

**PLUMBING SPECIFICATIONS**

**SCOPE:** THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE DRAWINGS AND SPECIFICATIONS BEFORE SUBMITTING A PROPOSAL. ALL WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA BUILDING CODES FIFTH EDITION (2014), WITH AMENDMENTS, AND LOCAL CODES AND ORDINANCES. INSTALLATION SHALL COMPLY WITH THE CODE REFERENCED STANDARDS SET BY NFPA, ASHRAE, ASPE, SMACNA, NEC AND UL. THE SYSTEMS, EQUIPMENT, DEVICES AND ACCESSORIES SHALL BE INSTALLED, FINISHED, TESTED AND ADJUSTED FOR CONTINUOUS AND PROPER OPERATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK FITTING IN PLACE AND SHALL COORDINATE WITH OTHER TRADES TO AVOID INTERFERENCE WITH THEIR WORK. THE INFORMATION GIVEN HEREIN AND ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED, BUT ITS EXTREME ACCURACY IS NOT GUARANTEED. THE DRAWINGS ARE DIAGRAMMATIC, INTENDED TO SHOW GENERAL ARRANGEMENT, CAPACITY AND LOCATION OF VARIOUS COMPONENTS, EQUIPMENTS, AND DEVICES. IF WORK IS REQUIRED IN A MANNER TO MAKE IT IMPOSSIBLE TO PRODUCE FIRST CLASS WORK, OR SHOULD DISCREPANCIES APPEAR AMONG THE CONTRACT DOCUMENTS, OR BETWEEN THE CONTRACT DOCUMENTS AND THE MANUFACTURER'S RECOMMENDATIONS, THE CONTRACTOR SHALL REQUEST INTERPRETATION BEFORE PROCEEDING WITH WORK. CONTRACTOR SHALL FURNISH AND INSTALL ALL MINOR ITEMS WHICH ARE OBVIOUSLY AND REASONABLY NECESSARY TO COMPLETE THE INSTALLATION WHETHER OR NOT SPECIFIED IN THE DOCUMENTS.

**REQUIRED COORDINATION:** ALL WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN DUCTS AND PIPING (INCLUDING DIVIDED DUCTS) AND TRANSITIONS AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

**CONSTRUCTION PLANS:** IN GENERAL, PLANS AND DIAGRAMS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED.

**REQUIRED ACCESS:** CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT AND DEVICES THAT REQUIRE REPLACEMENT, SERVICING, ADJUSTING OR MAINTENANCE SHALL BE LOCATED TO ALLOW EASY ACCESS AND SPACE FOR REMOVAL OF INTERNAL ASSEMBLIES, IF REQUIRED. CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED TO ALLOW ACCESS, EVEN IF NOT INDICATED ON THE DRAWINGS AT NO ADDITIONAL COST TO OWNER.

**WIND RESISTANCE:** ALL EQUIPMENT, APPLIANCE AND SUPPORTS LOCATED EXTERIOR OF THE FACILITY SHALL BE INSTALLED TO RESIST WIND LOADS AS DETAILED IN THE BUILDING CODE.

**CUTTING AND PATCHING:** ALL OPENINGS AROUND DUCT OR PIPE PENETRATIONS THROUGH SMOKE OR FIRE RATED FLOORS, CEILINGS OR WALLS SHALL BE SEALED AIRTIGHT WITH MATERIALS HAVING A RATING EQUAL TO THE MATERIAL OF THE WALL, CEILING OR FLOOR PENETRATED.

**EQUIPMENT TAGS:** ALL EQUIPMENT WILL HAVE A PERMANENTLY FIXED TAG CORRESPONDING TO THE EQUIPMENT TAG ON THE ENGINEER'S DRAWINGS.

**FIRESTOPPING:** UL APPROVED MATERIALS AND METHODS SHALL PROTECT THE PENETRATIONS OF FIRE AND/OR SMOKE RATED WALLS, CEILINGS OR FLOORS. THE RATING OF THE FIRESTOPPING SHALL EQUAL THE RATING OF THE RATED ASSEMBLY. ALL INSULATION SHALL HAVE COMPOSITE FIRE AND SMOKE HAZARD RATINGS AS TESTED BY PROCEDURE ASTM E-84, NFPA-225, UL-723 NOT EXCEEDING:  
 FLAME SPREAD 25  
 SMOKE DEVELOPED 50  
 FUEL DISTRIBUTED 50  
 ACCESSORIES SUCH AS ADHESIVE, MASTIC, CEMENTS AND TAPES SHALL HAVE THE SAME COMPONENT RATING AS LISTED ABOVE.

**SERVICE AND PERMITS:** CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH UTILITY COMPANIES FOR SERVICE AND CONNECTIONS AND SHALL PAY FOR PERMITS.

**SHOP DRAWINGS:** EACH TRADE SHALL PREPARE AND SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH PROCEDURES OUTLINED IN DIVISION 1. RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE SUBMITTALS SHALL NOT BE RELIEVED BY THE ARCHITECT'S OR ENGINEER'S REVIEW. ENGINEER'S PROCESSING WILL NOT CONSTITUTE A COMPLETE CHECK BUT WILL INDICATE ONLY THAT A GENERAL METHOD OF CONSTRUCTION AND DETAILING IS SATISFACTORY. AT A MINIMUM SUBMITTALS SHALL INCLUDE FIXTURES, VALVES, PIPING, INSULATION AND ACCESSORIES.

