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The State of Water-Wise Landscaping Standards in Colorado

AUTHORS

CHELSEA BENJAMIN | Policy Advisor, Healthy Rivers

LINDSAY ROGERS | Policy Manager for Municipal Conservation

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Executive Summary

Over the past few years, Colorado has experienced an unprecedented transformation of our urban landscapes. As the state's water resources have faced increased strain from climate change, drought, and population growth, action has been taken to implement and accelerate policies and programs that transition the state away from water intensive, cool season turfgrass toward native and water-wise plants and landscaping practices.

One important strategy to accelerate this landscape transformation is the adoption of water-wise landscaping standards that limit the installation of nonfunctional cool season turfgrass in new development and redevelopment. This strategy becomes even more timely given recent state and local entities' significant investments in turf replacement projects and incentive programs. Paying to remove turfgrass, only to have new nonfunctional turfgrass installed in new development is costly and inefficient. Recognizing this challenge, in 2024, the Colorado legislature passed SB24-005 which prohibits the installation of nonfunctional turfgrass on all new and redeveloped nonresidential properties starting Jan. 1, 2026.

Faced with this deadline, it is useful to understand the status of turf limits in Colorado and to provide resources to Colorado communities as they work to meet or exceed the state's requirements and to improve their community water and climate resilience.

This report analyzes the current state of water-wise landscaping codes among the 40 Colorado communities that are covered by turf replacement incentive programs. Of these communities, half have some form of a turf limit in place for new development and redevelopment. The report details different types of turf limits in these communities, the various motivations behind their policies, and changes we can anticipate in future years. It also highlights several examples of communities with robust water-wise landscaping standards and provides an analysis of the four communities in this sample whose turf limits are currently aligned with the SB24-005 legislation.

Introduction

The State of Landscape Transformation in Colorado

Colorado is facing a looming water supply shortage. The state's water resources are under increasing strain from climate change, drought, and population growth. By 2050, the Colorado Water Plan projects that demand will exceed supplies by between 230,000 to 740,000 acre-feet per year in the municipal and industrial (M&I) sectors.¹ In Colorado, 38% of M&I water is used outdoors,² with much of this being applied to cool season turfgrass. Most of this water is used by the plant or evaporates, meaning that it cannot be reused. Water-wise landscapes that incorporate native and drought-tolerant plants typically use 50% less water.³ In recent years, the concept of transforming landscapes from cool season turfgrass to more water-wise landscapes has emerged as an important strategy to close the projected M&I gap and to ensure the resiliency of our communities' water supplies.

A key opportunity to accelerate landscape transformation is the adoption of water-wise landscaping codes and standards that limit the installation of high water use plant materials, and specifically nonfunctional turfgrass, in new development and redevelopment. Nonfunctional turfgrass refers to cool season turfgrass (also referred to as "turf" in this report) that does not serve a recreational, civic, or community purpose and includes areas such as medians, park strips, and street frontage areas, among others.⁴

In 2022, the Colorado legislature passed HB22-1151 which established a dedicated Turf Replacement Fund with a \$2 million initial appropriation. This fund contributed to an influx of new and expanded local turf replacement programs and projects and, as of fall 2023, there were 38 local turf replacement incentive programs across the state. As state and local entities have made significant investments in recent years in turf replacement projects and incentive programs, it has become even more important to address the water intensity of landscapes in new development. While turf replacement incentives are an important component to achieving water-wise landscape transformation, paying to remove turfgrass, only for new nonfunctional turfgrass to be installed in new development is costly and inefficient.

Recognizing this problem and the myriad benefits associated with water-wise landscapes, in 2024 the Colorado legislature passed SB24-005 which prohibits the installation of new nonfunctional turfgrass, artificial turf, and invasive plants in new and redeveloped nonresidential properties. The legislation requires all cities and counties to adopt local landscape standards in compliance with SB24-005 by Jan. 1, 2026.

This report analyzes the current state of water-wise landscaping codes in Colorado communities that are covered by turf replacement incentive programs. It details the different types of turf limits in each

¹ Colorado Water Plan, 2023, Colorado Water Conservation Board.

https://dnrweblink.state.co.us/CWCB/O/edoc/219188/Colorado_WaterPlan_2023_Digital.pdf

² Colorado Water Conservation Board (CWCB). 2019. Analysis and Technical Update To The Colorado Water Plan. Volume I.

