

PART I - PRODUCTS (C15100)

1.01 GENERAL REQUIREMENTS

A. THE FOLLOWING SPECIFICATIONS ARE THE MINIMUM REQUIREMENT. WHERE FEDERAL, STATE OR LOCAL REQUIREMENTS DIFFER FROM THIS SPECIFICATION, THE MORE RESTRICTIVE OF THE TWO SHALL BE FOLLOWED.

1.02 SCOPE

A. HOT AND COLD POTABLE WATER PIPING ABOVE SLAB SHALL BE TYPE "L" HARD DRAWN COPPER OR FLOWGUARD GOLD CPVC AS MANUFACTURED BY NIBCO OR CHARLOTTE PIPE & FOUNDRY AND MEETING ASTM D-2846. FILTERED WATER PIPING SHALL BE FLOWGUARD GOLD CPVC. HOT AND COLD PIPING WITHIN WALLS BEHIND KITCHEN HOODS SHALL BE COPPER.

B. POTABLE WATER PIPING BELOW SLAB AND OUTSIDE BELOW GRADE SHALL BE TYPE "K" SOFT ANNEALED SEAMLESS. NO JOINTS SHALL BE ALLOWED BELOW SLAB. POTABLE WATER PIPING BELOW GRADE SHALL BE SLEEVED FOR ITS ENTIRE LENGTH WITH POLY SLEEVE AS MADE BY IPS WATER-TITE. ALL SLAB PENETRATIONS SHALL BE SLEEVED WITH POLY SLEEVE TO PROTECT PIPING FROM CORROSION BY CONCRETE.

C. COPPER PIPE FITTINGS SHALL BE WROUGHT COPPER SWEEP PATTERN FITTINGS SOLDERED USING 95-5 LEAD-FREE SOLDER MEETING ASTM B-32 OR BRAZED WITH SIL-40S. SOLDER FLUXES SHALL MEET ASTM B-813 AND SHALL BE LEAD FREE. BRAZING FLUXES SHALL MEET AWS FB3A OR FB3C.

D. WATER PIPING DOWNSTREAM OF SOFT DRINK CARBONATORS SHALL BE PROVIDED AND INSTALLED BY LOCAL SOFT DRINK VENDOR.

E. CPVC FITTINGS FOR PIPING SHALL BE SOLVENT WELD TYPE MEETING ASTM D-2846 WITH CEMENTS MEETING ASTM F-493 AND PRIMER MEETING ASTM F-656. CURE TIME MUST COMPLY WITH MANUFACTURER'S RECOMMENDATIONS. FOR CPVC PIPING INSTALLATION, WALL STUBS AT FIXTURES AND EQUIPMENT SHALL BE COPPER AND SHALL BE SERIES 630-C. CPVC-TO-COPPER STUB OUT ELBOWS BY SIOUX CHIEF.

F. NIPPLES, ELBOWS, AND OTHER ACCESSORY FITTINGS REQUIRED TO COMPLETE ANY WATER PIPING CONNECTION SHALL BE BRASS OR OF SIMILAR TYPE METAL AS THE FITTING TO WHICH IT IS CONNECTED. GALVANIZED FITTINGS ARE PROHIBITED. (EXCEPTION: GALVANIZED HOT TRAP WATER HEATER NIPPLES IF INTERNALLY PROTECTED WITH TEFLON OR POLYMER CORROSION-RESISTANT COATING.)

G. ALL HVAC CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC DWV AS MANUFACTURED BY CHARLOTTE PIPE AND MEETING ASTM D-1784, D-1785 AND D-2665.

H. U.N.O. ALL SANITARY WASTE, VENT, STORM DRAINAGE PIPING AND FITTINGS INSIDE THE BUILDING, ABOVE AND BELOW GRADE, AND FOR ROOFTOP CONDENSATE, SHALL BE SOLID WALL SCHEDULE 40 PVC DWV AS MANUFACTURED BY CHARLOTTE PIPE AND MEETING ASTM D-2665 AND D-2949. FOAM CORE AND/OR CELLULAR CORE PVC PIPING SHALL NOT BE ALLOWED. PVC PIPING OUTSIDE THE BUILDING, BELOW GRADE, SHALL BE TYPE SDR-35 MEETING ASTM D-3034, U.N.O.