**START-UP:** CONTRACTOR SHALL STARTUP ALL EQUIPMENT AND FOLLOW THE MANUFACTURER'S START-UP PROCEDURES.

**OPERATING AND MAINTENANCE DATA:** SUBMIT THREE COPIES OF MANUFACTURER'S OPERATING AND MAINTENANCE INSTRUCTIONS AND SPARE PARTS LIST FOR EACH PIECE OF EQUIPMENT.

**SUPPLEMENTARY SUPPORTS:** CONTRACTOR SHALL PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED TO SUSPEND MECHANICAL EQUIPMENT AND MATERIALS, IN ORDER TO PROVIDE A "VIBRATION-FREE" RIGID INSTALLATION.

**DIELECTRIC UNIONS:** PROVIDE DIELECTRIC UNIONS OR FLANGES AT CONNECTIONS OR CONTACT BETWEEN PIPES OF DISSIMILAR METALS.

**WATER PIPING:** INSIDE WATER LINES SHALL BE HARD-DRAWN COPPER TUBING, TYPE "L" ABOVE-GROUND, TYPE "K" BELOW-GROUND. PROVIDE DIELECTRIC UNIONS WHERE DISSIMILAR METAL ARE IN CONTACT. ALL BURIED PIPING SHALL BE PROTECTED FROM CORROSION WITH 3/8" THICK FOAM RUBBER INSULATION WITH SEAMS SEALED WATERTIGHT. WATER PIPING SHALL BE TYPE-L COPPER TUBING, WITH WROUGHT COPPER FITTINGS (ASTM-B88). CONTRACTOR SHALL PROVIDE FOR EXPANSION AND CONTRACTION OF TUBING. TUBING SHALL BE SLEEVED AT PENETRATION OF CONCRETE SLABS OR WALLS.

**WATER HAMMER ARRESTORS:** INSTALL WATER HAMMER ARRESTERS AT EACH HOT AND COLD FIXTURE SUPPLY.

**EXPOSED PIPING:** EXPOSED PIPING SHALL BE POLISHED CHROMIUM ON EITHER BRASS OR BRONZE. PROVIDE ADA INSULATED WATER AND WASTE LINE COVERINGS FOR WALL HUNG SINKS AND LAVATORIES.

**VALVES:** ALL VALVES SHALL HAVE A MINIMUM OF 125 PSIG WORKING PRESSURE. VALVES AND COCKS MAY NOT BE INDICATED IN EVERY INSTANCE ON THE DRAWINGS, BUT WHETHER OR NOT SHOWN, ALL VALVES, COCKS AND CHECK VALVES NECESSARY FOR THE PROPER OPERATION OF THE SYSTEM SHALL BE FURNISHED AND INSTALLED. INSTALL ISOLATION/SHUT-OFF VALVES AT ALL MAIN RISERS, AND MAIN BRANCH TAKEOFFS. INSTALL ISOLATION/SHUT-OFF VALVES ON EACH INLET AND OUTLET OF EACH PIECE OF EQUIPMENT. PROVIDE A FLANGE OR UNION BETWEEN THE VALVE AND THE EQUIPMENT TO PERMIT DISCONNECTION, REMOVAL AND SERVICE.

**STERILIZATION OF DOMESTIC WATER SYSTEM:** THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE THOROUGHLY STERILIZED AS REQUIRED BY THE HEALTH AUTHORITY OR WATER PURVEYOR HAVING JURISDICTION, OR IN THE ABSENCE OF A PRESCRIBED METHOD, THE PROCEDURE DESCRIBED IN EITHER AWWA C651 OR AWWA C652, OR AS DESCRIBED IN SECTION 610 FBC-P.

**VENTING:** THE STACKS SHALL BE EXTENDED THROUGH ROOF OF BUILDING TO POINTS NOT LESS THAN 12" ABOVE ROOF. VENTS SHALL BE OFFSET AS REQUIRED TO PENETRATE ROOFS AT LEAST 3 FEET FROM THE RIDGE OR EDGE OF BUILDING AND 10 FEET FROM ANY FRESH AIR INTAKE OR OPERABLE WINDOW OR DOOR.

**SANITARY, WASTE, STORM, AND VENT PIPING:** ALL BURIED AND UNBURIED PIPING AND FITTINGS SHALL BE SCHEDULE 40 PVC-DWV (SOLID CORE) SLOPE OF SANITARY OR DRAINAGE PIPING 2-1/2" AND SMALLER SHALL BE A MINIMUM OF 1/4" PER FOOT; PIPING 3" AND LARGER SHALL BE SLOPED A MINIMUM OF 1/8" PER FOOT. CLEANOUTS WILL BE LOCATED NOT MORE THAN 100 FEET APART AND AT EACH CHANGE OF DIRECTION GREATER THAN 45° ALONG THE HORIZONTAL DRAIN. CLEANOUTS SHALL BE INSTALLED AT BASE OF EACH STACK. CONCEALED CLEANOUTS SHALL HAVE CAST BRASS CHROMIUM PLATED FLAT ACCESS COVER PLATE.