<https://cwcb.colorado.gov/colorado-water-plan/technical-update-to-the-plan>

³ Updated 2024 Exploratory Analysis of Potential Water Savings, Costs, and Benefits of Turf Replacement in Colorado, BBC Research & Consulting.

https://dnrweblink.state.co.us/CWCB/O/edoc/223774/UpdatedBBCTurfReplacement_Final%20Report%202024.pdf?searchid=03cfd9b4-addf-4bd5-85e1-3b4c139b6c28

⁴ Cool season turf refers to high water demand grasses such as Kentucky bluegrass and fescues. In the Front Range, these grasses typically require approximately 19 gallons of water per square foot per growing season. In Colorado, policies that limit cool season turf are not intended to limit other types of grasses such as native, adaptive, or warm season grasses that are low or medium water demand plants.

community, the various motivations behind these policies, and changes we can anticipate in future years. It also highlights several examples of communities with robust water-wise landscaping standards and provides an analysis of the four communities in this sample whose turf limits are currently aligned with SB24-005 legislation.

Components of a Water-Wise Landscape Code

Landscaping regulations establish minimum standards for the materials, technologies, and practices required for the design and installation of landscaping in new development and redevelopment. They are typically included as a chapter, section, or sections of a municipality or county's land use code or zoning code or are developed as a stand-alone criteria manual. Traditionally, landscape codes were adopted to promote a shared aesthetic, community cohesion, and public safety. This includes elements such as buffering and screening requirements, the amount of landscaping required, maintenance requirements, and prohibited plant species. While these elements and goals are critical to a comprehensive landscape code, communities are expanding their goals to also include environmental and public health priorities such as: the protection and expansion of urban tree canopies, the development of community green space, reducing the urban heat island effect, managing stormwater on-site through low impact development practices, and reducing landscape water demand through irrigation and landscape efficiency best practices, among other priorities.

Turf limits are one of a wide range of potential strategies that can help communities reduce water demand and achieve their other environmental and public health goals. In Colorado, while it used to be a common practice to require the installation of cool season turf in a landscaping code, today many communities limit turf to reduce outdoor water demand, improve water security, and build resilience to drought. Communities take a variety of approaches to limiting turf including restricting all nonfunctional turf on certain property types, limiting turf to a certain percentage or square footage area, requiring low water use plants, and setting maximum landscape water budgets. In addition to turf limits, communities can also reduce outdoor water demand through:

- Soil amendments and mulch requirements to improve soil moisture retention and reduce evaporation.
- Irrigation efficiency standards such as requiring smart irrigation controllers and rain sensors.
- A plant list with information on plant water requirements.
- A hydrozone requirement that specifies plants with similar water requirements must be grouped together in the landscape.
- Landscape and irrigation professional certification requirements for individuals or companies designing and installing new landscapes.
- Landscape and irrigation maintenance requirements to prevent leaks and irrigation inefficiencies and to specify water-wise plant replacement requirements.

SB24-005: PROHIBIT LANDSCAPING PRACTICES FOR WATER CONSERVATION

SB24-005: Prohibit Landscaping Practices for Water Conservation was signed into law by Governor Polis on March 15, 2024.⁵ The bill, which was sponsored by Senators Roberts and Simpson and Representatives McCormick and McLachlan, prohibits the installation of nonfunctional cool season turfgrass, artificial turf, and invasive plant species on new or redeveloped nonresidential properties beginning Jan. 1, 2026. Residential properties are not subject to SB24-005 requirements. The bill directs all municipalities and counties to develop or amend their local codes or standards to meet or exceed the state's requirements.

SB24-005 defines functional and nonfunctional turf as follows:

Functional turf means turf that is located in a recreational use area or other space that is regularly used for civic, community, or recreational purposes, which may include: playgrounds; sports fields; picnic grounds; amphitheaters; portions of parks; and the playing areas of golf courses, such as driving ranges, chipping and putting greens, tee boxes, greens, fairways, and roughs.

Nonfunctional turf means turf that is not functional. Nonfunctional turf includes turf located in a street right-of-way, parking lot, median, or transportation corridor.

Properties subject to SB24-005 include:

- Commercial
- Industrial
- Institutional, including state-owned
- Common Interest Community Property (also referred to as Homeowners' Associations' Common Areas)
- Medians
- Parking lots
- Transportation corridors
- Street rights-of-way

Communities are given the flexibility to further define in their codes which turfgrass in their community serves a civic, community, or recreational purpose, and thus, should be considered functional.

SB24-005 also prohibits the installation of invasive plant species and artificial turf – excepting athletic fields – on all new and redeveloped nonresidential properties. The aim of this restriction is to ensure that cool season turf is not replaced with landscape material that could cause other environmental or health challenges.⁶ Beyond artificial turf and invasive plants, SB24-005 leaves it to each community to determine the specific landscape material that will be installed in place of turfgrass, however, the intent of the legislation is to promote water-wise landscaping material and practices.

Of the 40 landscape codes reviewed as part of this analysis, four appear to be fully compliant with the nonfunctional turf limit requirements of SB24-005. These codes, which are explained in more detail in the “Colorado Landscape Code Examples” section include:

- City of Aurora
- Town of Castle Rock
- City and County of Broomfield
- City of Edgewater.

