



Town of Castle Rock

Agenda Memorandum

Agenda Date: 12/18/2018

Item #: 17. **File #:** TMP 2018-862

To: Honorable Mayor and Members of Town Council

From: Mark Marlowe, P.E., Director of Castle Rock Water

An Ordinance Amending Title 4 of the Castle Rock Municipal Code Adding a New Chapter 4.05 Entitled Graywater Systems (First Reading)

Executive Summary

This memorandum has been prepared to present an Ordinance (see **Attachment A**) which if approved by Council would allow graywater systems in Castle Rock Water's service area including areas that are or may be served through extraterritorial service agreements in the future. Graywater systems have the potential to reduce indoor water consumption by 20%. Significant reductions in outdoor consumption may also be possible depending on the type of system installed. As such, an ordinance allowing graywater systems has the potential to make significant contributions to Castle Rock's long term water efficiency and conservation goals.

In 2013, the State legislature passed house bill 13-1044 allowing graywater systems in local jurisdictions in Colorado that have created control programs for their jurisdictions in accordance with rules that were to be developed by the Colorado Department of Public Health and Environment (CDPHE). In 2015, the Water Quality Control Commission of CDPHE adopted Control Regulation 86 which sets the minimum program requirements for graywater control programs instituted by local jurisdictions. "Graywater" means that portion of wastewater that, before being treated or combined with other wastewater, is collected from fixtures within residential, commercial, or industrial buildings or institutional facilities for the purpose of being put to beneficial uses. Sources of graywater are limited to discharges from bathroom and laundry room sinks, bathtubs, showers, and laundry machines. Graywater does not include the wastewater from toilets, urinals, kitchen sinks, dishwashers, or non-laundry utility sinks.

The legislation and the control regulation allow two types of uses for graywater, toilet flushing and subsurface irrigation. Local jurisdictions must send their control programs to the Water Quality Control Division for review within 60 days of passing a local ordinance for a control program to allow graywater systems. The ordinance before Council was prepared with the help of the former head of the Colorado Water Conservation Board. The ordinance has already been reviewed with the Water Quality Control Division to ensure that it meets the minimum requirements of Control Regulation 86.

The main points of the proposed control program in the ordinance are as follows:

1. Castle Rock Water must review and approve any proposed graywater systems.
2. The systems must also meet the requirements of the International Building Code (IBC) used by the Town.
3. Once approved, installed and inspected by the Town's building inspector, the legal responsibility for the graywater system transfers to the property owner.
4. Systems will only be approved for new development, as retrofits are difficult to properly review and approve.
5. The program applies to Town limits and extraterritorial service areas served by Castle Rock Water.
6. Castle Rock Water will maintain a record of locations with graywater systems.

Notification and Outreach Efforts

Castle Rock Water presented the idea to the Developers Roundtable at the November 14, 2018 meeting. Several local homebuilders have been engaged in the concept as well. The concept will also be presented at the next Contractor Luncheon. The ordinance has been reviewed with Development Services and the Chief Building Inspector. Finally, a copy of the proposed ordinance has been shared with Douglas County and Tri-County Health.

History of Past Town Council, Boards & Commissions, or Other Discussions

On October 24, 2018, staff introduced the concept of graywater to the Castle Rock Water Commission.

On November 28, 2018 staff presented a draft ordinance to the Castle Rock Water Commission.....

Discussion

The primary focus for Castle Rock Water right now is graywater for toilet flushing although the ordinance is designed to provide maximum future flexibility. To date, the only other jurisdictions that have approved an ordinance in Colorado include the City and County of Denver and Pitkin County. Nationally, approximately 21 states have graywater regulations, most of them in the water scarce west.

According to the [Green Building Alliance <https://www.go-gba.org/resources/green-building-methods/greywater-system/>](https://www.go-gba.org/resources/green-building-methods/greywater-system/), manufactured graywater systems can cost between \$2,500 and \$9,000. The payback is unlikely to be cost effective for retrofits, but it could be effective for new builds in Castle Rock especially if homebuilders can offset some of the cost of installation through reduced system development fees (SDFs.) Castle Rock Water has two ways a builder can achieve reduced SDFs; the 0.67 tap fee and a Water Efficiency Plan. Graywater systems could be an option for the builder to achieve either of these. Ultimately, if systems save 20% on indoor water use of these systems in all, future residential could save 400 acre-feet of needed supply or \$12 to \$18 million in long term renewable water development.

Budget Impact

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The only impacts to budget would be small changes in system development fee revenue and water sales revenue consistent with the potential for reduced tap sizes and water consumption.

