

## PLUMBING SPECIFICATIONS

### DEFINITION

\* "FURNISH" OR "PROVIDE"-TO FURNISH, ERECT, INSTALL AND CONNECT UP COMPLETE AND READY FOR OPERATION PARTICULAR WORK REFERRED TO, UNLESS SPECIFICALLY INDICATED OR SPECIFIED OTHER WISE.

"WORK"-LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND ALL OTHER ITEMS CUSTOMARILY FURNISHED AND/OR REQUIRED FOR PROPER AND COMPLETE INSTALLATION OF WORK.

"CONCEALED"-EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED BEHIND WALL FURRING, WITHIN DOUBLE PARTITION OR HUNG CEILINGS, IN TRENCHES OR IN CRAWL SPACES.

"EXPOSED"-NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.

"INDICATED" OR "SHOWN"-AS INDICATED OR SHOWN ON DRAWINGS OR SPECIFIED WITH SPECIFICATIONS.

"PIPING"-PIPE, FITTING, FLANGES, VALVES, CONTROLS, HANGERS, TRAPS, DRAINS, INSULATION AND ITEMS CUSTOMARILY OR REQUIRED IN CONNECTION WITH OR RELATED TO SUCH PIPING.

"SUPPLY"-TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH ALL RELATED ITEMS.

"INSTALL"-TO ERECT, MOUNT AND CONNECT UP COMPLETE WITH ALL RELATED ACCESSORIES.

"NOTED"-AS INDICATED ON DRAWINGS AND/OR SPECIFIED.

### SLEEVES

PROVIDE NO. 22 USSG GALVANIZED IRON SLEEVES EXTENDED THROUGHOUT CONSTRUCTION IN CEILINGS, WALLS AND PARTITIONS. FOR INSULATE PIPING SIZED TO ALLOW INSULATION TO PASS THROUGH SLEEVE. PROVIDE 1/4 INCH SPACE BETWEEN PIPE AND/OR INSULATION AND SLEEVE. SEAL ALL SLEEVES IN ACCORDANCE WITH BUILDING CODE AND FIRE DEPARTMENT REQUIREMENTS.

### EXPANSION ANCHORS

SUSPEND HANGERS FROM EXPANSION ANCHORS IN SOLID CONCRETE SLABS SIMILAR TO HILTI HDI OR FROM EXISTING STRUCTURAL STEEL WITH BEAM CLAMPS SIMILAR TO GRINNELL NO. 61, 87, 131 AND 225. PROVIDE HANGER IN PLACE WITH DOUBLE NUTS. PROVIDE PROTECTION SHIELDS ON INSULATED PIPING. INSTALL HANGERS OVER INSULATION AND SHIELDS.

WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING HANGER RODS IN REQUIRED LOCATIONS, PROVIDE ADDITIONAL STEEL FRAMING AS REQUIRED AND REVIEWED.

### DISSIMILAR METALS

PROVIDE BRASS OR COPPER WATER PIPING CONNECTED TO GALVANIZED PIPE AND FOR ANY OTHER DISSIMILAR METALS WITH DIELECTRIC FITTINGS.

WORK IN EXISTING BUILDING IN ORDER TO INSURE CONTINUOUS OPERATION OF PRESENT BUILDING, CONTRACTOR SHALL MAKE TEMPORARY PIPE CONNECTIONS BETWEEN NEW AND EXISTING WORK WITH TEMPORARY PIPING AND VALVES AS REQUIRED.

WHERE TEMPORARY SHUTDOWN OF VARIOUS SERVICES ARE UNAVOIDABLE, THEY SHALL BE MADE AT TIMES ACCEPTABLE TO THE INSTITUTION.

REMOVE VARIOUS DRAINS, VENTS, COLD WATER HOT WATER, PIPING, ETC. PIPING, FITTINGS VALVES, TRIM, ETC., THAT HAS BEEN REMOVED SHALL BE TURNED OVER TO THE OWNER FOR INSPECTION, AFTER WHICH SHALL BE REMOVED FROM THE PREMISES.

