



Arapahoe County

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Board Summary Report

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Agenda #:

To: Board of County Commissioners

Through: Jennifer Ludwig, Director, Public Health

Prepared By:

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Presenter: Diana Rashash, Sr. Water Quality Specialist; Steven Chevalier, Environmental Health Manager (Early Childhood and Environmental Protection Programs), Public Health

Subject:

2:15 PM *Graywater Use: HB24-1362 and Response by Arapahoe County

Purpose and Request:

The purpose of this study session is to provide an overview of House Bill 24-1362, which shifts graywater regulation to an “opt-out” model effective January 1, 2026. Unless the County adopts a resolution to prohibit certain categories of graywater systems, all allowable uses, both indoor and outdoor types, will be automatically permitted in unincorporated Arapahoe County.

In accordance with HB 24-1362, which encourages collaboration with local boards of health prior to implementation of any local graywater control program, Arapahoe County Public Health (ACPH) sought and received a recommendation from the Board of Health. The Board of Health recommends maintaining current plumbing code provisions that allow indoor graywater systems for toilet and urinal flushing, while prohibiting graywater systems that discharge externally from a structure, such as laundry-to-landscape (L2L) systems.

This briefing seeks direction from the Board of County Commissioners (BOCC) on whether to:

- Take no action and allow all graywater systems starting January 1, 2026;
- Prohibit all graywater systems in unincorporated areas;
- Prohibit only outdoor graywater systems while retaining allowance for indoor graywater reuse.

Background and Discussion: Graywater is wastewater generated from bathroom sinks, bathtubs, showers, and laundry machines that can be reused for non-potable purposes, such as toilet flushing and subsurface irrigation. Regulation 86, adopted by the Colorado Water Quality Control Commission, establishes minimum standards for graywater use. HB 24-1362 transfers oversight to counties and municipalities and requires jurisdictions to “opt out” if they do not wish to allow graywater systems.

Arapahoe County Public Works and Development has adopted the 2021 International Plumbing Code (IPC), which includes provisions for graywater systems in Chapters 13 and 14. Chapter 13 covers general non-potable water systems, while Chapter 14 addresses subsurface graywater absorption systems such as L2L. Building Department staff indicated that they have jurisdiction over systems within five feet of a structure (per CRS § 12-155-103(8)(a)); however, L2L graywater systems often extend beyond this boundary as it requires subsurface irrigation, typically farther away than five feet of the structure, creating jurisdictional gray areas. Where the State or a sanitation district does not have authority, full oversight may fall to the County.

If a graywater system application were submitted under current code, the Building Department would evaluate it using the IPC, International Residential Code (IRC), and manufacturer specifications. Applicants may need to confirm system compatibility and warranties and possibly engage a design professional to address system elevation, distance, and performance. The Public Health Department would likely become involved in evaluating disinfection and filtration standards, setbacks from wells and water bodies, and bacterial thresholds. The Engineering Department may also be involved, depending on the proximity of nearby waterways or stormwater conveyances. Coordination among Departments will be essential.

Arapahoe County Public Health surveyed local water districts, municipalities, and developers to assess their positions on whether graywater systems should be permitted or prohibited.

Approximately 90 surveys were emailed, and 17 responses were received, for a 19% response rate. Nine responses were from municipalities and eight respondents from sanitation districts. Seven of the respondents did not want any type of graywater system approved. The other respondents were divided between allowing indoor or outdoor graywater use. All respondents expressed significant concerns or opposition, particularly to outdoor systems like laundry-to-landscape, citing risks related to:

- Cross-connections with potable water systems
- Long-term operation and maintenance burdens
- Homeowner understanding and compliance challenges
- Oversight and permitting responsibilities
- Environmental and water rights conflicts, including nutrient loading and impacts on return flows

While a few respondents supported indoor-only graywater systems or pilot-scale projects, most preferred prohibition or expressed strong reservations. Many emphasized that existing water-saving approaches - such as turf replacement, xeriscaping, and high-efficiency fixtures - provide more practical, lower-risk conservation outcomes. Water providers also noted that graywater reuse could conflict with utility augmentation plans or complicate regulatory responsibilities in overlapping service areas.