**PLUMBING FIXTURES AND TRIM:** PLUMBING FIXTURES SHALL BE FURNISHED AND INSTALLED IN A NEAT AND WORKMANLIKE MANNER WITH PROPER CONNECTIONS TO SUPPLY AND DRAINAGE PIPING. ALL FIXTURES SHALL BE FREE OF FLAWS AND DEFECTS OF ANY SORT IN MATERIAL AND WORKMANSHIP AND SHALL OPERATE PERFECTLY WHEN INSTALLED IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS. CONTRACTOR SHALL PROVIDE ROUGH-IN, AND SHALL CONNECT ALL FIXTURES TO THE PLUMBING SYSTEMS. ALL FIXTURES TO BE PROVIDED WITH CHROME-PLATED SUPPLIES AND STOPS. PROVIDE 17 GAUGE CHROME-PLATED BRASS TRAPS FOR ALL FIXTURES WITHOUT INTEGRAL TRAPS. PROVIDE CONCEALED ARM CARRIERS AND SUPPORTS FOR ALL FIXTURES REQUIRING SAME.

**PIPE INSULATION:** INSTALL INSULATION PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES. SEAL ALL JOINTS, BREAKS, TEARS AND PENETRATIONS WITH FIRE RETARDANT, VAPOR BARRIER MASTIC. COVER VALVES, FITTINGS AND SIMILAR ITEMS IN EACH PIPING SYSTEMS. INSULATE ALL STORM PIPING INSIDE BUILDING WITH 1" THICK FIBERGLASS SECTIONAL PIPE COVERING WITH CANVAS JACKET OR ARMAFLEX AP.

