0 | 2.2 | 0 | 0.00 | 0.00 | 0.00 |
| WATER CLOSET (PRIVATE FLUSH VALVE) | 6.0 | 0.0 | 6.0 | 14 | 84.00 | 0.00 | 84.00 |
| WATER CLOSET (PUBLIC FLUSH TANK) | 5.0 | 0.0 | 5.0 | 0 | 0.00 | 0.00 | 0.00 |
| WATER CLOSET (PUBLIC FLUSH VALVE) | 10.0 | 0.0 | 10.0 | 0 | 0.00 | 0.00 | 0.00 |
| WATER CLOSET (PUB./PRIV. FLUSHOMETER) | 2.0 | 0.0 | 2.0 | 0 | 0.00 | 0.00 | 0.00 |
| SHOWER HEAD (PUBLIC) | 3.0 | 3.0 | 4.0 | 0 | 0.00 | 0.00 | 0.00 |
| SHOWER HEAD (PRIVATE) | 1.0 | 1.0 | 1.4 | 0 | 0.00 | 0.00 | 0.00 |
| SINK (PRIVATE) | 1.0 | 1.0 | 1.4 | 3 | 3.00 | 3.00 | 4.20 |
| KITCHEN SINK (HOTEL/RESTAURANT) | 3.0 | 3.0 | 4.0 | 0 | 0.00 | 0.00 | 0.00 |
| SERVICE SINK | 2.25 | 2.25 | 3.0 | 0 | 0.00 | 0.00 | 0.00 |
| WATER HEATER | 0.00 | 2.0 | 2.0 | 3 | 0.00 | 6.00 | 6.00 |
| BIDET | 1.5 | 1.5 | 2.0 | 0 | 0.00 | 0.00 | 0.00 |
| URINAL (1" FLUSHOMETER) | 10.0 | 0.0 | 10.0 | 0 | 0.00 | 0.00 | 0.00 |
| URINAL (3/4" FLUSHOMETER) | 5.0 | 0.0 | 5.0 | 0 | 0.00 | 0.00 | 0.00 |
| COMBINATION FIXTURE | 2.25 | 2.25 | 3.0 | 0 | 0.00 | 0.00 | 0.00 |
| WASHING MACHINE (8 LBS PUBLIC) | 2.25 | 2.25 | 3.0 | 0 | 0.00 | 0.00 | 0.00 |
| WASHING MACHINE (8 LBS PRIVATE) | 1.0 | 1.0 | 1.4 | 0 | 0.00 | 0.00 | 0.00 |
| WASHING MACHINE (15 LBS PUBLIC) | 3.0 | 3.0 | 4.0 | 0 | 0.00 | 0.00 | 0.00 |
| HOSE BIB | 2.5 | 0.0 | 2.5 | 0 | 0.00 | 0.00 | 0.00 |
| DRINKING FOUNTAIN | 0.25 | 0.0 | 0.25 | 1 | 0.25 | 0.00 | 0.25 |
| DISHWASHING MACHINE | 0.0 | 1.4 | 1.4 | 0 | 0.00 | 0.00 | 0.00 |
| ICE MACHINE | 8.0 | 0.0 | 8.0 | 0 | 0.00 | 0.00 | 0.00 |
| TOTAL (WSFU) | | | | | 93.3 | 15.0 | 102.9 |
| TOTAL(GPM) (Table E103.3(3)) | | | | | 68.3 | | |



