CITY OF MILPITAS
Office of Building Safety
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Milpitas, CA 95035
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RESIDENTIAL SEWER LINE REPLACEMENT

I. PERMIT INFORMATION:

1. This permit only includes work between the building drain 2' outside of the building and the public works encroachment line/back of city sidewalk.

2. If any work will be performed outside the owner's property, in the city encroachment underneath the city sidewalk or street, an encroachment permit must be obtained in person at the Permit Center. Encroachment permits shall only be issued to licensed contractors who provide certificates of insurance to the city.

3. A Permit may be issued only to a State of California Licensed Contractor with the proper license classification, the property owner, or the property owner designee.

II. INSTALLATION REQUIREMENTS

1. Codes: All work must comply with the California Plumbing Code (CPC), the Milpitas Municipal Code (MMC), and other adopted codes as applicable.

2. Materials:

☐ Pipe may be ABS Schedule 40, cast-iron, co-extruded ABS Schedule 40, co-extruded PVC Schedule 40, copper Type DWV, PVC Schedule 40, stainless steel 316L, or extra strength vitrified clay or any material as allowed by the CPC for sewers.

☐ All pipe, pipe fittings, traps, fixtures, material, and devices used in a plumbing system shall be listed or labeled (third-party certified) by an approved listing agency (accredited conformity assessment body) as complying with the approved applicable recognized standards referenced by the code (CPC).

3. Joints and connections:

☐ Joints and connections shall be in accordance with the CPC.

4. General requirements:

☐ The minimum size of any sewer shall be determined from the total drainage fixture units, in accordance with Table 703.2. No building sewer shall be smaller than the building drain.

☐ No building sewer serving 1 to 3 toilets shall be smaller than 3" with ¼" per foot slope (CPC).

☐ Building sewers shall be run in practical alignment and at a uniform slope of not less than ¼" inch per foot slope toward the point of disposal. Where impractical, due to the depth of the street sewer or to the structural features or to the arrangement of any building or structure, to obtain a slope of ¼ inch per foot, a pipe 4 inches through 6 inches shall be permitted to have a slope of not less than 1/8 inch per foot and a pipe 8 inches and larger shall be permitted to have a slope of not less than 1/16 inch per foot. (CPC)

☐ Piping in connection with a plumbing system shall be so installed that piping or connections will not be subject to undue strains or stresses, and provisions shall be made for expansion, contraction, and structural settlement. No plumbing piping shall be directly embedded in concrete or masonry. (CPC)

☐ No building sewer or other drainage piping or part thereof, which is constructed of materials other than those approved for use under or within a building, shall be installed under or within two feet of any building or structure, or less than one foot below the surface of the ground. This includes structures such as porches and steps, whether covered or uncovered, breezeways, roofed porte cocheres, roofed patios, carports, covered walks, covered driveways and similar structures or appurtenances. (CPC)

☐ Building sewer piping of clay or materials that are not approved for use within a building shall not be run or laid in the same trench as the water pipes unless both of the following conditions are met:

1 the bottom of the water pipe, at all points, shall be not less than 12 inches above the top of the sewer or drain line
2 The water pipe shall be placed on a solid shelf excavated at one side of the common trench with a clear horizontal distance of not less than 12 inches from the sewer or drain line.
3 Water pipes crossing sewer or drainage piping constructed of clay or materials that are not approved for use within a building shall be laid not less than 12 inches above the sewer or drainpipe. (CPC)

☐ Replacement of existing sewer using trenchless methodology and materials shall be installed in accordance with ASTM F1216.

☐ Cast-iron soil pipes and fittings shall not be repaired or replaced by using this method above-ground or below-ground. Replacement using cured-in-place pipe liners shall not be used on collapsed piping or when the existing piping is compromised. (CPC)

☐ At time of underground inspection, the pipe shall be plugged down stream from the connection to the existing pipe and filled with water up to the top of the building cleanout. A camera shall be onsite when the inspector arrives. After the piping with the plug in place has been inspected, the inspector will have the plug removed and the pipe inspected with the camera to verify there are no dips in the pipe, burrs or other problems that will require the pipe to be dug up and replaced.

☐ Abandoned sewer piping shall be plugged or capped in an approved manner within 5 feet of the property line (CPC).

5. Testing:

☐ Sewer piping shall be tested by plugging the end of the building sewer at its points of connection with the public sewer system and completely filling with water from its lowest to the highest point thereof, or by approved equivalent low-pressure air test using 4.0 pounds per square inch. Plastic DWV piping systems shall not be tested by the air test method. The building sewer shall be watertight at all points. (CPC)

6. Cleanouts:

☐ Cleanouts shall be placed inside the building near the connection between the building drain and the building sewer or installed outside the building at the lower end of the building drain and extended to grade. Additional sewer cleanouts shall be installed at intervals not to exceed 100 feet in straight runs and for each aggregate horizontal change in direction exceeding 135 degrees (CPC 719.1).

☐ When a building sewer or branch thereof does not exceed 10 feet in length and is a straight-line projection from a building drain that is provided with a cleanout, no cleanout will be required at its point of connection to the building drain (CPC 719.2).

☐ Required building sewer cleanouts shall be extended to grade (CPC 719.3).