I. DWV PIPE AND FITTINGS WITHIN WALLS BEHIND KITCHEN HOODS SHALL BE SERVICE WEIGHT HUBBS CAST IRON WITH SLEEVE, SHIELD, AND DRAWBAND JOINTS MEETING ASTM A-888 AND ASTM C-564.

J. PVC-DWV FITTINGS FOR PIPING SHALL BE SOLVENT WELD TYPE INSIDE AND UNDERSLAB MEETING ASTM D-2665, D-3311 AND F-186. CEMENTS SHALL MEET ASTM D-2564 AND PRIMER MEETING ASTM F-656. CURE TIME MUST COMPLY WITH MANUFACTURER'S RECOMMENDATIONS. EXTERIOR PIPING JOINTS SHALL BE NEOPRENE PUSH-ON TYPE.

K. PROVIDE 1" THICK PIPE INSULATION FOR ALL ABOVE SLAB HOT AND TEMPERED WATER PIPING. PROVIDE 1/2" THICK INSULATION FOR ALL ABOVE SLAB COLD WATER, FILTERED WATER, CONDENSATE PIPING, AND HORIZONTAL RAIN WATER CONDUCTORS INSIDE THE BUILDING. PIPING INSULATION SHALL BE KNAUF 1000F 25/50 FIBERGLASS PIPE COVERING, WHITE KRAFT PAPER VAPOR BARRIER (0.2 PERMS) BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBERS. MAXIMUM THERMAL CONDUCTIVITY OF 0.23 AT 75F. LONGITUDINAL LAP SHALL BE SELF SEALING. INSULATION FOR WALK-IN COOLER/FREEZER CONDENSATE PIPING SHALL BE ARMACELL A/P ARMAFLEX WITH MINIMUM 1/2" WALL THICKNESS.

L. PIPE INSULATION AND COVERINGS SHALL HAVE A RATING OF NOT GREATER THAN 25 FLAME SPREAD, NO HIGHER THAN 50 SMOKE DEVELOPED, AND NO MORE THAN 50 FUEL CONTRIBUTED. THE ONLY EXCEPTION SHALL BE ARMAFLEX AP, WHEN SPECIFIED, WHICH SHALL NOT EXCEED 100 SMOKE DEVELOPED.

M. A PVC 25/50 PRE-FORMED COVER SHALL BE PROVIDED AT ALL INSULATED PIPING FITTINGS EQUAL TO PROTO PVC CORP LOSMOKE, 800-875-7768.

N. ALL NATURAL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL MEETING ASTM A53 WITH SCREWED OR WELDED FITTINGS AND GASKET TYPE UNIONS AND FLANGES. FOR SCREWED PIPING, PIPING SHALL BE JOINED WITH BLACK 150 POUND MALLEABLE IRON SCREWED FITTINGS AS ALLOWED BY LOCAL AUTHORITY. CONTRACTOR SHALL VERIFY THE NEED FOR WELDED PIPING AS REQUIRED BY THE LOCAL GAS CODE AND/OR APPLICABLE LOCAL ORDINANCES AND AMENDMENTS.

O. EXPOSED SUPPORTS AND ATTACHMENTS SHALL BE STAINLESS STEEL, CHROME OR CHROME PLATED. GALVANIZED ATTACHMENTS WILL NOT BE ACCEPTED.

P. USE MATERIALS SPECIFIED ON THESE PLANS. SUBSTITUTIONS ARE ALLOWED ONLY IF SPECIFIED MATERIALS ARE UNAVAILABLE. PRODUCT SUBSTITUTIONS WILL NOT BE ACCEPTED WITHOUT PRIOR APPROVAL. ALL WATER PIPING, FITTINGS, FIXTURES AND ACCESSORIES SHALL BE CERTIFIED LEAD FREE AS DEFINED IN, AND PER THE INTENT OF, THE "REDUCTION IN LEAD IN DRINKING WATER ACT".

PART II - EXECUTION (C15100)

2.01 TRENCHING (C15100)

A. EXCAVATION, BACKFILLING, AND TRENCH WORK SHALL BE DONE IN ACCORDANCE WITH LATEST O.S.H.A. AND APPLICABLE SAFETY STANDARDS.