LUMBING SCHEDULE

| ABEL | DESCRIPTION | MAKE | MODEL | CONNECTION SIZE | | | | DESCRIPTION/FEATURES |
|-------|--|------------------|------------|-----------------|-------------|---------|---------|--|
| | | | | DW | HW | WASTE | VENT | |
| WC-1A | BI-LEVEL ELECTRIC WATER COOLER WITH BOTTLE FILLING STATION | ELKAY | LVRCTL8WSK | 0' - 0 1/2" | 0' - 0" | 0' - 2" | 0' - 2" | VANDAL RESISTANT BOTTLE FILLING STATION & BI LEVEL COOLER FILTERED REGRIGERATED STAINLESS STEEL. PUSHBAR CONTROLS ON FRONT, NON-FILTERED, LIGHT GRAY GRANITE, 120 VOLTS, 400 WATTS, 3 AMPS, MOUNT AT A.D.A. HEIGHT AS INDICATED ON ARCHITECTURAL DRAWINGS. |
| FCO | CLEANOUT | ZURN | Z1400-HD | | | 0' - 4" | | LEVEL TROL ADJUSTABLE FLOOR CLEANOUT, DURA-COATED CAST IRON BODY. WITH GAS & WATERTIGHT ABS TAPERED THREAD PLUG, AND ROUND EXTRA HEAVY-DUTY TOP ADJUSTABLE TO FINISHED FLOOR. |
| FD | FLOOR DRAIN | ZURN | Z319 | | | 0' - 2" | 0' - 2" | SIZES INDICATED ON PLAN. 25" LARGE CAPACITY THOROFUSH DRAIN, CAST IRON BODY WITH WHITE ACID RESISTANT COATING, BOTTOM OUTLET AND NICKEL BRONZE TOP FRAME AND GRATE. |
| L-1 | LAVATORY | KOHLER | K-2196 | 0' - 0 1/2" | 0' - 0 1/2" | 0' - 2" | 0' - 2" | PENNINGTON, DECK MOUNT VITREOUS CHINA, 4" FAUCET CENTERS-THREE HOLE CONFIGURATION, CHICAGO MODEL #802-317CP, ANGLE STOPS, FLEXIBLE RISERS, CHROME PLATED WHEELCHAIR LAVATORY STRAINER, CAST GRID DRAIN PLUG WITH STRAINER AND OFFSET DRAIN ASSEMBLY, 1 1/4" TAILPIECE MCGUIRE #155-WC OR EQUAL, CAST BRASS P-TRAP WITH CLEANOUT, VALVES COVERS TRUEBRO #102/105 OR EQUAL. |
| L-2 | LAVATORY | KOHLER | K-2006 | 0' - 0 1/2" | 0' - 0 1/2" | 0' - 2" | 0' - 2" | "KINGSTON", WALL MOUNTED LAVATORY VITREOUS CHINA, 4" FAUCET CENTERS, TWO (2) BLADE HANDLE FAUCET, CHICAGO MODEL #802A-317, ANGLE STOPS, FLEXIBLE RISERS, CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT, OFFSET TAILPIECE. PROVIDE A.D.A. PROTECTIVE COVERS AT WATER PIPING, VALVES, AND DRAIN. |
| MS-1 | MOP SINK | FIAT | TSB-100 | 0' - 0 3/4" | 0' - 0 3/4" | 0' - 2" | 0' - 2" | 24"x24"x12", ONE PIECE PRECAST TERRAZZO (3000 PSI COMPRESSIVE STRENGTH), 12" HIGH WITH 2" WIDTH MIN. SHOULDERS WITH STAINLESS STEEL CAPS AND 1/2" PITCH TOWARD INSIDE, DRAIN BODY SHALL BE STAINLESS STEEL CAST INTEGRAL WITH CAULKED LEAD CONNECTION, STAINLESS STEEL THRESHOLD. FURNISH WITH CHROME PLATED WALL FAUCET WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, WALL FLANGES, PAIL HOOK, 3/4" HOSE THREAD ON SPOUT (FIAT #830-AA), AND 60"x3/4" DIA PLAIN END REINFORCED RUBBER HOSE WITH HOSE BRACKET (FIAT #832-AA), AND MOP HANGER (FIAT #889-CC). |
| RCP | RETURN CIRCULATING PUMP | BELL AND GOSSETT | PL-30B | | | | | IN LINE CIRCULATOR; 5 GPM AT 5 FT HEAD, 1/12HP, 115V/1.4-F-L AMPS FLANGE CORRECTIONS, ALL BRONZE CONSTRUCTION, FLEX COUPLED, OIL LUBRICATED MOTOR. |
| S-1 | HAND SINK | --- | BY OWNER | 0' - 0 3/4" | 0' - 0 3/4" | 0' - 2" | 0' - 2" | HAND SINK BY OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER INFORMATION. |
| S-2 | DOUBLE COMPARTMENT SINK | --- | BY OWNER | 0' - 0 3/4" | 0' - 0 3/4" | 0' - 2" | 0' - 2" | DOUBLE COMPARTMENT SINK BY OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER INFORMATION. |
| WC-1 | WATER CLOSET | KOHLER | K-96053 | 0' - 1" | | 0' - 4" | 0' - 2" | ELONGATED STANDARD HEIGHT BOWL, WELLCOMME ULTRA, WHITE COLOR, 1-1/2" TOP SPUD, VITREOUS CHINA, 1.6 MAXIMUM GPF FLUSH RANGE, MANUAL WATER FAUCET KOHLER #K-76321-CP, ELONGATED OPEN FRONT TOILET SEAT KOHLER #K-4731-CA-0. (TOILET INSTALLATION KIT NOT INCLUDED). |
| WC-1A | WATER CLOSET (HANDICAPPED) | KOHLER | K-96057 | 0' - 1" | | 0' - 4" | 0' - 2" | ELONGATED BOWL, ADA HEIGHT COMPLIANT, HIGHCLIFF ULTRA, WHITE COLOR, 1-1/2" TOP SPUD, VITREOUS CHINA, 1.6 MAXIMUM GPF FLUSH RANGE, MANUAL WATER FAUCET KOHLER #K-76321-CP, ELONGATED OPEN FRONT TOILET SEAT KOHLER #K-4731-CA-0. (TOILET INSTALLATION KIT NOT INCLUDED). |
| WH | ELECTRIC WATER HEATER (TANK) | A.O. SMITH | DEL-50 | 0' - 0 3/4" | 0' - 0 3/4" | | | ELECTRIC RATED AT 208 VOLTS, SINGLE PHASE, 4.5 KW, SINGLE ELEMENT, GLASS LINED AND U.L. LISTED. 50 GALLONS, 3/4" TAPPING FOR RELIEF VALVE INSTALLATION, ANODE ROD FOR CATHODIC PROTECTION, TEMPERATURE AND PRESSURE VALVE, DRAIN PAN, THERMOSTAT SET AT 110 deg WITH TEMPERATURE CUTOFF, AND DRAIN VALVE LOCATED AT FRONT FOR EASE OF SERVICING. |
| WH-2 | ELECTRIC WATER HEATER (TANKLESS) | EEMAX | PA005240T | 0' - 0 3/4" | 0' - 0 3/4" | | | MODEL NUMBER: PA005240T. SIZING DETERMINED BY TOTAL CAPACITY. 1/2" COMPRESSION FITTINGS. 208V, 20 AMPS BREAKER, 3200 WATTS, MAX GPM: 2.5. MIN GPM: 0.5. SINGLE MODULE. |
| YCO | YARD CLEANOUT | ZURN | Z1402 | | | 0' - 4" | | TUF-TOP NON-ADJUSTABLE FLOOR CLEANOUT W/ DURA-COATED CAST IRON BODY, W/ GAS & WATERTIGHT ABS TAPERED THREAD PLUG, & ROUND SCORIATED CAST IRON HEAVY-DUTY SECURED COVER & FRAME. |