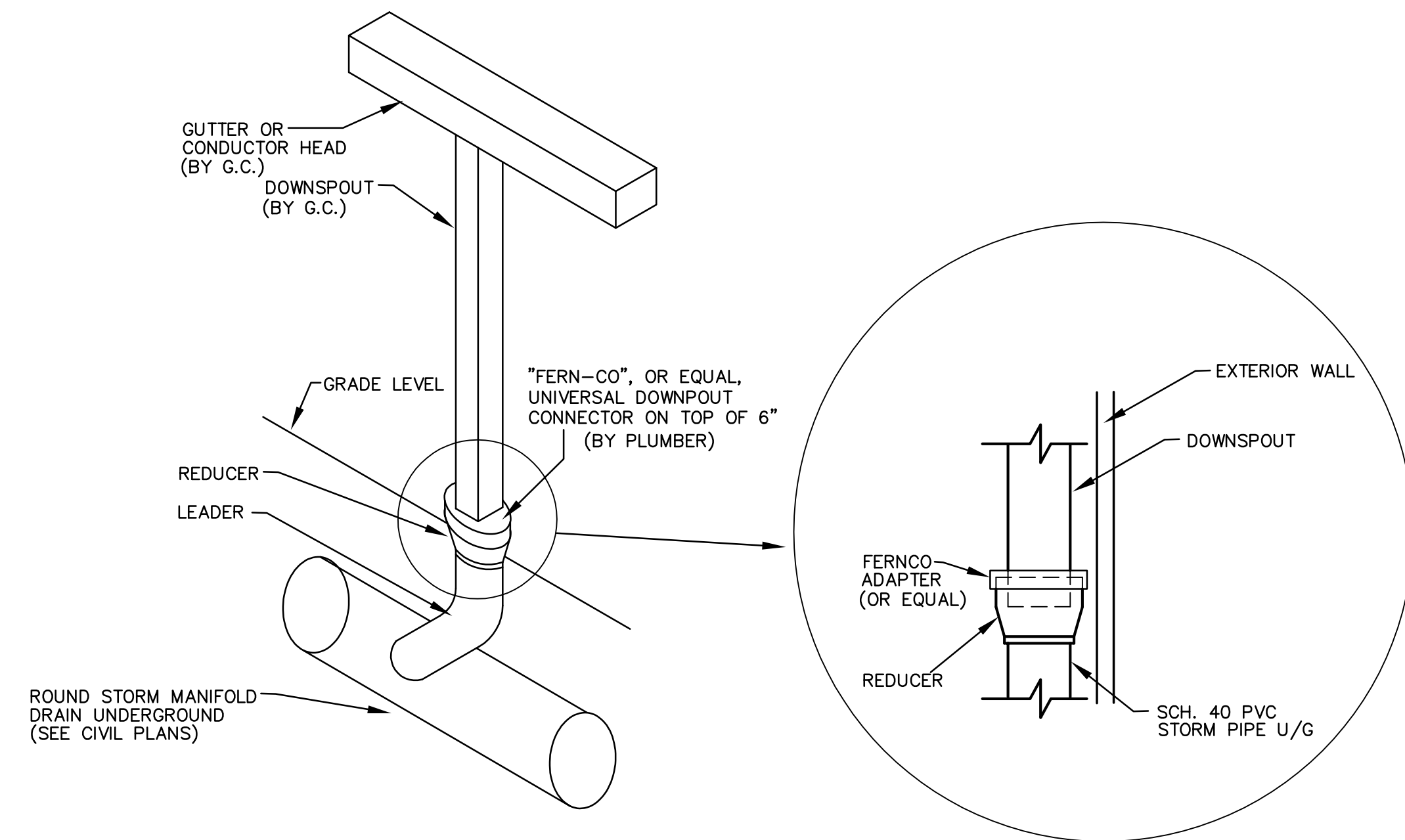
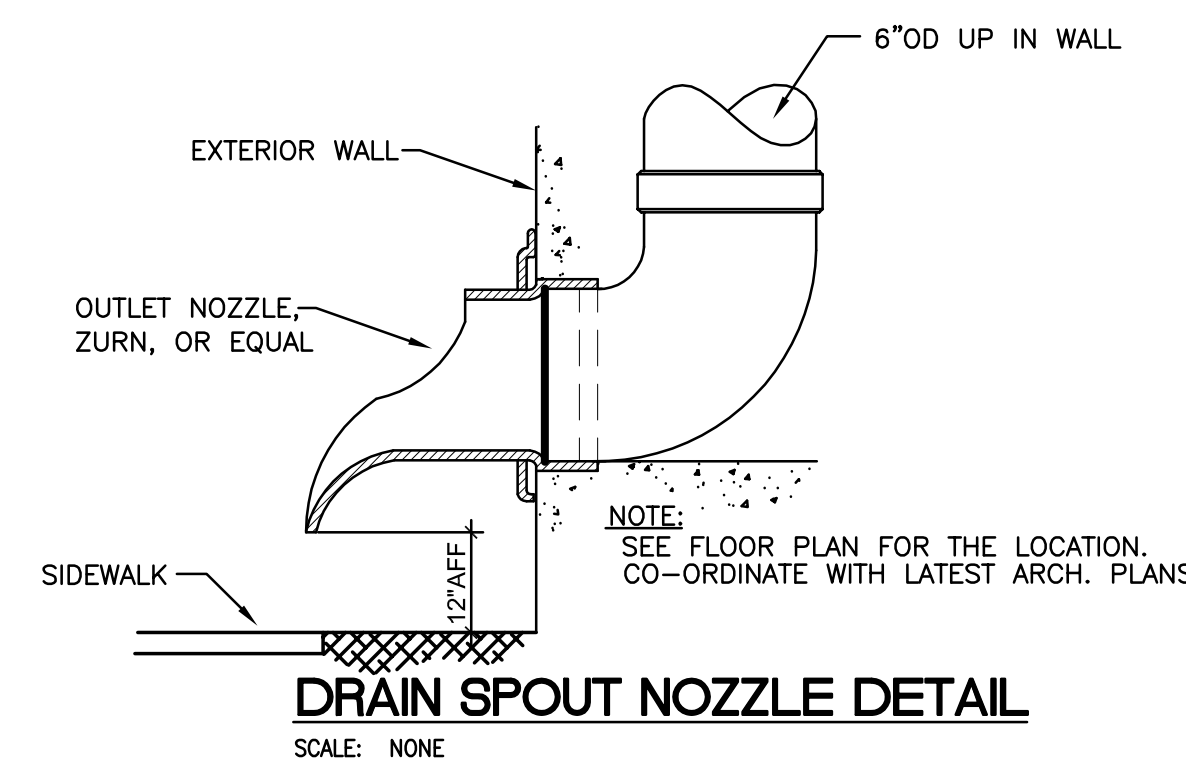
**TESTING:** TEST ALL WASTE AND VENT PIPING FOR A PERIOD OF NOT LESS THAN 8 HOURS BY CAPPING OR PLUGGING; ALL JOINTS TO A LEVEL OF THE HIGHEST FIXTURE OR FITTINGS; FILLING THE SYSTEM WITH WATER AND OBSERVING FOR LEAKS. TEST WATER PIPING AT 100 PSIG FOR A PERIOD OF 8 HOURS, OBSERVING FOR ANY VISIBLE LEAKS. TEST PIPING AGAIN WITH FIXTURES INSTALLED. REPAIR ANY LEAKS FOUND BY REMAKING JOINT. DO NOT USE CAULKING OR SIMILAR METHODS TO CORRECT LEAKS. UPON REPAIRING ANY LEAKS FOUND, AGAIN TEST THAT PORTION OF THE SYSTEM AS DESCRIBED ABOVE.

**EQUIPMENT FURNISHED BY OTHERS:** WHERE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL MAKE ALL PIPING CONNECTIONS TO EQUIPMENT FURNISHED BY OTHERS. THIS WORK SHALL INCLUDE FURNISHING AND INSTALLATION OF ALL WATER AND DRAIN PIPING. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH RECOMMENDATIONS OF EQUIPMENT MANUFACTURER.