B. PROVIDE NECESSARY SHORING AND CLEANING TO KEEP TRENCHES IN GOOD WORKING CONDITION, INCLUDING PUMPING OUT WATER.

C. IN MOSTLY ROCK MATERIAL, TRENCHES SHALL BE EXCAVATED TO 6" BELOW THE ELEVATION OF THE BOTTOM OF THE PIPES. AFTER EXCAVATION, TRENCH SHALL THEN BE FILLED TO THE PROPER ELEVATION WITH CRUSHED LIMESTONE. GRAVEL SHALL BE REMOVED FROM UNDER PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.

D. IN MOSTLY EARTH OR SAND MATERIAL, TRENCHES SHALL BE EXCAVATED TO 6" BELOW THE ELEVATION OF THE BOTTOM OF THE PIPES. AFTER EXCAVATION, TRENCH SHALL THEN BE FILLED TO THE PROPER ELEVATION WITH FINE SAND OR GRAVEL. TRENCH BOTTOM SHALL BE REMOVED AT PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.

E. BACKFILLING AND TAMPING SHALL BE CAREFULLY DONE BY HAND SIMULTANEOUSLY ALONG BOTH SIDES OF THE PIPE USING ROCK FREE EARTH, CRUSHED STONE OR SAND UNTIL THE PIPE IS COVERED TO A DEPTH OF AT LEAST 12". BACKFILL SHALL BE ACCOMPLISHED IN SUCCESSIVE 6" LAYERS. THE REST OF THE

FILL-UP TO THE TOPSOIL LAYER MAY BE GRAVEL OR ROCK FREE EARTH.

F. ACCEPTABLE SOIL MATERIALS FOR BACKFILL AND FILL SHALL BE FREE OF CLAY, ROCK OR GRAVEL LARGER THAN 2" IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS AND OTHER DELETERIOUS MATTER HAVING A PLASTICITY INDEX LESS THAN 30. BACKFILL SHALL BE ACCOMPLISHED IN LAYERS OF NOT MORE THAN 6" AND EACH LAYER SHALL BE COMPACTED. THE LAST 12" OF BACKFILL SHALL BE ROCK FREE TOPSOIL.

G. SURFACE SHALL BE RESTORED TO ITS ORIGINAL CONDITION.

2.02 INSTALLATION (C15100)

A. WATER PIPING IN EXTERIOR WALL SHALL BE INSTALLED ON THE HEATED SIDE OF WALL INSULATION.

B. EXPOSED HOT AND COLD WATER TRIM FITTINGS AND ACCESSORIES IN FINISHED AREAS SHALL BE CHROME FINISHED.

C. ACCEPTABLE METHODS OF PIPE SUPPORT WITHIN WALLS SHALL BE THE SUMNER SYSTEM, POSIFIX, STAKFIX, PIPEFIX, HOLIDRITE OR CHANNEL.

D. PROVIDE J.R. SMITH OR APPROVED EQUAL SHOCK ABSORBERS #5005 THRU 5050 SIZE AS RECOMMENDED BY MANUFACTURER INSTALLED ON HOT AND COLD WATER BRANCH LINES CONTAINING SINGLE LEVER FAUCETS, FLUSH VALVES OR EQUIPMENT WITH QUICK CLOSING VALVES BETWEEN THE LAST TWO FIXTURES AS SHOWN ON THE CONTRACT DRAWINGS. SHOCK ABSORBERS SERVICING FIXTURES WITH FLUSH VALVES SHALL BE SECURELY ANCHORED IN THEIR VERTICAL POSITION.

E. SANITARY WASTE LINES SHALL BE UNIFORMLY GRADED TO ELEVATIONS SHOWN. IF NO ELEVATIONS ARE GIVEN, SEWERS SHALL BE PITCHED NOT LESS THAN 1/4" PER FOOT FOR ALL PIPING 2-1/2" IN DIAMETER AND SMALLER AND 1/8" PER FOOT FOR ALL PIPING 3" IN DIAMETER AND LARGER.

