

CITY OF MILPITAS

Office of Building Safety
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Milpitas, CA 95035
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SEWER LINE (COMMERCIAL)

1. PERMIT INFORMATION:

- This permit includes only work for sewer piping and the related cleanouts beginning 2' outside of the building or structure to the property line or public works encroachment.
- If any work will be performed inside the City right-of-way, such as installing a new city cleanout or a new connection to the city sewer main, a public works encroachment permit must be obtained in person at the Permit Center.
- A Building Permit may be issued only to the Building Owner or their Authorized Agent [CBC 105.1].
 - See also [Authorized Agent Sample Letter](#).
 - Where the Contractor is acting as the Owner's Authorized Agent, they must be a State of California Licensed Contractor with the proper license classification.
- If the work is performed by the Building Owner personally or by his/her workers and an inspection indicates the work cannot be completed satisfactorily, then a licensed contractor must perform the work.
- If the Building Owner hires workers, State Law requires the Building Owner to obtain Worker's Compensation Insurance. Proof of this insurance is required prior to inspection.

2. INSTALLATION REQUIREMENTS:

- Codes:** All work must comply with the California Plumbing Code (CPC), the Milpitas Municipal Code (MMC), and other adopted codes as applicable.
- Materials:
 - Pipe and fittings may be any material as allowed for location and system by the current edition of the CPC.
 - All pipe, pipe fittings, traps, fixtures, materials, and devices or equipment used in a plumbing system shall be listed and labeled by an approved agency [CPC 301.2].
- General requirements:
 - The minimum size of any sewer pipe shall be determined on the total number of drainage fixture units (DFU's) drained by such sewer in accordance with the CPC. No building sewer shall be smaller than the building drain. [CPC 717.1]
 - Horizontal building sewers shall be run in practical alignment and at a uniform slope of not less than $\frac{1}{4}$ inch per foot slope toward the point of disposal. Where impractical to obtain a slope of $\frac{1}{4}$ per foot due to the depth of the street sewer or to the structural features or to the arrangement of any building or structure, *and subject to approval*, a pipe 4" through 6" shall be permitted to have a slope of not less than $\frac{1}{8}$ per foot, and a pipe 8" and larger shall be permitted to have a slope of not less than $\frac{1}{16}$ per foot. [CPC 718.1]
 - 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 312.2]

- 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 2' of any building or structure, or less than 1' 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 718.3].

□ General requirements (Cont.):

- Vitrified clay pipe shall be kept not less than 12" below ground [CPC 701.2(3)].
- 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 all the following conditions are met [CPC 720.1]:
 1. The bottom of the water pipe, at all points, shall be not less than 12" 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" from the sewer 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" above the sewer pipe.
- Replacement of existing sewer using trenchless methodology and materials shall be installed in accordance with ASTM F1216, F2561, F2599, F3240 [CPC 715.3].
- Abandoned sewer piping shall be plugged or capped in an approved manner within 5 feet of the property line [CPC 722.1].

□ 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 an approved equivalent low-pressure air test. Plastic DWV piping systems shall not be tested by the air test method unless allowed by the manufacturer. The building sewer shall be watertight at all points. [CPC 723.1]

□ Cleanouts:

- Cleanouts shall be placed inside the building near the connection between the building drain and the 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 sewer or branch thereof does not exceed 10' 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 sewer cleanouts shall be extended to grade [CPC 719.3].
- Plugs shall have raised square heads or approved countersunk rectangular slots [CPC 707.1].
- Each cleanout fitting and each cleanout plug or cap shall be of an approved type [CPC 707.2].
- 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 707.5].

- Cleanouts installed under concrete or asphalt paving shall be made accessible by yard boxes or by extending flush with paving with approved materials and shall be adequately protected [CPC 719.5].
- Manholes may be permitted to be installed in lieu of cleanouts, *subject to approval*. The maximum distance between manholes shall not exceed 300'. The inlet and outlet connections shall be made by the use of a flexible compression joint not less than 12" and not exceeding 3' from the manhole. No flexible compression joints shall be embedded in the manhole base. [CPC 719.6]

Trenching and backfill:

- Building sewer pipe 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 City. [CPC 718.2]
- Trenches deeper than the footing of any building or structure and paralleling the same shall be not less than 45 degrees from the bottom exterior edge of the footing. [CPC 314.1].
- 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" 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 such as bulldozers, graders, etc. 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 314.4]

3. INSPECTION PROCEDURES

Two inspections are required for sewer line replacements, a plumbing underground and a plumbing final. The underground inspection shall be scheduled when the new sewer line is installed and filled with water to check for any leaks (before any trenches are backfilled). The final inspection shall be scheduled when all work is completed. For each inspection, the permit card and the approved job copy of the plans (if any) must be presented to the inspector.

4. QUESTIONS:

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