



Town of Castle Rock

Agenda Memorandum

Agenda Date: 4/17/2018

Item #: 13. **File #:** TMP 2017-1697

To: Honorable Mayor and Members of Town Council

From: Mark Marlowe, P.E., Director of Castle Rock Water
Matt Benak, P.E., Water Resources Manager

Update: Drought Management Plan

Executive Summary

The purpose of this memorandum is to provide an update to Town Council on the draft Drought Management Plan (Plan) (see **Attachment A**). This Plan focuses on long-term drought management in addition to strategies that provide short-term responses to temporary drought-related water supply shortages. Implementing the Plan will provide an organized and conservative approach to declaring drought stages and communicating the needed actions by the community to protect the Town's water supplies. In order to properly implement the Plan, changes are proposed to Town Code to incorporate the Plan into the Town's response to drought under section 13.12.070, Emergency regulation of water. **Attachment B** provides suggested changes to Town Code.

The Town has not had historic plans specific to drought management in the past, but water conservation measures have been in place since the mid-1980s. Based on the Douglas County Hazard Mitigation Plan (2015) there have been seven significant droughts in the last 121 years (1893 -2014). This averages to a drought roughly every 17 years or about a 6 percent chance of a drought in any given year. As our water system becomes ever more reliant upon renewable water for our supplies, planning for the management of our water resources during periods of dry weather or limited surface water supplies is prudent.

The Plan was also developed with input from a wide-spectrum of the community, including: Castle Rock Water, two members of the Castle Rock Water Commission; Development Services; Parks and Recreation; Castle Rock Fire and Police; Homeowner Associations (HOA) and members of the development community. As part of the \$35,000 grant we received from the Colorado Water Conservation Board (CWCB), Castle Rock Water is required to have a 60-day public comment period. The period began on February 7, 2018 with an open-house that was hosted by Castle Rock Water to present this Plan (and other information) to members of the Castle Rock community.

The Plan is intended to be a guide to facilitate water use decision-making. The Plan objectives include:

- Planning for droughts before they occur;
- Protecting public health and safety, and minimizing the adverse effects of a water supply shortage;
- Providing comprehensive and flexible guidance for drought response, and allowing for an appropriate range of actions to respond;
- Identifying and determining the severity of droughts through a clear definition of triggers;
- Providing effective communication to customers, the public and governmental departments/agencies, so they clearly understand the situation and the actions taken.

Some of the key actions that Castle Rock Water currently performs, or will be doing relative to drought management include:

- Ongoing monitoring of drought indicators;
- Development of new water supplies (this includes WISE, the development of infrastructure to fully utilize our return flows in Plum Creek, and the Box Elder project);
- Cooperative water sharing agreements with neighboring communities;
- Operation and maintenance activities that improve water efficiency;
- Conservation measures specified in the Water Efficiency Master Plan (WEMP).

Droughts can vary significantly in extent, severity and duration (one only need to look at the recent issues with Cape Town, South Africa and the multi-year drought in California), and with that the Plan lays out how to determine when a local drought starts and the severity, and what an appropriate level of response would be for each drought category. A water supply index will be monitored and tracked by Castle Rock Water on a daily basis, and ultimately will help Castle Rock Water determine when there is a need to declare a drought and what stage response is needed. The table below shows what response targets and key restrictions would be put in to effect for each drought stage level.

Drought Stage	Response Targets	Key Restrictions
Advisory	10% Water Savings	Voluntary water use reductions
Watch	25% Water Savings	Outdoor watering limited to 2x/week
Warning	40% Water Savings	Outdoor watering limited to 1x/week
Emergency	50% Water Savings	No outdoor watering/irrigation
Critical/Crisis	60+% Water Savings	No outdoor watering/irrigation, plus some indoor water use restrictions

Ultimately, it will require the entire community to embrace water conservation during periods of drought conditions to help stretch our water supplies.

Notification and Outreach Efforts

On February 7, 2018, Castle Rock Water held an open-house to present the Plan to the community. No specific comments on the draft Drought Management Plan were received. **Attachment C** provides all of the comments received at the open house.

On February 21, 2018, Castle Rock Water presented the Plan to the Developers Roundtable.

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

On February 22, 2018, Castle Rock water presented the Plan to the Planning Commission. The Plan was well received by the Commission.