F. STORM PIPING SHALL BE SLOPED AT 1/4" PER FT (2%) UNLESS NOTED OTHERWISE ON PLANS.

G. SUPPORT HORIZONTAL PIPING ACCORDING TO LOCAL PLUMBING CODE. HANGER RODS SHALL BE SIZED AS FOLLOWS:

NOMINAL PIPE SIZE (IN)	MINIMUM HANGER DIAMETER (IN)
1/2	3/8
3/4 TO 1-1/2	3/8
2 TO 2-1/2	3/8
3 TO 6	1/2

H. HANGERS FOR PIPING GREATER THAN 1" SHALL PASS OVER THE INSULATION. PROVIDE SADDLES FOR INSULATED PIPING.

I. INSULATION SHALL BE APPLIED WITH JOINTS TIGHTLY BUTTED. OPEN CRACKS, VOIDS AND DEPRESSIONS SHALL BE FILLED WITH HYDRAULIC SETTING GROUT. LAPPING MATCHING THE FINISH SHALL BE PASTED NEATLY OVER JOINTS. FITTINGS AND VALVES SHALL BE INSULATED WITH THE SAME TYPE.

J. PROVIDE AND INSTALL A CUT-OFF VALVE, UNION AND FULL SIZE DIRT LEG AT CONNECTION TO EACH GAS-FIRED PIECE OF EQUIPMENT. INSTALL PIPING AT AND AROUND EQUIPMENT SO AS TO NO WAY OBSTRUCT EQUIPMENT ACCESS PANELS AND/OR ACCESS DOORS.

K. COORDINATE ABOVE-CEILING PIPING LOCATIONS AND ROUTING WITH HVAC CONTRACTOR AND M-SHEETS PRIOR TO INSTALLATION. ALL MAIN DUCT TRUNK LOCATIONS SHALL TAKE PRIORITY. PIPING MAY REQUIRE REMOVAL AND REINSTALLATION AT PLUMBING CONTRACTOR'S EXPENSE IF PIPING OBSTRUCTS THE M-SHEET DUCT LAYOUT AS SHOWN OR PREVENTS ACCESS TO GREASE DUCT CLEANOUT OPENINGS.

L. ALL GAS PIPING ABOVE ROOF SHALL BE CLEANED FREE OF RUST AND PAINTED WITH COAT OF ZINC RUST PRIMER AND ONE COAT OF ALUMINUM BASE PAINT. METER AND GAS RISER SHALL BE PRIMED AND PAINTED TO MATCH BUILDING. APPLY TWO COATS OF ASPHALTUM BASE PAINT TO PIPING BURIED UNDERGROUND.

2.03 TESTING (C15100)

A. POTABLE WATER PIPING SHALL BE PRESSURE TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

B. THE POTABLE WATER SYSTEM SHALL BE FLUSHED OUT PROGRESSIVELY BY OPENING OUTLETS AND FLOWING WATER UNTIL IT RUNS CLEAR. AFTER PIPE CLEANING IS COMPLETED, THE STRAINERS SHALL BE REMOVED, CLEANED, AND REPLACED. THEN THE ENTIRE POTABLE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION.

C. THE SANITARY WASTE SYSTEM SHALL BE FLUSHED OUT PROGRESSIVELY WITH FLOWING WATER UNTIL IT RUNS CLEAR.

D. THE ENTIRE SANITARY WASTE SYSTEM AND STORM DRAINAGE SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

E. NATURAL GAS PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

3.01 PRODUCTS - PIPING SYSTEMS, ETC (C15100)

A. HYDRANTS, CARRIERS, DRAINS, AND SHOCK ABSORBERS: JAY R. SMITH, JONES STEPHENS CORP, WATTS ZURN, OR JOSAM.

B. ALTERNATE FIXTURES: ONLY AS SHOWN ON PLANS. APPROVED JAY R. SMITH (JRS), WATTS (WTS), AND ZURN (ZRN) MODEL NUMBERS LISTED ON FIXTURE SCHEDULE, THIS SHEET.