CONTRACTOR SHALL NOT INTERRUPT THE VARIOUS PLUMBING SYSTEMS WITHOUT PERMISSION OF THE OWNER. SUCH INTERRUPTIONS SHALL BE MADE ONLY AT THE TIME STATED. CONTRACTOR SHALL GIVE AMPLE TIME TO THE OWNER FOR ANY REQUIRED SHUTDOWN.

TEMPORARY PLUMBING WORK INCLUDING DRAINAGE, COLD WATER, ETC., AS REQUIRED.

### DOMESTIC WATER PIPING AND GRAY WATER

ALL WATER PIPING WITHIN THE BUILDING SHALL BE TYPE "L" COPPER TUBING WITH SWEAT TYPE WROUGHT FITTINGS, AND ALL JOINTS SHALL BE MADE WITH 95-5 SOLDER OR STAY-SAFE BRIDGET LEAD-FREE SOLDER.

PROVIDE AIR CUSHIONS OR ZURN-SHOKTROL AT EACH GROUP OF FIXTURES AS INDICATED OR REQUIRED BY GOOD PRACTICE.

PROVIDE SECTION CUTOFF VALVES ON ALL MAIN BRANCHES.

PITCH AND VALVE ALL WATER PIPING FOR CONVENIENT DRAINAGE.

ALL PIPES SHALL BE REAMED TO FULL AREA BEFORE INSTALLATION AND BLOWN CLEAN OF CHIPS AND DIRT.

PIPING SHALL BE CONCEALED IN FURRED SPACE OF OCCUPIED AREAS OR CHASES WHEREVER CONSTRUCTION PERMITS. CONTRACTOR SHALL OBTAIN PERMISSION OF THE ARCHITECT TO RUN EXPOSED PIPES NOT SPECIFICALLY SHOWN ON THE DRAWINGS AS EXPOSED.

WHERE HORIZONTAL BRANCH PIPE MAINS, BRANCHES, OR RISERS ARE EXPOSED IN FINISHED AREAS, THEY SHALL BE FITTED WITH A TWO PIECE FLOOR AND CEILING PLATE HAVING A DULL SATIN CHROME PLATE FINISH.

### INSULATION

INSULATE ALL HOT, RECIRC, HOT AND COLD WATER PIPING ABOVE GRADE WITH 1/2" THICK HEAVY DENSITY FIBERGLASS 25 ASJ WITH VAPOR BARRIER AND LAP ADHESIVE JACKET. INSULATION ON FITTINGS SHALL BE FIBERGLASS WITH PRE-MOLDED JACKET.

### INTERIOR WATER VALVES

VALVES SHALL BE BRONZE BALL TYPE, JAMESBURY CLINCHER OR APOLLO 3 OR EQUAL.

### PROTECTION OF POTABLE WATER SUPPLY

PROTECT POTABLE WATER SUPPLIES AGAINST BACKFLOW, BACK- SIPHONAGE, CROSS CONNECTION, AND OTHER UNSANITARY CONDITIONS. DO NOT DIRECTLY CONNECT POTABLE WATER TO, OR RUN WITHIN, ANY PIPING OR DEVICE CONTAINING OR CONVEYING SEWAGE WASTES, OR OTHER MATERIALS HAZARDOUS TO HEALTH AND SAFETY. EQUIP PLUMBING FIXTURES SUPPLIES, OTHER THAN "OVER-RIM" TYPE, WITH APPROVED VACUUM BREAKERS OR AIR GAP FITTINGS. SUPPLIED EQUIPPED FOR HOSE CONNECTION MUST HAVE INTEGRAL VACUUM BREAKERS.

### DISINFECTION OF POTABLE WATER PIPING

COMPLETE AND EFFECTIVE DISINFECTION OF POTABLE WATER PIPING SYSTEMS AFTER TESTING AND ACCEPTANCE. DISINFECT AFTER FLUSHING WITH CLEAR WATER BY FILLING ENTIRE SYSTEM OR ANY PART THEREOF WITH WATER SOLUTION CONTAINING AT LEAST 50 PARTS PER MILLION OF AVAILABLE CHLORINE. ALLOW SOLUTION TO STAND IN SYSTEM AT LEAST 24 HOURS BEFORE FLUSHING OUT WITH CLEAN POTABLE WATER.