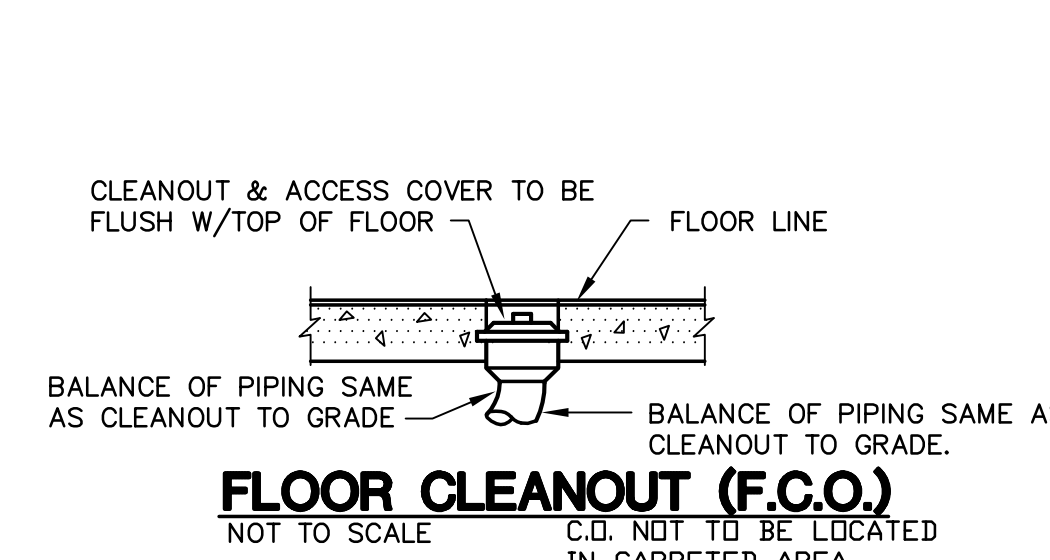
**GUARANTEE:** THE ONE-YEAR GUARANTEE PERIOD SHALL NOT START UNTIL THE PROJECT IS FULLY COMPLETED AND THE CONTRACTOR HAS RECEIVED THE FINAL PAYMENT AND CERTIFICATION OF COMPLETION. ALL EQUIPMENT AND ALL WORK SHALL BE FULLY GUARANTEED, PARTS AND LABOR, FOR ONE YEAR FROM THE DATE OF THE CERTIFICATE OF COMPLETION. REPAIRS MADE DURING THIS PERIOD MUST BE FULLY GUARANTEED FOR AN ADDITIONAL ONE YEAR PERIOD FROM THE DATE OF REPAIRS. IN ADDITION, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO THE BUILDING, AND ITS CONTENTS OR OTHER EQUIPMENT, CAUSED BY DEFECTS OR IMPROPER INSTALLATION OF EQUIPMENT OR MATERIAL INSTALLED.

**SUBSTITUTIONS:** CONTRACTOR SHALL PAY FOR ANY AND ALL ADDED COSTS ASSOCIATED WITH ANY SUBSTITUTION, INCLUDING SUBSTITUTIONS THAT REQUIRE CHANGES TO THE OTHER BUILDING COMPONENTS, SUCH AS ELECTRICAL, STRUCTURAL REINFORCING, CEILINGS, WALLS, ROOFS, ETC. THIS WILL INCLUDE ANY ENGINEERING/ARCHITECTURAL RE-DESIGN COSTS AS A RESULT OF SAID SUBSTITUTION. THESE COSTS SHALL NOT BE BORNE BY THE OWNER, ARCHITECT, NOR ENGINEER, REGARDLESS OF ACCEPTABILITY OF SUBSTITUTION. ENGINEER RESERVES THE RIGHT TO ACCEPT OR DENY ANY SUBSTITUTION THAT HE DOES NOT DEEM TO BE EQUIVALENT, AND CONTRACTOR SHALL PROVIDE SPECIFIED OR EQUIVALENT MATERIALS/EQUIPMENT AT NO ADDITIONAL COST TO OWNER, SHOULD A SUBSTITUTION BE DENIED.