3.02 PRODUCTS - RESTROOM FIXTURES PORCELAIN & VALVES (C15405)

A. PREFERRED FIXTURES: TOTO. NO EXCEPTION.

B. ALTERNATE FIXTURES: ONLY AS SHOWN ON PLANS.

C. FITTINGS: AS SPECIFIED ON THE PLANS. NO SUBSTITUTIONS ALLOWED.

D. FLUSH VALVES AND LAVATORY FAUCETS: TOTO MANUFACTURING. NO SUBSTITUTIONS ALLOWED.

E. PREFERRED TOILET SEATS: TOTO. ALTERNATE TOILET SEATS: CHURCH, BEMIS, & BENEKE.

F. FLOOR SINKS: ZURN WITH ALUMINUM SEDIMENT BUCKETS. NO SUBSTITUTIONS ALLOWED.

P-1 WATER CLOSET: TOTO MODEL CT705EN BOWL WITH 128 GPF TET-1-LNC # 320P ECO-POWER FLUSH VALVE AND SC534 SEAT. NO SUBSTITUTIONS. WHITE, FLOOR MOUNTED, FLUSH VALVE TYPE, VITREOUS CHINA, 1/2" TOP SPD, ELONGATED BOWL, ELECTRONIC SENSOR OPERATED HANDS-FREE FLUSH VALVE, WHITE OPEN FRONT SEAT WITH CHECK HINGE. CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

P-2 WATER CLOSET, (ADA) TOTO MODEL CT705EN BOWL WITH 128 GPF TET-1-LNC # 320P ECO-POWER FLUSH VALVE AND SC534 SEAT. NO SUBSTITUTIONS. WHITE, FLOOR MOUNTED, FLUSH VALVE TYPE, VITREOUS CHINA, 1/2" TOP SPD, ELONGATED BOWL, ELECTRONIC SENSOR OPERATED HANDS-FREE FLUSH VALVE, WHITE OPEN FRONT SEAT WITH CHECK HINGE. CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

P-3 URINAL: TOTO MODEL UT445U URINAL WITH TEU 1 UN 12"CP Q125 GPF SELF SUSTAINED HYDROPOWER SELF-GENERATING ELECTRONIC SENSOR-OPERATED FLUSH VALVE. NO SUBSTITUTIONS. VITREOUS CHINA, 3/4" TOP SPD, SENSOR OPERATED WITH MANUAL OVERRIDE BUTTON, INTERNAL VALVE FILTER PROTECTION. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO PRODUCTS.

P-4 LAVATORY FAUCET: (BUILT-IN COUNTERTOP LAVATORY PROVIDED BY OWNER) TOTO MODEL TEL 105-D10ET # CP ECO-POWER SENSOR HOT/COLD FAUCET WITH THERMOSTATICALLY CONTROLLED ASSE 1070 MIXING VALVE FAUCET. Q09 GALLONS PER CYCLE. NO SUBSTITUTIONS. PROVIDE MCGUIRE LF175 SUPPLY WITH TAP, MCGUIRE 155-WC GRID DRAIN WITH OFFSET TAILPIECE. MCGUIRE 8872 POLISHED CHROME P-TRAP. P-TRAP SHALL BE PARALLEL WITH BACK WALL. PROVIDE A TRUEBRO INC., HANDI LAV-GUARD INSULATION KITS MODELS 101E-Z AND 105E-Z. CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

UMBING (C15100)

P-5 KITCHEN HAND SINK ROUGH-IN (SINK AND FAUCET WITH 0.50 GPM AERATOR FURNISHED BY OWNER) CONTRACTOR SHALL INSTALL WALL HUNG, STAINLESS STEEL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LF175 SUPPLIES WITH STOPS AND A MCGUIRE 8912 POLISHED CHROME P-TRAP.

P-6 SERVING COUNTER DROP IN SINK ROUGH-IN (SINK AND FAUCET WITH 0.50 GPM AERATOR FURNISHED BY OWNER) CONTRACTOR SHALL INSTALL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE 8912 POLISHED CHROME P-TRAP AND MCGUIRE LF175 STOPS WITH 20" CHROME PLATED 3/8" COPPER RISERS.

P-7 MOP SINK FAUCET: (MOP SINK BASIN BUILT BY GENERAL CONTRACTOR) PROVIDE T&S BRASS MODEL B-2345 FAUCET WITH CERAMA SPRING CHECK VALVE CARTRIDGES, HOSE THREAD SPOUT OUTLET, TOP BRACE, ADJUSTABLE INLET SPREAD FROM 3" TOP 8". INCLUDE T&S BRASS MODEL 43-072 HOSE THREAD X 3/4" FEMALE NPT CHROME ADAPTOR. NO SUBSTITUTIONS. SEE ALSO P-6.

