

PLUMBING SPECIFICATION OUTLINE

LAYOUT OF MATERIALS, EQUIPMENT AND SYSTEMS IS GENERALLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. SOME WORK MAY BE SHOWN OFFSET FOR CLARITY. THE ACTUAL LOCATIONS OF ALL MATERIALS, PIPING, DUCTWORK, FIXTURES, EQUIPMENT, SUPPORTS, ETC., SHALL BE CAREFULLY PLANNED PRIOR TO INSTALLATION OF ANY WORK TO AVOID ALL INTERFERENCES WITH EACH OTHER.

EXAMPLE OF PRE-APPROVED PLANS. PLANS AVAILABLE FOR 498, 749, OR 1,190 SF. LAYOUTS IN THREE ARCHITECTURAL STYLES THROUGH THE CITY OF MERCED PRE-APPROVED ADU PROGRAM. CONTACT INSPECTION SERVICES DIVISION AT (209) 385-4773 OR INSPECTIONSERVICESWEB@CITYOFMERCED.ORG FOR MORE INFORMATION.

1. Not permitted subject to local building department variance and acceptance and installation practices.

Gas Piping

- Gas piping shall be sched 40 black malleable piping and fittings.
- Gas piping may not be installed underneath the raised floor of a building when the gas line is in the ground or under/within a concrete floor slab of a building. The gas pipe can be attached to the raised wood floor joists minimum 6 inches above grade.
- Gas piping shall not be installed in the ground unless it is protected against corrosion by a machine applied coating or wrapping.
- Unions for gas pipe are only permitted at an exposed fixture appliance or equipment connection and in exposed exterior locations immediately on the discharge side of a building shut off valve.
- The distance from the meter to the most remote outlet plus the gas demand of the appliance served determines the size of each section of gas piping system.

Once all gas pipes has been installed, perform an air pressure test on the new gas system. The air test shall be made by attaching an air compressor testing apparatus to any suitable opening, and, after closing all other inlets and outlets to the system, forcing air into the system until there is a uniform gauge pressure of 10 pounds per square inch. The pressure shall be held without induction of additional air for a period of at least 15 minutes.

Water Heaters - Prohibited Locations

Water heaters which depend on the combustion of fuel for heat shall not be installed in any room used or designed to be used for sleeping purposes, bathroom, clothes closets, or in any closet or other confined space opening into any bath or bedroom. Shed clearance to side property line is 2 feet 6 inches and 3 feet to rear property line. Verify approved location of the water heater with the Zoning counter staff. The termination of Type "B" vents shall be a minimum of 4 feet from the property line.

Testing & Inspection

- All work must be inspected and approved before being covered, concealed, or put into use. All tests must be witnessed by the inspector.
- Building sewers shall be tested by plugging the end of the building sewer at its point of connection with the public sewer and completely filling the building sewer with water from the lowest to the highest point.
- Drainage, and vent systems must be tested by filling with water and must be watertight. No section shall be tested with less than a ten (10) foot head of water.
- Water piping must withstand the street main pressure or 50 p.s.i. of air pressure without leaking.
- Metallic gas piping must withstand 10 p.s.i. air pressure for at least 15 minutes without leaking.

- Condensate lines shall be "M" copper.

Typical On-Lot Sewer Detail

Building sewers:

- shall be located only on the lot which they serve.
- shall be 3" minimum diameter and 12" below ground if nonmetallic and shall not be nonmetallic when within 2'-0" of any building except approved plastics.
- shall be PVC DWV sched 40, and outside shall be SDR 35.
- shall not be joined by means of cement mortar joints.
- shall be supported on a firm bed throughout their entire length.
- shall have a 1/4" per foot slope toward the street sewer.
- shall be provided with a cleanout at their upper terminal, of changes in direction in excess of 135° and at intervals of not to exceed 100' in straight runs.
- shall not be located in the same ditch with domestic water piping unless the water piping rests on a solid shelf 12" to one side and 12" above the sewer if clay sewer is used.
- shall not be located in an excavation which is deeper than the bottom of a parallel foundation unless the bottom edge of the excavation is at least one foot away from the foundation for each foot of excess depth.

Typical Plumbing Waste & Vent System

- Vertical drainage lines connecting with horizontal drainage lines shall enter through 45 degree wye branches, combination wye and 1/8 bend branches, or other approved fittings of equivalent sweep.
- Horizontal drainage lines connecting with other horizontal drainage lines shall enter through 45 degree wye branches, combination wye and 1/8 bend branches, or other approved fittings of equivalent sweep.
- Horizontal stack lines, connecting with a vertical stack, shall enter through 45-degree wye branches, 60-degree wye branches, combination wye and 1/8 bend branches, sanitary tee branches, or other approved fittings of equivalent sweep.
- Horizontal trap arms, connecting with a vertical stack or waste, shall enter through sanitary tee branches. A trap arm is that portion of a fixture drain between a trap and a vent.
- The size of vent piping shall be determined from its length and the total number of fixture units connected thereto. In addition, the drainage piping of each building and each connection to a public sewer shall be vented by means of one or more vent pipes, the aggregate cross-sectional area of which shall not be less than that of the largest building sewer.