Staff Recommendation

Staff recommends approval of the ordinance on first reading. If approved on first and second reading, staff proposes to work with local home builders and graywater system providers on a pilot program installing some minimum number of systems and then monitoring performance for a year prior to moving to full scale implementation.

Proposed Motion

"I move to approve the ordinance as introduced by title."

Attachments

Attachment A: Ordinance

ORDINANCE NO. 2018-

AN ORDINANCE AMENDING TITLE 4 OF THE CASTLE ROCK MUNICIPAL CODE ADDING A NEW CHAPTER 4.05 ENTITLED GRAYWATER SYSTEMS

WHEREAS, the Town of Castle Rock recognized that wise water use requires efficient and effective water reuse,

WHEREAS, the Town's preferred water supply strategy, as set forth in Castle Rock's Water Resources Strategic Master Plan, includes fully utilizing its reusable water,

WHEREAS, indoor graywater systems have demonstrated water conservation savings in the amount of 20-25% of indoor water use in a typical residential home,

WHEREAS, the Colorado Department of Public Health and Environment and Colorado's Water Plan value the importance of water reuse to the future of the Front Range and the State of Colorado as a whole,

WHEREAS, Section 13.12.110 of the Castle Rock Municipal Code provides for the adjustment of service charges to defray, among other costs, all "construction of water reuse and water recharge facilities, the establishment of water conservation programs and design, management, planning, operations, maintenance and regional agreements associated with such overall water and sewer long-term resource plans and programs," and

WHEREAS, this ordinance provides clear guidance to homebuilders and homeowners regarding the implementation of graywater systems.

NOW, THEREFORE, IT IS ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF CASTLE ROCK, COLORADO:

Section 1. Amendment. Title 4 of the Castle Rock Municipal Code is amended by the addition of a new Chapter 4.05 entitled Graywater Systems, to read as follows:

4.05.010 Graywater systems.

A. Requirement. Graywater systems shall comply with the minimum requirements of Colorado State Regulation 86, as well as any and all other applicable state and local requirements.

B. Castle Rock Water's service boundary including Town limits and areas served through Extraterritorial Agreements shall constitute the legal boundary for graywater system jurisdiction for graywater use categories A, B, C, and D as defined in Colorado State Regulation 86.

C. Castle Rock Water is the local agency responsible for oversight and implementation of all graywater regulatory activities in the Town limits of Castle Rock as required by Colorado State Regulation 86.

D. Castle Rock Water's graywater control program meeting the requirements of Colorado State Regulation 86 is as follows:

1. Castle Rock Water shall determine any graywater system fee structure, maintain a record of the locations where graywater systems are installed, and review and approve design criteria for any system consistent with Colorado State Regulation 86. Graywater systems are only allowed in new homes where plumbing systems have been designed for the graywater system.

2. Upon issuance of a certificate of occupancy and the sale of a new home, the legal responsibility including operation and maintenance of approved graywater recycling systems transfers similar to other residential household appliances to the homeowner. The transfer of property ownership must include the transfer of records and operating manuals related to the graywater system and is accomplished by paper or electronic records transferring with a graywater system.

3. Appropriate graywater space allocation is required for graywater systems and system location must be identified on permit drawings. These drawings should indicate all plumbing connections to ensure compliance with local code requirements. Graywater system specifications are to be included with permit drawings. In the process of inspecting for the certificate of occupancy, if an inspection is adequately conducted and the inspector is knowledgeable of the NSF 350 Standards, Colorado State Regulation 86, and the applicable plumbing code, the final inspection is used to verify that a graywater system meets regulatory requirements.

Section 4. Severability. If any clause, sentence, paragraph, or part of this ordinance or the application thereof to any person or circumstances shall for any reason be adjudged by a court of competent jurisdiction invalid, such judgment shall not affect the remaining provisions of this ordinance.

Section 5. Safety Clause. The Town Council finds and declares that this ordinance is promulgated and adopted for the public health, safety and welfare and this ordinance bears a rational relation to the legislative object sought to be obtained.

APPROVED ON FIRST READING this ____ day of _____, 2018 by a vote of __ for and __ against, after publication in compliance with Section 2.02.100.C of the Castle Rock Municipal Code; and

PASSED, APPROVED AND ADOPTED ON SECOND AND FINAL READING this

____ day of _____, 2018, by the Town Council of the Town of Castle Rock by a vote of ____ for and ____ against.

ATTEST:

TOWN OF CASTLE ROCK

Lisa Anderson, Town Clerk

_____, Mayor

Approved as to form:

Approved as to content:

Robert J. Slentz, Town Attorney

Mark Marlowe, Director of Castle Rock Water