IN LIEU OF ABOVE, SWAB WATER CONTACTING SURFACES WITH SOLUTION CONTAINING AT LEAST 200 PARTS PER MILLION OF AVAILABLE CHLORINE. ALLOW SOLUTION TO STAND IN SYSTEM FOR AT LEAST THREE HOURS BEFORE FLUSHING OUT WITH CLEAN PORTABLE WATER.

### SOIL, WASTE AND VENT PIPING

SOIL, WASTE AND VENT PIPING SHALL BE AS LISTED BELOW:

SHALL BE SERVICE WEIGHT CAST IRON WITH NO-HUB FITTINGS, OR D.W.V. COPPER WITH SOLDER JOINTS. PLASTIC PIPING WILL NOT BE ALLOWER.

FITTINGS ON SOIL AND WASTE LINES SHALL BE DRAINAGE PATTERN.

EXPOSED LAVATORY OR COUNTER SINK WASTE PIPING SHALL BE CHROME PLATED BRASS.

RUN ALL SOIL, WASTE AND VENT PIPING SHOWN OR REQUIRED BY LOCAL CODE, PIPING SHOWN IS MINIMUM AND IN ACCORDANCE WITH STATE AND FEDERAL CODES. IF LOCAL CODES REQUIRE ADDITIONAL VENTING OR LARGER SIZES, SAME SHALL TAKE PRECEDENCE. MAKE ALL CONNECTIONS THROUGH APPROVED TRAPS. EACH TRAP TO BE VENTED, EITHER BY CIRCUIT LOOP OR BY INDIVIDUAL VENT, AS REQUIRED, BUT NOT LESS THAN SHOWN OR AS REQUIRED BY LOCAL CODE. CLEANOUTS SHALL BE INSTALLED AT BASE OF ALL STACKS, AT ALL CHANGES OF DIRECTION, AND IN LONG LINES. IF NECESSARY, TO PROVIDE MEANS OF CLEANING LINES AT MAXIMUM 50 FT. INTERVALS. PITCH HORIZONTAL PIPING 1/4" PER FOOT UNLESS NOTED OTHERWISE ON PLANS.

### TESTS

THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, DURING THE PROGRESS OF THE WORK OR UPON ITS COMPLETION AS ORDERED, MAKE SUCH TESTS OF HIS WORK AS ARE HEREIN SPECIFIED OR AS ARE REQUIRED BY AND IN THE PRESENCE OF THE PLUMBING INSPECTOR. IF SO DIRECTED, TESTS SHALL BE MADE OF SECTIONS FOR THE WORK SO AS NOT TO DELAY THE WORK OR OTHER TRADES.

THE CONTRACTOR SHALL PROVIDE ALL APPARATUS, TEMPORARY WORK OR ANY OTHER REQUIREMENTS NECESSARY FOR SUCH TESTS.

ANY DEFECTS OR DEFICIENCIES DISCOVERED AS A RESULT OF TEST SHALL BE IMMEDIATELY REPAIRED AND TESTS SHALL BE REPEATED UNTIL THE TEST REQUIREMENTS ARE FULLY COMPLIED WITH. THE DRAINAGE AND VENT SYSTEMS SHALL BE TESTED IN SECTIONS WHEN REQUIRED TO PERMIT GENERAL CONSTRUCTION WORKS TO PROCEED.

THE PIPING SHALL BE TESTED UNDER A HYDROSTATIC PRESSURE CORRESPONDING TO A HEAD OF AT LEAST 10 FEET OF WATER FOR 2 HOURS.

ALL WATER PIPING SHALL BE TESTED TO A HYDROSTATIC PRESSURE OF 150 POUNDS PER SQUARE INCH. PRESSURE SHALL BE MAINTAINED WITHOUT PUMPING FOR TWO HOURS.

