CITY OF SANTA CLARITA
BUILDING & SAFETY DIVISION
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Residential Graywater Systems Installation Requirements

The California Plumbing Code (CPC), as outlined in chapter 15 regulates graywater systems. They are approved for use in residential applications only, and must be installed in accordance with the provisions specified in the code.

"Graywater" is untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. Graywater includes but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers (Health and Safety Code, section 17922.12).

Types of Graywater Systems:

1. Clothes Washer System - a graywater system utilizing only a single domestic clothes washing machine in a one or two-family dwelling.
2. Single Fixture System - a system collecting graywater from one plumbing fixture, or a single drain, which collects graywater from more than one fixture in a one, or two-family dwelling.
3. Simple System - a graywater system serving a one or two-family dwelling with a discharge of 250 gallons per day or less. Simple systems exceed a clothes washer system and/or a single-fixture system.
4. Complex System - a graywater system that discharges over 250 gallons per day.

Permit Requirements:

- A Clothes Washer System and/or a Single Fixture System do not require a permit from the local governing agency to install. However, there are requirements that must be met as part of the installation of this type of system. These requirements are outlined in section 1503.1.1 of the CPC. Building & Safety staff can provide a list of these requirements.
- *Both a* Simple System *and a* Complex System *require a construction permit and inspections from the City of Santa Clarita.*

General Construction Requirements:

- Graywater systems are not permitted in areas where the water table is less than three feet below existing grade (CPC 1504.4). Verification may be required to show compliance with groundwater levels in some areas of the City.
- Graywater pipe requirements:
    - Pipes, valves, and fittings must conform to CPC section(s) 604.0, 605.0, and 606.0.
    - All pipes installed upstream of the irrigation field, or any distribution valves must be permanently identified at intervals not greater than five feet with the following, "CAUTION: NONPOTABLE GRAYWATER, DO NOT DRINK."
- Where holding tanks are used, the following requirements apply:
    - The system should be designed to discharge the total amount of estimated graywater on a daily basis (CPC section 1503.8).
    - Holding tanks must be vented and sealed against vermin and mosquitoes and have an access opening for inspection and cleaning.

    - Each holding tank must have its rated capacity permanently marked on the unit and have a sign stating, “GRAYWATER IRRIGATION SYSTEM, CAUTION - UNSAFE WATER” permanently marked on the holding tank.
    - Tanks must have an overflow system that gravity drains to the existing sewer line or septic tank. The tank must also be protected against sewer line backflow by a backwater valve.
    - Where pumps are used as part of the graywater system, the pressure should not exceed 20 psi on the downstream side of the pump. A pressure regulator should be installed where needed to reduce the water pressure.
- Irrigation field, disposal field and mulch basin construction guidelines:
    - Irrigation fields
        - Graywater emitters such as drip or micro-sprinkler emitters should be designed to resist root intrusion and be installed per the manufacturer’s instructions.
        - Drip feeder lines, where used, should be covered with a minimum of two inches of mulch or soil.
        - Irrigation fields may include filtration devices with a backwash system that discharges directly into the building sewer system. Such filtration devices should be installed per manufacturer’s instructions.
        - Where there are multiple irrigation zones, the system should include user control valves to allow the rotation of graywater distribution between the zones.
        - Each irrigation zone should be designed to include no less than the number of emitters specified in table 1504.5 of the CPC. Each zone should also have a flush valve/anti-siphon valve to prevent back siphonage of water and soil.
        - All drip irrigation supply lines must be tested at 40 psi and shown to be drip tight for five minutes prior to burial.
    - Disposal (leach) fields
        - When used, should be designed using perforated pipe, three inches in diameter, set in a trench filled with a minimum of three inches of gravel, slag, and stone or similar filter material. Pipe should have a minimum cover of two inches of gravel with an additional ten inches of earth above.
        - Refer to CPC, section 1504.5.3 for additional information regarding design criteria for disposal fields.
    - Mulch basins, where used in the design, should be sized to prevent ponding or runoff during peak graywater surge periods. Basins should be replenished with mulch as needed due to plant growth or decomposition of organic matter.
- Graywater system location and setback requirements:
    - Refer to CPC table 1503.4 for specific setbacks and location restrictions.
    - Under no circumstances shall a graywater system be allowed to drain off-site.

Additional Guidelines:

- It is recommended that a qualified professional who is familiar with the guidelines and requirements outlined in the code design graywater systems.
- When a permit is required, a site plan showing the layout of the system, along with construction details and discharge calculations will be required for review by Building & Safety.
- New residential construction may be designed to allow for future connection to a graywater system. Stub-out pipes must be permanently marked as follows, “GRAYWATER STUB-OUT, CAUTION: NON-POTABLE GRAYWATER. DO NOT DRINK.”