| REV | DESCRIPTION | ISSUE FOR PERMIT | DATE |
|-----|-------------|------------------|------|
| 0 | | 29 FEB 2024 | |

REVISION SCHEDULE

2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2017 NATIONAL ELECTRICAL CODE

29 FEB 2

ANITARY SEWER/ VENT PIPE MATERIAL

| SYSTEM | MATERIAL; JOINTS |
|--|------------------------------------|
| HANITARY DRAINS & VENTS (UNDERGROUND) | SCHEDULE 40 PVC PIPE; SOLVENT WELD |
| HANITARY DRAINS & VENTS (ABOVE GROUND) | SCHEDULE 40 PVC PIPE; SOLVENT WELD |

DOMESTIC/HOT WATER PIPE MATERIAL

| SYSTEM | MATERIAL; JOINTS; INSULATION |
|------------------------------------|--|
| DOMESTIC COLD WATER (UNDERGROUND) | COPPER, TYPE "K" SOFT ANNEALED; BRAZED; NO INSULATION |
| DOMESTIC COLD WATER (ABOVE GROUND) | COPPER, TYPE "L" HARD DRAWN; SOCKET WELD; 0-1/2" MINERAL FIBER |
| DOMESTIC HOT WATER (ABOVE GROUND) | COPPER, TYPE "L" HARD DRAWN; SOCKET WELD; 1-1/2" MINERAL FIBER |

WATER HAMMER ARRESTOR SCHEDULE

| P.D.I. # SYMBOL | Fixture Units | Size | PIPING RISER DIAGRAMS/TYPICAL RISER DETAILS ILLUSTRATE WATER HAMMER ARRESTORS FOR Fixture WATER PIPE OPENINGS. ALL ARRESTORS SHALL BE SIZED AS INDICATED ON DRAWINGS OR IN ACCORDANCE WITH THIS SCHEDULE, WHICHEVER PLACES THE MOST STRINGENT REQUIREMENT. |
|-----------------------|------------------|------------|--|
| A | 001 - 011 | 1/2" NPT | PROVIDE ARRESTORS IN ACCORDANCE WITH THE REQUIREMENTS OF PLUMBING DRAINAGE INSTITUTE (PDI) STANDARD PDI-WH-201. THE USE OF AIR CHAMBERS SHALL NOT BE ACCEPTABLE. |
| B | 012 - 032 | 3/4" NPT | |
| C | 033 - 060 | 1" NPT | |
| D | 061 - 113 | 1 1/4" NPT | |
| E | 114 - 154 | 1 1/2" NPT | PROVIDE ACCESS PANELS WHEN LOCATED IN INACCESSIBLE LOCATION AND AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION. |
| F | 155 - 330 | 2" NPT | |

FIRE SPRINKLER PIPE MATERIAL SCHEDULE

| SYSTEM | MATERIAL |
|--------------------------------|-------------------------|
| UNDERGROUND | PVC C900 DR-18 |
| OVE GROUND - 2" AND SMALLER | BLACK STEEL SCHEDULE 40 |
| OVE GROUND - 2 1/2" AND LARGER | BLACK STEEL SCHEDULE 10 |