P-8 VEGETABLE PREP SINK ROUGH-IN (SINK AND FAUCET WITH 0.65 GPM SPRAY HEAD FURNISHED BY OWNER) CONTRACTOR SHALL INSTALL SINK AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LFST08 STOPS AND BRASSCRAFT 36" CHROME PLATED 1/2" OD COPPER RISERS MODEL 3-36AC, ASSEMBLE AND MOUNT TWO HANDLE FAUCET WITH PRE-RINSE SPRAY ARM. INSTALL ADD-ON FAUCET WITH 15" SPOUT AT BASE OF PRE-RINSE RISER. SEE K-SHEET ELEVATIONS. PROVIDE 1/2" SCHED 80 PVC (PIPE AND FITTINGS) INDIRECT WASTE MANIFOLD FROM SINK BASIN TO FLOOR SINK. P-13B NO P-TRAP REQUIRED. INSTALL CLEANOUT AT TURN.

P-9 FOUR COMPARTMENT POT SINK ROUGH-IN (SINK AND FAUCETS WITH 0.65 GPM SPRAY HEAD FURNISHED BY OWNER) CONTRACTOR SHALL INSTALL SINK, ASSEMBLE & MOUNT TWO FAUCETS, AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LFST08 STOPS AND BRASSCRAFT 36" CHROME PLATED 1/2" OD COPPER RISERS MODEL 3-36AC, ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH PRE-RINSE SPRAY. INSTALL ADD-ON FAUCET WITH 18" SPOUT AT BASE OF PRE-RINSE RISER. ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH DOUBLE JOINT SPOUT ON OPPOSITE SIDE. SEE K-SHEET ELEVATIONS FOR FAUCET LOCATIONS. PROVIDE 1/2" SCHED 80 PVC (PIPE AND FITTINGS) INDIRECT WASTE MANIFOLD FROM EACH SINK BASIN TO FLOOR SINK. P-13A, NO P-TRAPS REQUIRED. PROVIDE CLEANOUT AT EACH END.

P-10 FLOOR DRAIN (3") JONES STEPHENS CORP D53-144 PVC BODY, BRONZE SPUD WITH 8" DIAMETER NICKEL BRONZE STRAINER. ALT: (WTS) 2110-P-NB, (WTS) FDI03-A8-60, (ZRN) FROBNIP35-C.

P-11 WALL HYDRANT (NON-FREEZE) WOODFORD MODEL 67-C AUTOMATIC DRAINING WALL HYDRANT WITH DUAL CHECK BPP. ASSE 1052 APPROVED, WALL CLAMP, POLISHED BRASS FINISH. "C" STYLE INLET. SEE WALL HYDRANT NOTES ON I/P-1 FOR WALL THICKNESS AT WALL HYDRANTS. ALT: (WTS) HY-42.

P-12 FUNNEL DRAIN (3") JR. SMITH 3510LO3 FUNNEL-CEPTOR 3" INDIRECT WASTE RECEIVER WITH NICKEL BRONZE STRAINER AND FUNNEL. PROVIDE 6" SQUARE F12 STRAINER WITH 4" ROUND FUNNEL AT ICE MACHINE & WALK-IN COOLER. ALT: (WTS) FDI03P-M6-F-4, (ZRN) ZN415-3NL-6S-4.

P-13A FLOOR SINK (POT SINK) ZURN MODEL Z190-KC-1-3NL-1-23 CAST IRON INDIRECT WASTE RECEIVER WITH 12" SQUARE BODY, FLASHING CLAMP, 8" DEEP, ALUMINUM SEDIMENT BUCKET, AND NO GRATE. NO SUBSTITUTIONS

P-13B FLOOR SINK (VEGETABLE SINK) ZURN MODEL Z190-KC-3NL-1-23 CAST IRON INDIRECT WASTE RECEIVER WITH FLASHING CLAMP, 8" SQ. BODY, ALUMINUM SEDIMENT BUCKET, AND NO GRATE. NO SUBSTITUTIONS.