### HANGER AND SUPPORTING

HANGING AND SUPPORTING-PIPING SHALL NOT BE SUPPORTED BY OTHER PIPING, BUT SHALL BE SUPPORTED WITH COPPER PIPE HANGERS SUITABLE FOR THE SIZE OF PIPE AND PROPER STRENGTH AND QUALITY AT PROPER INTERVALS SO THAT PIPING CANNOT BE MOVED ACCIDENTALLY FORM THE INSTALLED POSITION AS FOLLOWS:

### PROVIDE COPPER CLEVIS HANGERS

1/2 INCH PIPE OR TUBING 6 FEET  
3/4 INCH OR 1 INCH PIPE OR TUBING 8 FEET  
1-1/4 INCH OR LARGER (HORIZONTAL) 10 FEET  
1-1/4 INCH OR LARGER (VERTICAL) EVERY FLOOR LEVEL.

### SEISMIC RESTRAINTS

SEISMIC RESTRAINTS DESIGNED AND CONSTRUCTED FOR LATERAL FORCES IN ANY DIRECTION SHALL BE PROVIDED FOR ALL MECHANICAL EQUIPMENT IN ACCORDANCE WITH THE STATE BUILDING CODE.

SEISMIC RESTRAINTS SHALL NOT BE REQUIRED FOR THE FOLLOWING:

-PIPING IN BOILER AND MECHANICAL ROOMS LESS THAN 1-1/4 INCH INSIDE DIAMETER.

-ALL OTHER PIPING LESS THAN 2-1/2 INCH INSIDE DIAMETER.

-ALL RECTANGULAR AIR-HANDLING DUCTS LESS THAN 6 SQUARE FEET IN CROSS-SECTIONAL AREA. --ALL ROUND AIR-HANDLING DUCTS LESS THAN 28 INCHES IN DIAMETER.

--ALL PIPING SUSPENDED BY INDIVIDUAL HANGERS 12 INCHES OR LESS IN LENGTH FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE SUPPORT FOR THE HANGER.

-ALL DUCTS SUSPENDED BY HANGERS 12 INCHES OR LESS IN LENGTH FROM THE TOP OF THE DUCT TO THE BOTTOM OF THE SUPPORT FOR THE HANGER.

### FIXTURES UNDER THIS SECTION

INCLUDED SHALL BE ALL PLUMBING FIXTURES, ALL TRIM ITEMS AND ALL ACCESSORY ITEMS SHOWN OR REQUIRED FOR A COMPLETE PLUMBING INSTALLATION.

THE FIXTURES SHALL BE COMPLETE WITH CHROME PLATING ON EXPOSED IRON OR PIPE, TRAPS, ANCHOR BOLTS, HANGERS, STRAINERS, LOOSE KEY STOP VALVES AT EVERY FIXTURE, FAUCET AND OTHER INCIDENTAL ITEMS FURNISHED AS STANDARD.

THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL FIXTURES IN ACCORDANCE WITH THE DRAWINGS AND THE SCHEDULE.

ALL FIXTURES ARE TO BE FIRST QUALITY, FREE OF CRACKS, BLEMISHES, OR OTHER IMPERFECTIONS AND TO BE "ACID RESISTING" QUALITY.

SET AND PROPERLY CONNECT ALL FIXTURES WITH HOT AND COLD WATER, VENT AND DRAINAGE PIPING AND OTHER SERVICES AS REQUIRED AND PROTECT FIXTURES UNTIL FINAL ACCEPTANCE AND TEST.

WATER CLOSETS-WALL HUNG-HANDICAP ACCESSIBLE #10 ON EQUIPMENT LIST SHALL BE "AMERICAN STANDARD" AFWALL MODEL #2257.103, VITREOUS CHINA, 1.6 GALLON FLUSH. ELONGATED BOWL, SIPHON JET, WALL HUNG. WATER CLOSET SHALL BE COMPLETE WITH "OLSONITE" #95 WHITE, OPEN FRONT SEAT LESS CHECK HINGE. PROVIDE ADJUSTABLE CHAIR CARRIERS WITH POSITIONING FRAME "ZURN" Z-1200 SERIES. FLUSH VALVES SHALL HAVE VACUUM BREAKER AND RUBBER BUMPER ON THE STOP. FLUSH VALVES SHALL BE "SOAN-ROYAL" 111-YB-YO OR "ZURN" AQUAFLUSH Z-600-WS-YB-YO. MOUNT AT PROPER ACCESSIBLE HEIGHT.