In jurisdictions across the state with graywater programs, adoption and public demand has been minimal, with some systems removed due to homeowner dissatisfaction. There have been no known graywater system installations in unincorporated Arapahoe County to date.

Fiscal Impact:

Should the Board choose not to prohibit graywater systems, particularly outdoor systems such as L2L, the County would be responsible for developing and maintaining a local graywater control program in accordance with Regulation 86.

Implementing a graywater program under Regulation 86 will require roughly 0.75-1.25 FTE over a 12-18-month period, with approximately 0.4-0.6 FTE allocated to the department designated as program lead (Public Works or Public Health) 0.1-0.2 FTE in Information Technology to update permit-tracking systems, and 0.05-0.1 FTE each in Communications, Legal, and Administrative support. If not designated as program lead, Arapahoe County Public Health would retain approximately 0.05-0.1 FTE for technical review of disinfection, filtration, and public-health protections. These estimates shift proportionally depending on which department the Board assigns overseeing responsibility.

In a low-utilization scenario with few permitted systems, at least 0.25 FTE would be required in the first year to support ordinance development, system setup, and basic tracking functions.

Annual maintenance of the program would still require approximately 0.15 FTE, including hours allocated to permit review, inspection coordination, public inquiries, and regulatory reporting.

Peer agencies across Colorado noted that while permit volumes have remained low, administrative and startup costs have not. In-kind staff time contributions for program development and coordination have been substantial, with some jurisdictions reporting over

\$100,000 in match or in-kind staffing toward grant-funded efforts. Several agencies also cited challenges in program planning,

enforcement, and incentive rollout, with permitting and compliance infrastructure taking longer than anticipated to implement. Some received state grants (ranging from \$139,000 to \$290,000), but these were largely allocated to workshops, pilot projects, and non-recurring incentives, not long-term operations.

The County currently lacks a dedicated fee structure for graywater systems and would need to evaluate software modifications if permitting responsibility is assigned, adding additional cost and contract change orders.

Alternatives:

Policy Option 1: Take No Action (County Automatically Opt's In on January 1, 2026):

If the County takes no action, all categories of graywater systems, indoor and outdoor, will automatically be permitted in unincorporated Arapahoe County starting January 1, 2026. This does not exempt the County from Regulation 86 requirements. In fact, it commits the County to establishing a full graywater control program with permitting, inspections, enforcement, staff training, public education, and interagency coordination.

Operational Impacts: Without a clearly designated lead department, graywater system oversight could default to either Public Works and Development or Public Health, depending on system type and location. This ambiguity increases the risk of fragmented decision making, inconsistent enforcement, and operational inefficiencies across departments, especially in areas beyond traditional plumbing boundaries. Public Health does not recommend taking on primary oversight for graywater systems, particularly those with plumbing infrastructure or operational complexity, as these functions are more appropriately handled by departments with existing technical and regulatory capacity.

Water Rights Consideration: Outdoor graywater systems must remain entirely on-site and not interfere with historical return flows under Colorado's prior appropriation system. Outdoor systems would need to be monitored to ensure no impacts to return flows or downstream water rights. A formal permitting and inspection framework would be necessary to manage compliance.

Financial Impacts: This option carries significant cost implications. Initial implementation is estimated at 0.75-1.25 FTE across departments, plus software integration, training, and ongoing oversight. Without fee recovery or dedicated funding, this would create fiscal pressure across multiple agencies.

Policy Note: Although this path involves no formal Board action, it still results in a substantive policy change. The County would be obligated to develop and enforce a regulatory program for all graywater systems permitted under state law.

Policy Option 2: Prohibit All Graywater Systems: The Board of County Commissioners could adopt a resolution that prohibits all categories of graywater systems within unincorporated Arapahoe County. This would include both indoor systems (e.g., toilet and urinal flushing) and outdoor systems (e.g., laundry-to-landscape). While the 2021 International Plumbing Code, adopted by the County, currently permits indoor graywater reuse, this option would require amending the County's Plumbing Code to remove or override those provisions.