P-14 CLEANOUTS INSIDE BUILDING: JR. SMITH 4053L CLEANOUT WITH 6-1/2" SQUARE NICKEL BRONZE TOP AND TAPER THREAD BRONZE PLUG. SEE PLAN FOR SIZE. ALT: (X-PIPE DIA) (WTS) CO-20XP-S, (ZRN) ZN400-XNL-T-BP.

P-15 CLEANOUTS OUTSIDE BUILDING: JR. SMITH 426IL SERIES EXTRA HEAVY DUTY CAST IRON CLEANOUT, "C.O." CAST IN COVER, ABS, NUB, SPEEDI SET OUTLET. ALT: (X-PIPE DIA) (WTS) CO-XOO-MF + CO-38X, (ZRN) Z1474-X-N.

P-16 3-WAY DIVERTER VALVE ASSEMBLY: WATTS MODEL LFB 6780 ROUGH BRASS LEAD-FREE DIVERTER BALL VALVE WITH 3/4" FIP INLET AND OUTLETS AND QUARTER TURN LEVER HANDLE. PROVIDE WITH TWO (2) FORGED BRASS 3/4" MIP X 3/4" MALE GARDEN HOSE THREAD ADAPTERS (PLUMBEST MODEL G20-003 OR EQUAL). PROVIDE WITH ONE ASSE 101I APPROVED CHROME PLATED VACUUM BREAKER (WOODFORD MODEL 34H-CH OR EQUAL). FOR INSTALLATION AT MOP SINK. SEE 2/P-21. PROVIDE ALSO TWO (2) CLOSE CHROME PLATED BRASS NIPPLE AND 3/4" POLISHED CHROME 90 DEGREE ELBOW.

P-17 VACUUM RELIEF VALVE: WATTS MODEL #LFN36MI, 3/4" CONNECTION.

P-18 EXPANSION TANK: STATE INDUSTRIES MODEL ETC-5X, ACCEPTANCE 3.05 GALLONS AT 40 PSI PRECHARGE, 3/4" CONNECTION. ALTERNATE MODELS SIZED PER WATER HEATER MANUFACTURER RECOMMENDATIONS ARE ACCEPTABLE.

P-19 WATER HEATER: STATE INDUSTRIES MODEL CSB-82-18-SFE, 80 GALLON ELECTRIC WATER HEATER, 18KW, 208V, 3PH, 50A, 73 GPH RECOVERY AT 100 DEGREE RISE, TFP FACTORY INSTALLED. CONTRACTOR TO PROVIDE HEAT TRAPS AT INLET AND OUTLET.

- DOUBLE CHECK TYPE (RZ) TYPE:
WATTS NO. LFU007MQT 1/2" DUAL CHECK MODULAR TYPE BACKFLOW
PREVENTER MEETING ASSE IOIS AND AWWA C510-92. WHERE REQUIRED BY
LOCAL AUTHORITY, USE THE RPZ TYPE BFP SHOWN BELOW. ALT: (ZRN)
112-350XL
- REDUCED PRESSURE ZONE (RPZ) TYPE:
WATTS NO. LFU009M2 1/2" MODULAR TYPE WITH TEST PORTS AND
INTERMEDIATE RELIEF VALVE MEETING ASSE IOI3 AND AWWA C511-89,
PROVIDE WATTS NO. 909-AG-C AIR GAP DEVICE. ALT: (ZRN) 112-975XLJL