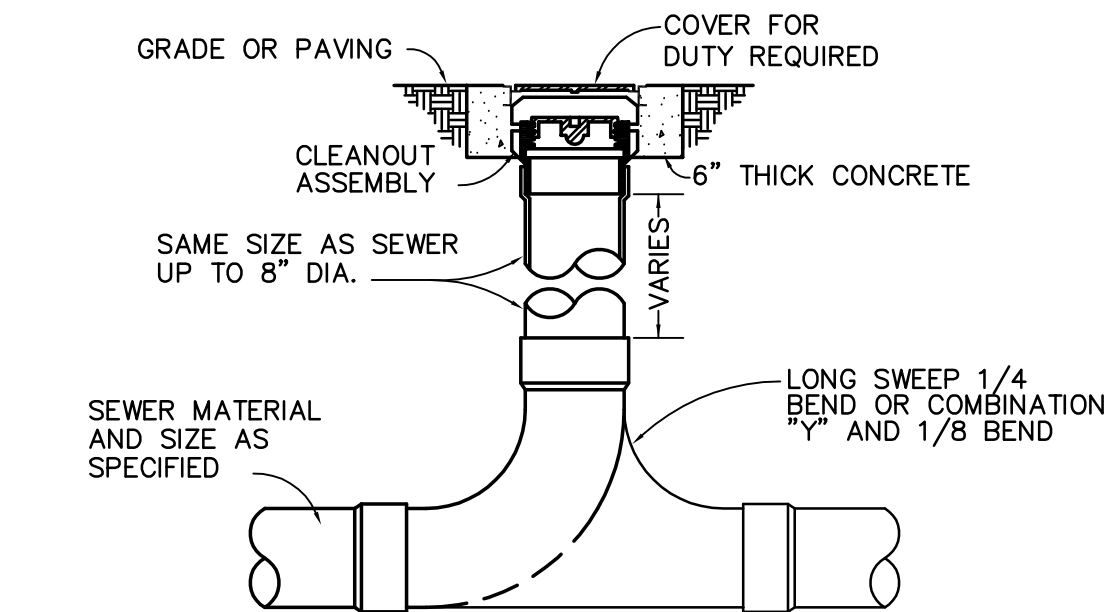
FIXTURE & CONNECTION SCHEDULE						
FIXTURE	TAG	BRANCH SIZE			MANUFACTURER/MODEL	REMARKS
		DRAINAGE	WATER			
		WASTE	COLD	HOT		
SCUPPER DRAIN	SD-1	4"	---	---	ZURN # Z189	5X6X11 SCUPPER DRAIN, DURA-COATED CAST IRON BODY WITH 45° OUTLET AND FLUSH TYPE ALUMINUM FRAME AND MEMBRANE FLASHING CLAMP.
DOWNSPOUT COVER	DC-1	6"	---	---	ZURN # Z199	DOWNSPOUT NOZZLE, ALL NICKEL BRONZE BODY, AND DECORATIVE FACE OF WALL FLANGE AND OUTLET NOZZLE.
FLOOR CLEANOUT	FCO	6"	---	---	ZURN # Z1400-ZB	"LEVEL-TROL" ADJUSTABLE FLOOR CLEANOUT, DURA-COATED CAST-IRON, POLISHED BRONZE TOP, ADJUSTABLE TO FLOOR FINISH.
HOSE BIBB	HB-1	---	---	1/2"	WOODFORD # B24	HOSE BIBB, WALL HYDRANT, FLUSH WALL BOX, POLISHED BRASS FACE PLATE, BRONZE CASING, HOSE CONNECTION WITH INTEGRAL VACUUM BREAKER, WHEEL HANDLE, T-KEY FOR BOX.



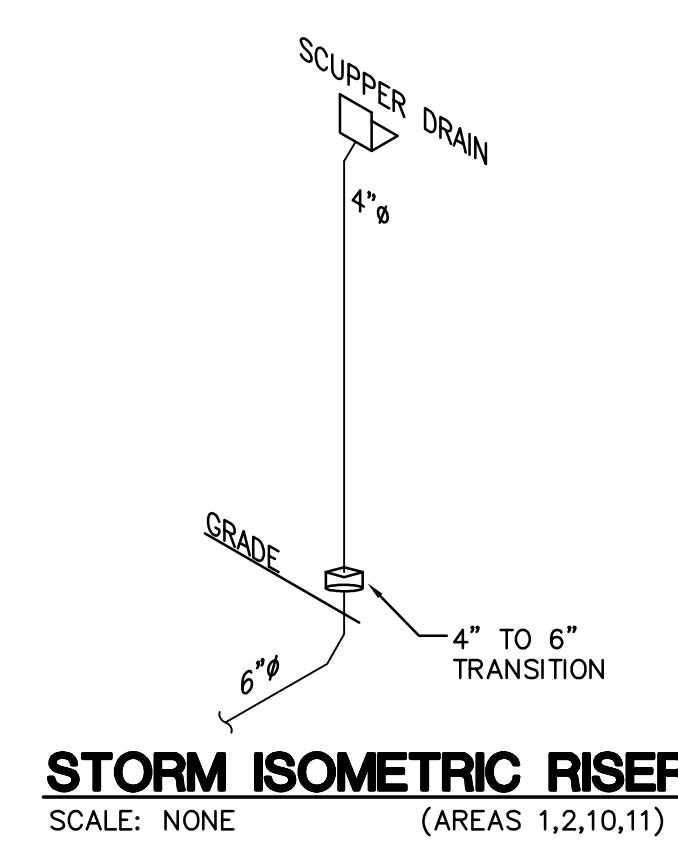
**DOWNSPOUT / STORM LEADER CONNECTION DETAIL**  
SCALE: NONE



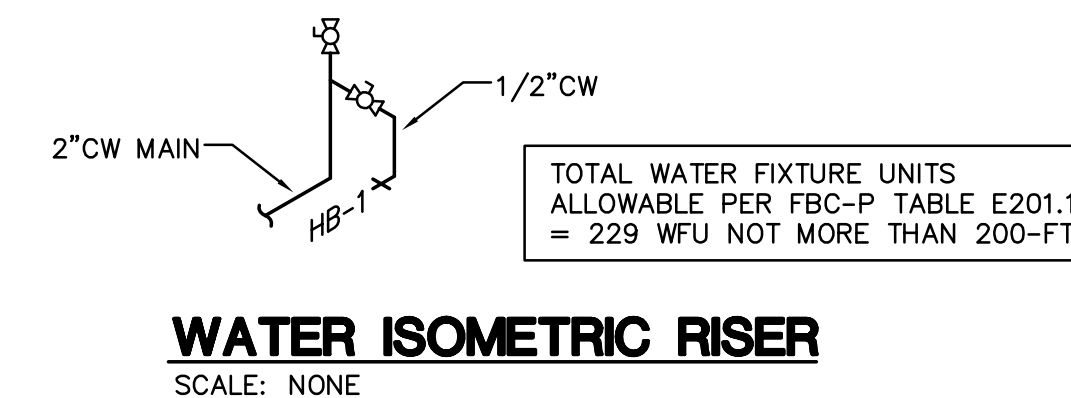
**FLOOR CLEANOUT (F.C.O.)**  
SCALE: NOT TO SCALE