STAINLESS STEEL COUNTER SINK-HANDICAP ACCESSIBLE #9 ON EQUIPMENT LIST COUNTER SINK SHALL BE EQUAL TO "ELKAY" LRAD-2219 SINGLE COMPARTMENT, 18 GAUGE, TYPE 302 SELF-RIM STAINLESS STEEL SINK DEPT SHALL BE 6". SINK SHALL BE COMPLETE WITH A.D.A. COMPLIANT LK #122 SINGLE LEVER, POST MOUNT HI ARC FAUCET AND LK-3SL STAINLESS STEEL DELUXE DRAIN OUTLET WITH ELBOW. SINK SHALL HAVE 2-HOLE PUNCHING. SUPPLIES SHALL BE #K-7607. TRAP SHALL BE K#-9000. (COUNTER NOT IN THIS DIVISION). INSULATE TRAP, WASTE PIPING AND SUPPLIES BELOW SINK WITH "HANDI LAV-GUARD" PRE-FORMED INSULATING KIT. DRAIN OPENING MUST BE OFF-CENTER TO THE REAR.

### INSPECTION

CONFORM LOCATION AND SIZE OF FIXTURES AND OPENINGS BEFORE ROUGH-IN AND INSTALLATION. VERIFY ADJACENT CONSTRUCTION IS READY TO RECEIVE ROUGH-IN WORK OF THIS SECTION.

### INSTALLATION

INSTALL EACH FIXTURE WITH TRAP. EASILY REMOVABLE FOR SERVING AND CLEANING. PROVIDE CHROME PLATED RIGID OR FLEXIBLE SUPPLIES TO FIXTURES WITH LOOSE KEY STOPS REDUCERS, AND ESCUTCHEONS.

INSTALL COMPONENTS LEVEL AND PLUMB.

### CLEANING AND ADJUSTING

AS DIRECTED, CLEAN FIXTURES, EQUIPMENT, PIPING AND OTHER EXPOSED WORK. DO CLEANING WORK IN STAGES IF SO ORDERED BY ARCHITECT TO FACILITATE WORK OF OTHERS. SHOW TRAPS, WASTE AND SUPPLIES FREE AND UNOBSTRUCTED. PLATED, POLISHED, BRONZED, OR PAINTED WORK, BRIGHT AND CLEAN. FLUSH OUT PIPING AFTER INSTALLATION. ADJUST VALVES FAUCETS, AUTOMATIC CONTROL DEVICES FOR PROPER AND QUIET OPERATION.

### DIVISION 15: MECHANICAL

#### 15A PLUMBING

#### 15.0 GENERAL:

CONTRACTOR SHALL FURNISH AND INSTALL ALL PLUMBING AND RELATED ITEMS SHOWN ON DRAWINGS OR HEREIN SPECIFIED, OR BOTH, AS FOLLOWS:

COMPLETE SANITARY DRAINAGE SYSTEM, INCLUDING FIXTURES, ROUGH-IN CONNECTIONS, PIPING, HANGERS, STACKS, SOIL WASTES, CLEANOUTS, VENTS, FITTINGS, FRESH-AIR VENTS, TRAPS, AND RUNNING HOUSE SEWER TO AND CONNECTING WITH SANITARY SEWER IN STREET.

COMPLETE COLD WATER SERVICE SYSTEM FROM SOURCE OF SUPPLY IN STREET (INCLUDING ALL VALVES, PIPING, AND CONNECTIONS) TO CONNECTION OF HOT WATER STORAGE TANK, CONNECTIONS OF ALL FIXTURES, AND ALL HOSE BIBBS.

COMPLETE DOMESTIC HOT WATER SYSTEM, INCLUDING HOT WATER HEATERS AND PIPING FROM THE HOT WATER TANK TO ALL FIXTURES EXCEPT WATER CLOSETS AND HOSE BIBBS.