- P-30 FILTERED WATER FAUCET: (FAUCET PROVIDED BY OWNER) TWO-HANDLE WALL MOUNT FAUCET WITH SWING SPOUT. MOUNT ON WALL AS SHOWN ON K-SHEETS. PIPE FILTERED WATER TO BOTH SIDES OF FAUCET. CONNECT TO SUPPLY PIPING WITH BRASS OR CHROME NIPPLES, GALVANIZED NOT ALLOWED.
- P-31 DUMPSTER POST HYDRANT (NON-FREEZE): WOODFORD MODEL Y2 LEVER TYPE POST HYDRANT, 3/4 HOSE CONNECTION, LOCKABLE LEVER HANDLE, BRASS CASING, BRASS OPERATING ROD, ASSE 1052 APPROVED AND 24" DEPTH OF BURY.
- P-32 DUMPSTER PAD DRAIN: JR. SMITH FIGURE NO. 2280C03 3" FLOOR DRAIN WITH 7-1/2" HINGED CAST IRON SLOTTED GRADE AND SEDIMENT BUCKET. PROVIDED AND INSTALLED BY SITE CONTRACTOR. ALT: (ZRN) Z560-3N-L-Y.
- P-33 TRAP PRIMER (MECHANICAL TYPE): PRECISION PRODUCTS PR-500. PROVIDE DISTRIBUTION UNIT WHEN SERVING MULTIPLE DRAINS. PROVIDE SCREWDRIVER STOP AT PRIMER INLET. ALT: (WTS) TP-300A-DR.
- P-34 DISPENSER BACKFLOW PREVENTER: WATTS MODEL #WLF7R2U2D ASSE 1024 RATED WITH 1/2" FI PIPE INLET AND OUTLET, DUAL CHECK TYPE. PROVIDE 1/2" DIA X 2' LONG CHROME NIPPLE AT BFF INLET AND OUTLET. PROVIDE TGS BRASS MODEL B-010 CHROME WALL BRACKET
- P-35 FLOOR DRAIN (3"): JONES STEPHENS CORP D50-O64 PVC BODY, BRONZE SPUD WITH 6" DIAMETER NICKEL BRONZE STRAINER. SEE DWG PH-I FOR DRAINS IN RESTROOMS REQUIRING 1/2" TRAP PRIMER CONNECTION. ALT: (WTS) FDI03-A6-60, (ZRN) FR06NIP35-C.
- P-36 BEVERAGE TOWER INDIRECT RECEIVER (3"): JONES STEPHENS CORP D53-144 PVC BODY, BRONZE SPUD WITH 6" DIAMETER NICKEL BRONZE STRAINER. ALT: (JRS) 2110+P-NB, (WTS) FDI03-A6-60, (ZRN) FR08NIP35-C.
- P-37 FLOOR DRAIN (3"): JONES STEPHENS CORP D50-O76 PVC BODY, BRONZE SPUD WITH 6" SQUARE NICKEL BRONZE STRAINER. PROVIDE 1/2" TRAP PRIMER CONNECTION FOR DINING ROOM DRAINS. ALT: (WTS) FDI03-M6-7-60, (ZRN) FS06NIP35-C
- P-38 HOT WATER CIRCULATING PUMP: TACO MODEL 006-SC7-IFC. 1/2" UNION CONNECTIONS, INTEGRAL FLOW CHECK, 110 VAC. ELECTRICIAN TO PROVIDE AND WIRE PLUG AND CORD, 140 HP, 3 GPM AT 7 FT TOTAL DYNAMIC HEAD. PROVIDE CONTROL WIRING AND HONEYWELL MODEL L6006C 110 VAC AQUA-STAT, WITH ADJUSTABLE SETPOINT, MOUNTED DIRECTLY ON PIPE. SET SHUT-OFF TEMPERATURE AT 130 DEG F.
- P-39 2" PRESSURE REDUCING VALVE: WATTS NO. #LF223-SB WITH BUILT-IN BYPASS FEATURE. SET NO FLOW CONDITION AT 70 PSI. ALT: (ZRN) SERIES 500XLYSBR.
- P-40 WYE STRAINER WITH #100 SCREEN: 2" WATTS LFF77SM3, BRONZE WYE STRAINER WITH THREADED CONNECTION AND TAPPED RETAINER CAP. PROVIDE #100 MESH SCREEN. PROVIDE WATTS 1/2" BD-C BRASS BOILER DRAIN WITH BRASS STREET 90 DEGREE ELBOW, MALE END SIZED FOR CONNECTION TO WYE STRAINER RETAINER CAP OUTLET TAP.

I. TOTO VALVES AND FIXTURES (NO SUBSTITUTIONS). PLEASE CONTACT TRINA LINDSEY WITH HJC DISTRIBUTORS AT (800) 459-7099 OR VIA E-MAIL AT: cfa@hjcinc.com FOR NATIONAL ACCOUNT PRICING AND DELIVERY FOR ALL ITEMS ON PLUMBING FIXTURE SCHEDULE.

P-7.1