Special Venting for Island Fixtures

- Traps for island sinks and similar equipment shall be roughed in above the floor and may be vented by extending the vent as high as possible, but not less than drainboard height. The vent is then returned downward and connected to the horizontal sink drain immediately downstream from the vertical fixture drain.
- The returned vent shall be connected to the horizontal drain through a wye branch fitting, and shall in addition be provided with a foot vent taken off the vertical fixture vent by means of a wye branch fitting immediately below the floor. This foot vent extends to the nearest partition and thence through the roof to the open air, or may be connected to other vents at a point not less than (6) inches (152.4 mm) above the flood level rim of the fixture served.
- Drainage fittings shall be used on all parts of the vent below the floor line. The foot vent shall maintain a minimum slope of one-quarter inch per foot back to the sink. The return bend used under the drain board shall be a one-piece fitting, or an assembly of a 45-degree (0.79 radius), a 90-degree (1.6 radius), and a 45-degree (0.79 radius) elbow in the order named. Pipe sizing shall be as elsewhere required in the Code.
- Special venting for island fixtures is a method for venting a fixture in an isolated location where vent pipes installed as normally required in CPC 909.0 would not be practical.

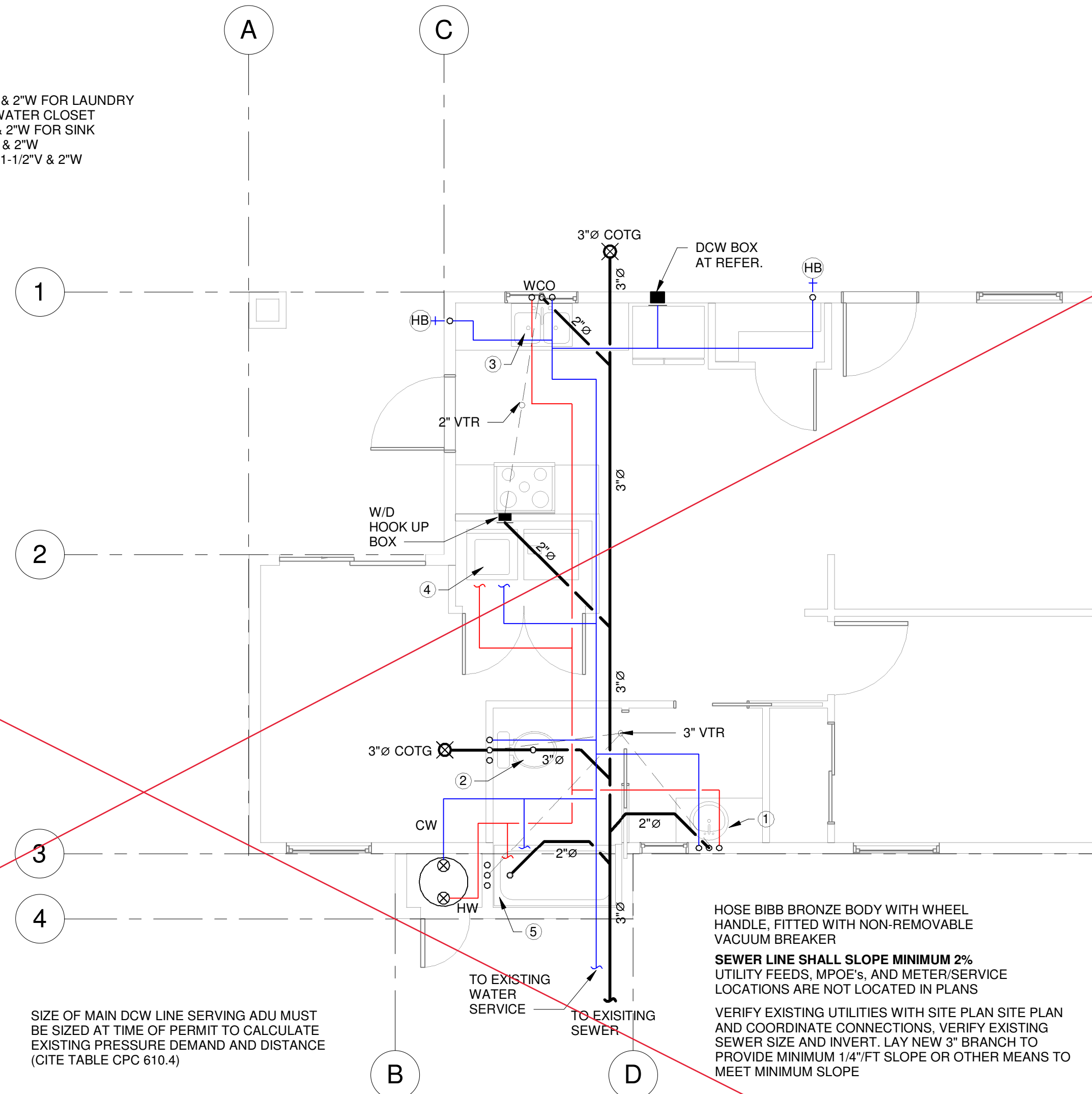
Tests for Low Pressure Gas Systems

Gas Test Checklist:

- Obtain a plumbing permit for installation of new gas pipe over 6 feet in length. A permit is not required for gas piping not more than 6 feet in length between an approved gas outlet and any gas-fired appliance, provided that any such gas-fired appliance is in the same room as the gas outlet.
- If the gas meter needs to be relocated due to an addition or alteration to an existing building, call the Gas Co. A Gas Department Inspector will establish the new location of the gas meter.
- No gas piping shall be installed in or on the ground under any building or structure and all exposed gas piping shall be kept at least 6" inches above grade or structure.
- Ferrous gas piping installed underground in exterior locations shall be protected from corrosion by approved factory coatings. All gas pipe protective coatings shall be machine applied. Apply listed primer and spirally wrap listed tape to provide protection for those fittings and short sections where the factory coating has been damaged or stripped for threading. Use minimum 10-mil tape stretched around the fittings and unprotected areas to provide a minimum 40-mil thickness. All horizontal metallic piping shall have at least 12 inches of earth cover. Call for inspection before covering pipe.
- The gas test shall be performed after all gas piping authorized by the permit has been installed, and before any such piping has been covered or concealed.
- All gas appliance connectors shall be removed from the gas piping that is to be tested. Pressure necessary to test gas system will damage the gas appliances.
- Remove gas shut-off valves from all gas pipe outlets after gas system has been shut off at meter.
- Cap all other inlets and outlets to the system. Gas shut-off valves will not hold pressure for the gas test.
- Required air pressure tests of 10 pounds or less for low pressure gas systems shall be performed utilizing dial gauges of 1/10 pound incrementation or less. A 15-pound test gauge is most commonly used, however a maximum 20-pound gauge would be acceptable as well.
- Install air pressure test dial gauge on gas pipe. Apply pipe dope or Teflon tape on pipe threads to ensure a proper seal.
- Perform air pressure test. The air test shall be made by attaching an air compressor testing apparatus to any suitable opening, and, after closing all other inlets and outlets to the system, forcing air into the system until there is a uniform gauge pressure of 10 pounds per square inch. The pressure shall be held without induction of additional air for a period of at least 15 minutes. NOTE: Never fill the gas system with water.
- If the gas piping system does not hold the required 10 pounds of pressure for 15 minutes, check the gas piping system for leaks. Leaks in gas piping shall be located by applying soapy water to the exterior of the piping when the gas piping system is under pressure. If a leak is present, the soapy solution will bubble. It shall not be permissible to repair defects in gas piping or fittings, but upon having been located, the defective pipe or fitting shall be removed and replaced with sound material.
- After the gas piping system has been tested and holds pressure to pass the required test, call for final piping inspection.

KEYNOTES:

- LAV: 1/2" CW, 1/2" HW, 1-1/2" V & 2" W FOR LAUNDRY
- WC: 1/2" CW 2" V & 3" W FOR WATER CLOSET
- SK: 1/2" CW, 1/2" HW, 1-1/2" V & 2" W FOR SINK
- W/D: 1/2" CW, 1/2" HW, 1-1/2" V & 2" W
- TUB/SHWR: 1/2" CW, 1/2" HW, 1-1/2" V & 2" W



SIZE OF MAIN CW LINE SERVING ADU MUST BE SIZED AT TIME OF PERMIT TO CALCULATE EXISTING PRESSURE DEMAND AND DISTANCE (CITE TABLE CPC 610.4)

HOSE BIBB BRONZE BODY WITH WHEEL HANDLE, FITTED WITH NON-REMOVABLE VACUUM BREAKER
SEWER LINE SHALL SLOPE MINIMUM 2% UTILITY FEEDS, MPO'S, AND METER/SERVICE LOCATIONS ARE NOT LOCATED IN PLANS
VERIFY EXISTING UTILITIES WITH SITE PLAN SITE PLAN AND COORDINATE CONNECTIONS. VERIFY EXISTING SEWER SIZE AND INVERT. LAY NEW 3" BRANCH TO PROVIDE MINIMUM 1/4"/FT SLOPE OR OTHER MEANS TO MEET MINIMUM SLOPE

CITY OF MERCED
ACCESSORY DWELLING UNIT
PROGRAM

749
LENA

No.	Description	DATE
A	SITE PLAN REVIEW	5/11/2022
B	SITE PLAN REVIEW	6/13/2022
C	DRAFT RELEASE	8/31/2022
D	DRAFT RELEASE	9/29/2022
1		
2		
3		

Project Number
2210.2

P1.1

set date:
09/29/2022