COMPLETE PIPING FROM BUILDING MAIN TO ALL NATURAL GAS OUTLETS.

#### 15.1 PERMITS:

ALL WORKMANSHIP AND MATERIALS COVERED BY THESE SPECIFICATIONS, ALL DETAILS OF THE PIPING, AND ALL MANNER OF INSTALLATION, SHALL CONFORM TO ALL STATE CODES AND ANY REGULATIONS AFFECTING THIS TYPE OF WORK. THE CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY FOR THE INSTALLATION OF THE WORK AND SHALL PAY ALL EXPENSES IN CONNECTION THEREWITH. HE SHALL OBTAIN AND DELIVER TO THE OWNER, WITHOUT CHARGE, ALL CERTIFICATES

#### 15.2 MATERIALS:

COPPER PIPE - TYPE L, HARD DRAWN, AS PER ASTM B88, OR TYPE K FOR UNDERGROUND SERVICE  
COPPER FITTINGS - SHALL BE SWEAT-SOLDERED TYPE OF CAST BRONZE OR WROUGHT COPPER, AS PER ASME B16.22  
CAST IRON -SERVICE WEIGHT, AS PER ASTM A74  
CAST IRON FITTINGS - WITH NEOPENRE GASKET SYSTEM JOINTS.

#### 15.3 PIPE INSULATION:

HORIZONTAL DRAIN AND WASTE PIPE INSIDE THE BUILDING SHALL BE CARRIED WITH A MINIMUM FALL OF 1/4" PER FOOT. ALL CHANGES IN HORIZONTAL DIRECTION OF SOIL AND OTHER DRAINAGE PIPE SHALL BE MEAIN WITH LONG RADIUS FITTINGS OR WITH Y BRANCHES AND 1/8 OR 1/6 BENDS.

ALL WATER LINES SHALL BE PROPERLY GRADED FOR DRAINAGE. HOT WATER PIPES SHALL BE KEPT AT LEAST 6" AWAY FROM COLD WATER PIPES.

#### 15.4 HANGERS & SUPPORTS:

CAST IRON SOIL, WASTE, AND VENT PIPING SHALL BE SUPPORTED NEAR OR AT EACH HUB, NOT INCLUDING THE FITTINGS, AT INTERVALS NOT EXCEED 5 FEET.

ALL COPPER TUBE LINES SHALL BE SUPPORTED BY MEANS OF COPPER TUBE HANGERS, OF SIZE AND TYPE ADEQUATE TO SUPPORT THE LINES, AND THESE SHALL BE PROPERLY SUPPORTED FROM THE BUILDING STRUCTURE. PIPE 3/4" AND SMALLER SHALL HAVE HANGERS PLACED AT INTERVALS NOT TO EXCEED 7 FEET AND SHALL BE PROVIDED WITH A HANGER AT EACH CHANGE OF HORIZONTAL DIRECTION. HANGERS SUPPORTING TUBING 1" AND LARGER SHALL BE PLACED AT INTERVALS NOT TO EXCEED 9 FEET WITH A HANGER AT EACH CHANGE OF HORIZONTAL DIRECTION. IT IS IMPORTANT THAT NO GALVANIZED HANGES OR STRAPPING BE TO SUPPORT COPPER TUBING LINES.

#### 15.5 CUTTING & REPAIRING:

CUTTING AND REPAIRING OF WALLS, FLOORS, CEILINGS, ETC., NECESSARY FOR THE INSTALLATION OF THIS WORK, SHALL BE PERFORMED BY A QUALIFIED CONTRACTOR.

#### 15.6 TEST:

DRAIN LINES SHALL BE FILLED WITH WATER TO THE HIGHEST POINT BEFORE SOIL AND WASTE PIPE ARE COVERED. ANY LEAKS SHALL BE STOPPED AND TESTS REPEATED UNTIL NO LEAKS REMAIN IN THE SYSTEM. MINIMUM 10 FEET OF HEAD PRESSURE. WATER LINES SHALL BE SUBJECTED TO HYDROSTATIC PRESSURE OF 50 lbs PER INCH. GAS PIPING SHALL BE TESTED PER STATE BUILDING CODE AND LOCAL GAS SUPPLIERS REQUIREMENTS.