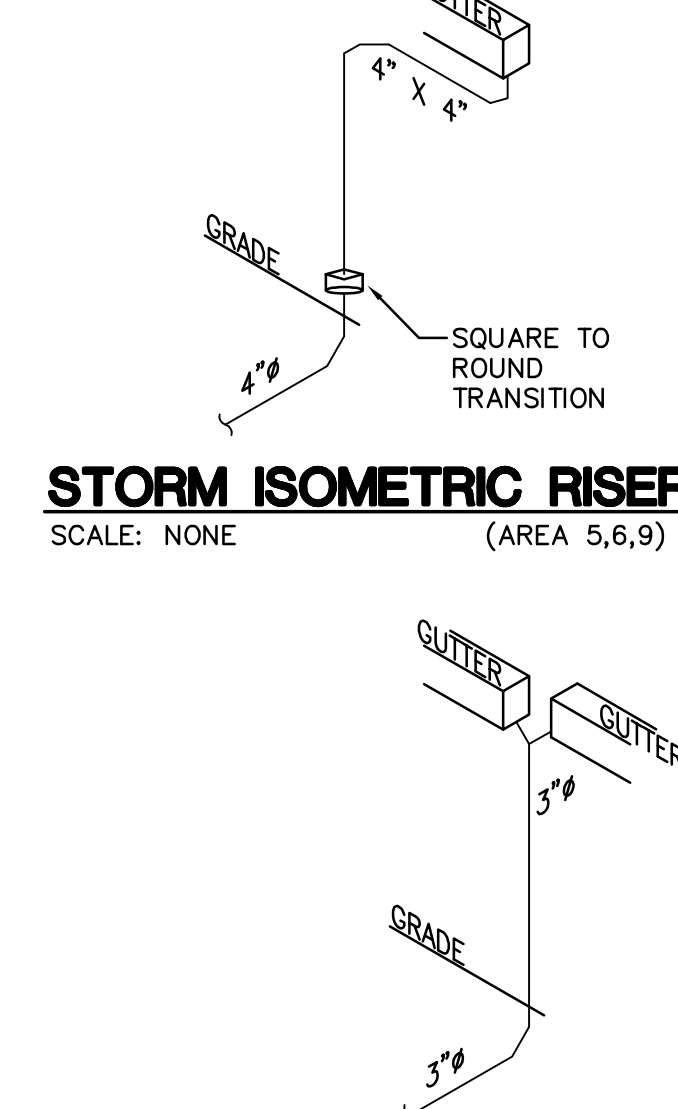
**2-WAY GRADE CLEANOUT DETAIL (COTG)**  
SCALE: NONE



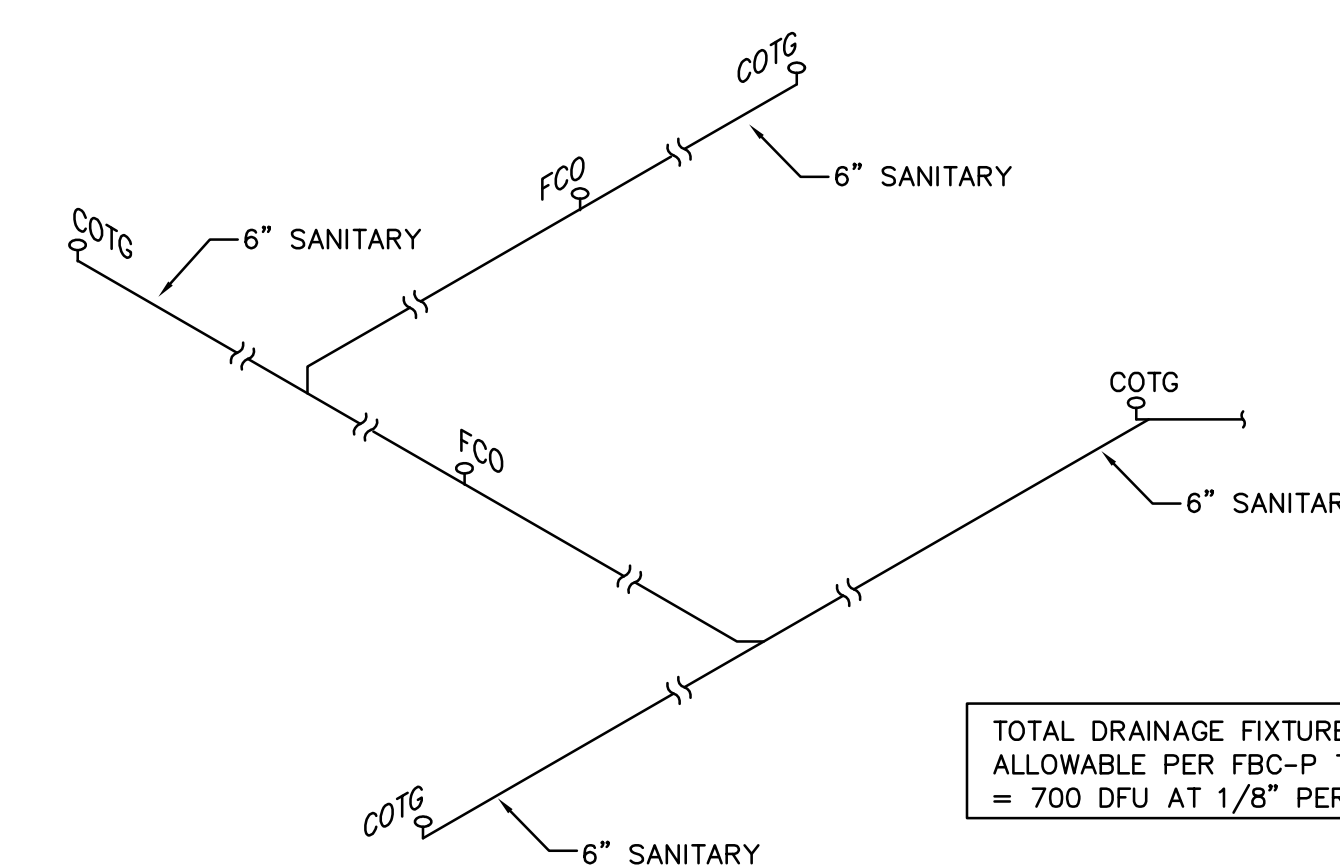
**STORM ISOMETRIC RISER**  
SCALE: NONE (AREAS 1,2,10,11)



**WATER ISOMETRIC RISER**  
SCALE: NONE



**STORM ISOMETRIC RISER**  
SCALE: NONE (TYPICAL)



**SANITARY ISOMETRIC RISER**  
SCALE: NONE

**STEPANEK-ENGINEERING, INC.**  
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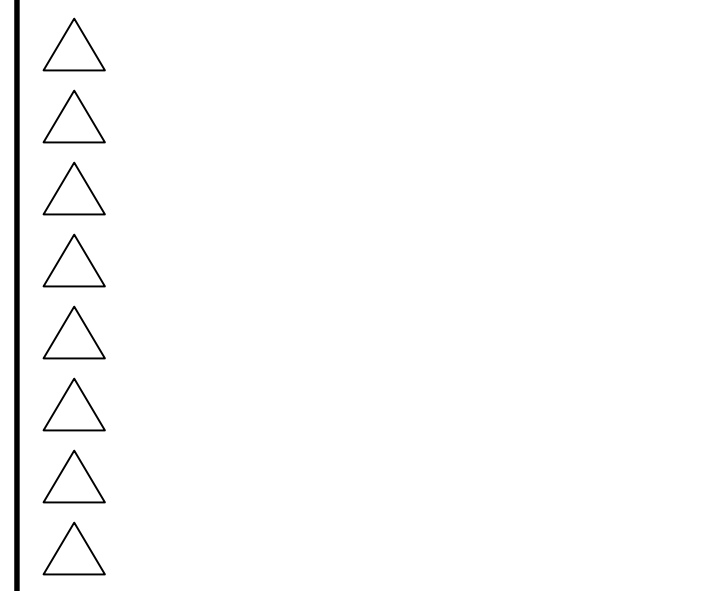
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BULLETIN LOG



**WESTLAKE VISITOR CENTER**  
CITY OF WESTLAKE  
PALM BEACH COUNTY, FLORIDA

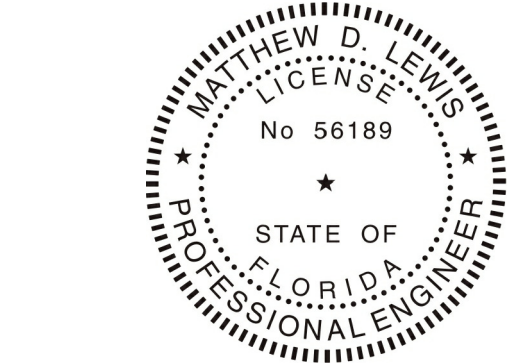
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STATE REGISTRATIONS

FL 56189



Matthew D. Lewis, P.E. License No. 56189  
TO THE BEST OF THE KNOWLEDGE OF THE ARCHITECTS AND ENGINEERS, SAID PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE MINIMUM FIRE SAFETY STANDARDS.

**WESTLAKE VISITOR CENTER**

PROJECT NAME

**PLUMBING SPECS AND DETAILS**  
SHEET NAME

PROJECT NUMBER: 2016.037

DRAWN BY: TJ CHECKED BY: ML

SCALE: AS SHOWN

**P2.01**  
SHEET NUMBER