☐ Each cleanout shall be installed so that it opens to allow cleaning in the direction of flow of the soil or waste or at right angles thereto and, except in the case of wye branch and end-of-line cleanouts, shall be installed vertically above the flow line of the pipe (CPC 719.4).

7. Trenching and backfill:

☐ Excavations shall be completely backfilled as soon after inspection and approval as practicable.

☐ Adequate precaution shall be taken to ensure proper compactness of backfill around piping without damage to piping.

☐ Trenches shall be backfilled in thin layers to 12 inches above the top of the piping with clean earth, which shall not contain stones, boulders, cinder fill, frozen earth, construction debris, or other materials that would damage or break the piping or cause corrosive action.

☐ Mechanical devices shall be permitted to then be used to complete backfill to grade.

☐ Fill shall be properly compacted. Suitable precautions shall be taken to ensure permanent stability for pipe laid in filled or made ground. (CPC)

☐ Piping shall be laid on a firm bed throughout its entire length, and piping laid in made or filled-in ground shall be laid on a bed of approved materials and shall be properly supported as required by the jurisdiction (CPC).

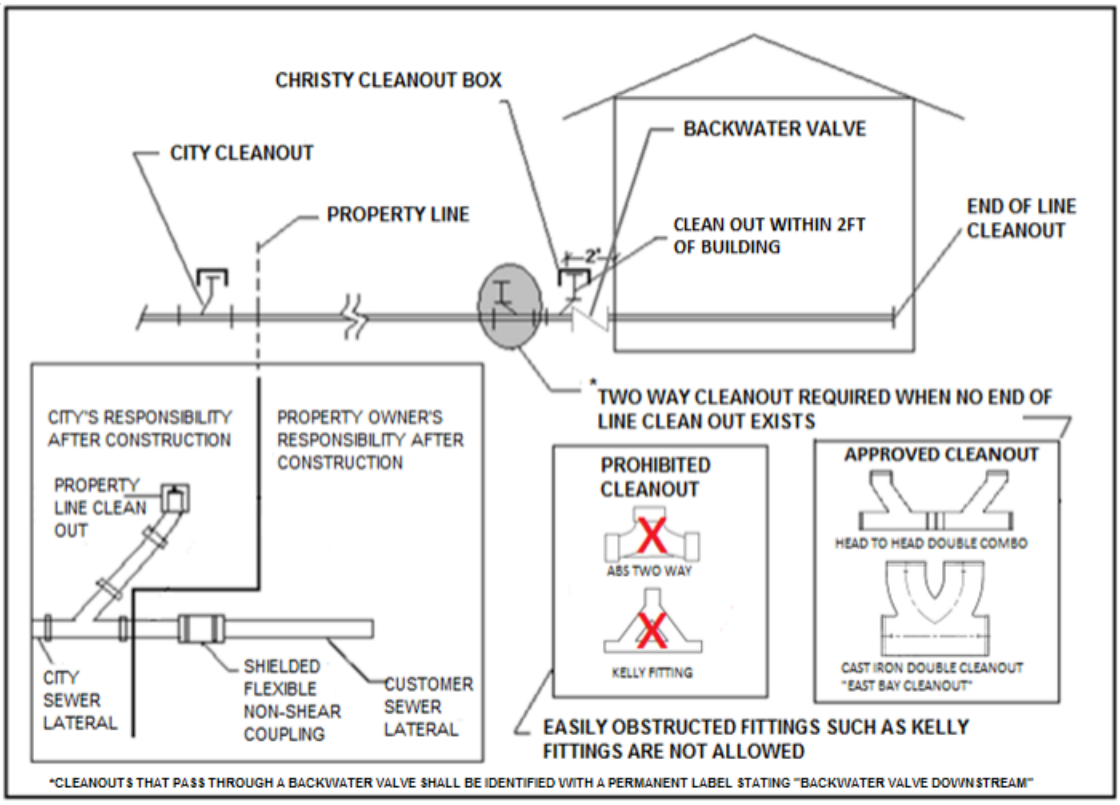

Figure CPA 055—Sewer Replacement Diagram

☐ Trenches deeper than the footing of any building or structure and paralleling the same shall be not less than 45 degrees from bottom of structure footing (CPC).

III. SMOKE ALARMS, CARBON MONOXIDE ALARMS & SPARK ARRESTERS:

In single family and multi-family residences (including townhomes, condominiums and apartments), installation of smoke alarms, carbon monoxide alarms and spark arresters on all chimneys is required prior to the final inspection. Refer to the *"Smoke Alarm, Carbon Monoxide Alarm and Spark Arrester Certificate*" handout for detailed information.

IV. WATER CONSERVING FIXTURES:

When required, prior to final inspection, all non-compliant plumbing fixtures shall be replaced. Refer to the *"Water Conserving Certificate of Compliance"* handout for details on when this is required.

V. INSPECTION PROCEDURES:

A minimum of two inspections are required for sewer line replacements, an underground plumbing and a final (see comments under trenchless above for additional information).

1. The underground inspection should be scheduled when the new sewer line is installed and filled with water to check for any leaks (but before any trenches are backfilled).

2. The final inspection shall be scheduled when all work is completed including backfill.

VI. QUESTIONS:

If you have any questions regarding your project, please contact the Office of Building Safety at (408) 586-3240.