Operational Impacts: This is the most administratively simple option. Prohibiting all graywater systems eliminates the need for internal coordination, development of separate regulations, permitting, inspection processes, staff training, and software modifications. It also eliminates jurisdictional confusion across departments and avoids the complications associated with enforcing long-term system performance, maintenance, and public health protections for graywater systems. Interdepartmental workload would remain unchanged, and existing roles and responsibilities would stay intact.

Water Rights Consideration:

This option eliminates any risk of unintended impacts to return flows or potential water rights conflicts. It provides legal clarity by avoiding introduction of new water reuse activities in unincorporated areas.

Financial Impacts: Costs would be minimal and largely limited to staff time required to develop and adopt a resolution, communicate the policy publicly, and possibly coordinate a Plumbing Code amendment. No ongoing resource investments, staffing increases, or system upgrades would be necessary.

Policy Note: While this option would override existing plumbing code allowances for indoor graywater use, it maintains consistency with current practice: no graywater systems have been permitted in unincorporated Arapahoe County to date even though they have been allowed under the County adopted International Plumbing code since at least 2015. Moreover, local jurisdictions in Colorado that have adopted graywater regulations have reported very low public uptake and/or demand by the public, with some systems later removed due to

homeowner dissatisfaction and frustration with required maintenance and service. Given the lack of demonstrated demand and the complexity of implementing a local program, full prohibition may be the most practical and resource-conscious path forward. This policy could be revisited in the future if community demand increases, new funding becomes available, or if regional best practices evolve to make implementation more feasible.

Policy Option 3: Prohibit Only Outdoor Graywater Systems (e.g., Laundry-to-Landscape) The Board of County Commissioners could adopt a resolution that prohibits graywater systems that discharge externally from a structure, such as L2L or other subsurface irrigation systems, while maintaining current Plumbing Code provisions that allow indoor graywater reuse for toilet and urinal flushing. This approach aligns with the current International Plumbing Code (IPC) as adopted by the County and would not require changes to Chapter 13, which governs indoor non-potable water systems. However, it may require clarification or targeted amendment of Chapter 14, which permits outdoor systems.

Operational Impacts:

This approach enables a controlled form of water reuse while avoiding the greater complexities associated with outdoor systems. Indoor systems require filtration, disinfection, and long-term maintenance but are already addressed in the Plumbing Code and can be permitted through Public Works. Outdoor systems, although typically simpler in design and not subject to disinfection requirements, introduce uncertainties related to soil absorption, setbacks, system siting, and jurisdictional oversight. This option minimizes regulatory and enforcement complexity while allowing the County to retain flexibility. Should future public demand increase or best practices become more established, the policy could be revisited without having prematurely launched a broader graywater program.

Financial Impacts:

Minimal. Indoor systems can be accommodated within existing permitting and inspection structures. Prohibiting outdoor systems avoids costs associated with new program development, enforcement, or interdepartmental coordination.

Water Rights Consideration:

By limiting reuse to indoor systems, this option reduces potential risk of interfering with return flows or creating legal conflict with downstream water rights holders. Outdoor systems, especially those discharging to soil, carry higher uncertainty in this area.

Policy Note:

This option aligns with current County practice and with stakeholder feedback showing limited demand and concerns about public health, water rights, and long-term maintenance of installed systems. It also allows the County to take a measured approach without closing the door to future changes; should public interest or funding capacity increase in the future, the County could consider expanding graywater allowances, like L2L.

Alignment with Strategic Plan:

- ☒ Be fiscally sustainable
- ☐ Provide essential and mandated service
- ☐ Be community focused

Staff Recommendation: Staff recommends that the BOCC adopt a resolution to prohibit graywater systems that discharge externally from a structure, such as laundry-to-landscape systems, while maintaining current Plumbing Code provisions that allow indoor graywater systems for toilet and urinal flushing. Prohibiting external systems reduces the risk of cross-contamination, limits operational challenges, and aligns with local preferences for alternative water conservation strategies such as xeriscaping and fixture upgrades such as water saving devices on faucets. This approach also minimizes legal and enforcement complexity.

Concurrence: ACPH has been working with Arapahoe County Public Works and Development Department, which is in concurrence with this recommendation.