On February 28, 2018, Castle Rock Water presented the Plan to the Castle Rock Water Commission. Castle Rock Water Commission again, and Commission unanimously recommended Council adoption of the Plan and changes to Municipal Code Section 13.12.070 as shown in **Attachment B**.

On March 28, 2018, staff presented the Plan to the Castle Rock Water Commission.

Discussion

Castle Rock Water continues to pursue and make progress towards its goal of 75 percent of its water from renewable sources by 2050, which will provide a more diverse and reliable long-term water supply; however, this transition subjects the Town to potentially larger effects from drought. Therefore, one of Castle Rock Water's strategic tactics has been to develop a Drought Management Plan. Castle Rock Water applied for and received a grant from the State to help prepare this Plan.

As part of the \$35,000 grant we received from the Colorado Water Conservation Board (CWCB), Castle Rock Water is required to have a 60 day public comment period. The period began on February 7, 2018 with an open-house that was hosted by Castle Rock Water to present this Plan (and other information) to members of the Castle Rock community.

Castle Rock Water has been proactive in its planning efforts to ensure the stability of the Town's water future. For instance, the 2016 Water Resources Strategic Master Plan presents strategies for diversifying our long-term water supply and optimizing infrastructure performance, while the 2015 Water Efficiency Master Plan discusses ways that the community can use water in a more efficient manner. Both of these documents relate to drought management; however, this new Plan focuses specifically on how Castle Rock Water will monitor drought conditions and what actions will be taken in the event of different levels of drought.

As part of the Plan development, Castle Rock Water engaged with various stakeholders from the community who made up the Drought Committee. During two work sessions, this Committee allocated and prioritized the Town's water usage into four categories (highest to lowest priority):

Priority 1 - Health and Safety: This includes indoor residential use, water treatment plants, hydrants (for emergency use), wastewater treatment and collection and hospitals, other health care facilities, and other emergency services.

Priority 2 - Business Indoor Use: Includes indoor use by the commercial and public sector including schools, stores, offices, hotels, and restaurants.

Priority 3 - Outdoor irrigation (public spaces): Includes parks, sports fields, landscapes, swimming pools and recreational spaces. Tree irrigation is prioritized over turf. Also, includes, outdoor

commercial business enterprises (including golf course) as well as construction purposes.

Priority 4 - Outdoor irrigation (residential and commercial): Includes outdoor irrigation in single and multi-family residential, and public and commercial sectors (including car wash facilities); HOA streetscapes and greenbelts.

Castle Rock Water intends to monitor drought conditions on a continuous basis by staying up to date on information from the U.S. Drought Monitor maintained by the National Oceanic and Atmospheric Association (NOAA), and more importantly we will be using a local Water Supply Index (WSI) which will provide an objective value of how the Town's water supplies are doing versus our demand. This WSI will be a key indicator that Castle Rock Water will be able to look at each day and will help inform us of what drought stage the Town is in locally regardless of the broader regional drought conditions tracked by NOAA.

Drought stages and actions to be taken by the community will be communicated with the Community Relations Department to ensure that accurate information is being conveyed and that educational and outreach opportunities are maximized. Outreach will consist of website communication, social networking, emailing, and public postings. Information on water bills and media press releases may be used as well. Castle Rock Water will also keep the Town Manager and Town Council apprised of drought conditions and associated mitigation actions to be taken by the community.

Budget Impact

Castle Rock Water contracted in 2017 with AMEC-Foster Wheeler for \$47,800 to help produce the Drought Management Plan. Additionally, the Town received a grant in 2017 from the Colorado Water Conservation Board (CWCB) for \$35,000 for Plan preparation. Funding for this project comes from account number 211-4340-443.30-80 (Water Resources - Planning Services).

The implementation of the DMP will undoubtedly take some effort. Castle Rock Water plans to utilize existing staff to monitor conditions, water supplies, and assist with community outreach. Any agreements with regional entities during times of drought to firm up or supplement our supplies will be brought to Town Council for consideration. In the event of a drought, significant community notification will be required (such as website updates, direct mailing, social media posts, emails, etc.) Castle Rock Water will budget for these types of costs starting in 2019.

Recommendations

Staff recommends that the Drought Management Plan and the related revisions to Code be finalized following input from the community during the 60-day public outreach period. Castle Rock Water intends to bring back a final Plan for Town Council approval in April 2018.

Attachments

Attachment A: Draft Drought Management Plan
Attachment B: Proposed changes to Code
Attachment C: Comments from Open House