#### 15.7 PIPE INSULATION:

ALL HOT WATER PIPING SHALL BE INSULATED WITH A LEAST 1" OF APPROVED PIPE INSULATION. INSULATION SHALL BE APPLIED TO PIPING IN A NEAT MANNER AFTER SYSTEM HAS BEEN TESTED AND APPROVED BY THE LOCAL BUILDING OFFICIAL.

#### 15.8 EXCAVATION & BACKFILL:

ALL EXCAVATION AND SUBSEQUENT BACKFILL REQUIRED FOR THIS WORK SHALL BE DONE BY A QUALIFIED CONTRACTOR. CAST IRON PIPE UNDERGROUND SHALL BE FIRMLY BEDED ON SOLID GROUND AND BELL HOLES SHALL PROVIDED IN ALL TRENCHES. BACKFILL SHALL BE WELL TAMPED AND PLACED IN LAYERS NOT OVER 6" THICK AT A TIME.

#### 15.9 GUARANTEE:

THIS CONTRACTOR SHALL FURNISH THE OWNER WITH A WRITTEN GUARANTEE COVERING WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF ACCEPTANCE BY THE OWNER. ALL MATERIALS AND EQUIPMENT SHALL BE COVERED BY THIS GUARANTEE, AND THE MANUFACTURES GUARANTEE SHALL NOT RELIEVE THIS CONTRACTOR OF RESPONSIBILITY FOR THE EQUIPMENT FURNISHED UNDER THIS SPECIFICATION.

#### 15.10 PLUMBING FIXTURES:

ALL FIXTURES SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. ALL FITTINGS, ESCUTCHEONS, FAUCETS, TRAPS, EXPOSED PIPING, ETC., SHALL BE BRASS OR CHROME PLATED OVER NICKEL PLATE WITH POLISHED FINISH.

WC - WATER CLOSET - 'KOHLER' MEMOIRS STATLEY, MODEL K-3462. ROUND BOWL, 1.6 GPF, VITREOUS CHINA, FLOOR MOUNTED. SEAT COVER K-4662

LAV - LAVATORY - 'KOHLER' MEMORIS STATLEY, MODEL K-2339. UNDERCOUNTER INSTALLATION, VITREOUS CHINA. FURNISH AND INSTALL 'McGUIRE' SEMI-CAST ADJ. P-TRAP WITH CLEANOUT #8902 1-1/4" X 1- 1/2", AND 'McGUIRE' #167-3/8 FLEX SUPPLIES. FAUCET - 'KOHLER' MEMORIS, MODEL K-452-4C WITH POP-UP

SV - SHOWER VALVE - 'KOHLER' MEMORIS STATLEY, MODEL K-T462-4S, WITH K-304-KS RITE-TEMP PRESSURE BALANCING VALVE WITH STOPS, AND K-444 MULTIFUNCTION SHOWER HEAD.

T/S - TUB/SHOWER - 'KOHLER' DYNAMETRIC 5', MODEL K-519/20 FOR LEFT OR RIGHT INSTALLATION. CAST IRON TUB, COMPLETE WITH DRAIN AND REMOVABLE FOOTSTOP. VALVE K-T461-4S, WITH K-304-KS RITE-TEMP PRESSURE BALANCING VAVLE WITH STOPS, AND K-444 MULTYFUNCTION SHORER HEAD.

KS - KITCHEN SINK - 'ELKAY' LRAD-332-, DOUBLE BASIN SINK, 18 GAUGE STAINLESS STEEL, SELF-RIM, 4 HOLE, UNDERCOATED, AND 'ELKAY' MODEL LK2455 FAUCET WITH SIDE SPRAY. 'McGUIRE SEMI-CAST 'P' TRAP WITH CLEANOUT #8904-2"X2", and McGUIRE #167-LK-3/8" LOOSE KEY FLEX SUPPLIES.

DRAWING No:

**P - 1**

DATE: 01-28-2009

SCALE: AS NOTED

**TOBIN RENOVATION**

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