⁵ SB24-005 Prohibit Landscaping Practices for Water Conservation, (2024). <https://leg.colorado.gov/bills/sb24-005>

⁶ WRA's report “[Is Artificial Turf a Beneficial Water Conservation Tool in the West?](#)” summarizes the benefits and drawbacks of artificial turf as it relates to: water management, temperature impacts, life cycle analysis, PFAS contamination, harmful chemicals, microplastic contamination, pet waste buildup, and cost.

Research Methodology

Landscape Code Review

In fall 2023, WRA analyzed 40 landscape codes from Colorado communities where turf replacement funding programs were offered. Of the 38 turf replacement programs WRA identified,⁷ 30 are offered by cities and counties with land use authority, however, in the eight cases where a water provider or conservancy district administers the program, a representative sample of landscape codes from the larger communities within their service area with land use authority were examined.⁸ The full list of landscape codes with turf limit details are included in [Appendix A](#).

Each landscape code was reviewed to determine whether the code limits the use of cool season turfgrass. Specific research questions included:

- Does the code require cool season turfgrass in any property types?
- Does the code include a landscape water budget to limit landscape water demand to a specific number of gallons per square foot per growing season?
- Does the code include specific limits on cool season turf for residential and nonresidential properties (e.g., square foot limits, percentage turfgrass limits, nonfunctional turfgrass definitions and exclusions, limits on turfgrass in sloped or narrow areas such as medians, etc.)?
- Does the code require a percentage or number of water-wise landscaping plants, effectively excluding the use of only cool season turf or other high water use plants?
- Does the code include overhead irrigation limits that effectively exclude the use of cool season turfgrass (e.g., no overhead irrigation in narrow areas)?
- Does the code include any other standards designed to limit the use of high water use plants and turfgrass?

Community Outreach and Survey Verification

Once the landscape codes were examined, WRA developed a survey questionnaire to verify the results and gather additional information on: the community's motivations behind establishing a turf limit, any potential planned updates or modifications to the turf limit component in the future, and what communities are prioritizing in their current landscape codes (See [Appendix B](#) for survey questionnaire details).

WRA shared the questionnaire and research results with each community via email in September 2023. Overall, 25 communities responded to the verification request with 17 completing the survey questionnaire and eight providing verification and additional information via email. The research was primarily reviewed by water resources and conservation staff, land use planners, sustainability managers, and landscape architects in the communities. Notably, this survey was conducted prior to

⁷ This list of programs built upon prior WRA research for our 2022 Financing the Future: [How to Pay for Turf Replacement in Colorado](#) report, and includes programs funded by the [CWCB's Turf Replacement Program](#).

⁸ Northern Water Conservancy District's Water Efficient Landscaping Grants program was included in the list of turf replacement programs, but no specific analysis was conducted for it since the District serves more than one million customers and numerous communities across eight counties and many of these communities had their own, additional turf replacement incentives.

the passage of SB24-005. Given these new state requirements, we would anticipate that communities' timelines and motivations to update their landscaping codes may have shifted.

Comparative Analysis

Feedback from the community outreach was organized in Excel and the data was analyzed to identify patterns, trends, and key findings associated with the current state of turf limits in landscape codes in Colorado and changes we're likely to see in the future.

Findings from Landscape Code Analysis

Overview of Trends

Of the 40 codes examined, half limit turf or high water use plant material through some type of policy mechanism. The remaining do not limit turf or high water use plants through any mechanism (17/20), or do not have a landscape (3/20).

Of the 20 landscape codes that limit turf, the policy mechanisms adopted include: delineating percentage or square foot turf limits; requiring water-wise plants; limiting turf in certain areas such as in medians, on sloped areas, in curbside landscapes, or in narrow areas; stipulating certain irrigation requirements; and requiring maximum landscape water budgets. All 20 landscape codes that limit turfgrass employed multiple mechanisms to limit turf (e.g., a percentage turfgrass limit *and* prohibitions on overhead irrigation in narrow areas). Below is a breakdown of the turf limit strategies employed (Figure 1).

- **Sixteen** communities limit turf in specific areas that include medians, curbside landscapes, narrow areas, and slopes, and they do so by clearly stating turf is prohibited in those areas, or by establishing irrigation requirements that essentially ban turf.
- **Twelve** communities limit turf via clearly delineated allowable percentages or square footage of turf in different types of new development (e.g., 25% of the landscape area in the front yard, 500 sq. ft. of turf in backyard).
- **Eleven** communities require certain types and amounts of water-wise plant materials to be installed.
- **Five** communities limit turf through the implementation of water budgets, which restrict the amount of high water use vegetation that can be planted.
- **Four** communities have adopted specific definitions for functional versus nonfunctional turf areas, and turf is prohibited in the nonfunctional areas.
- Finally, of the codes examined, only **one** was found to require cool season turf in a landscape.

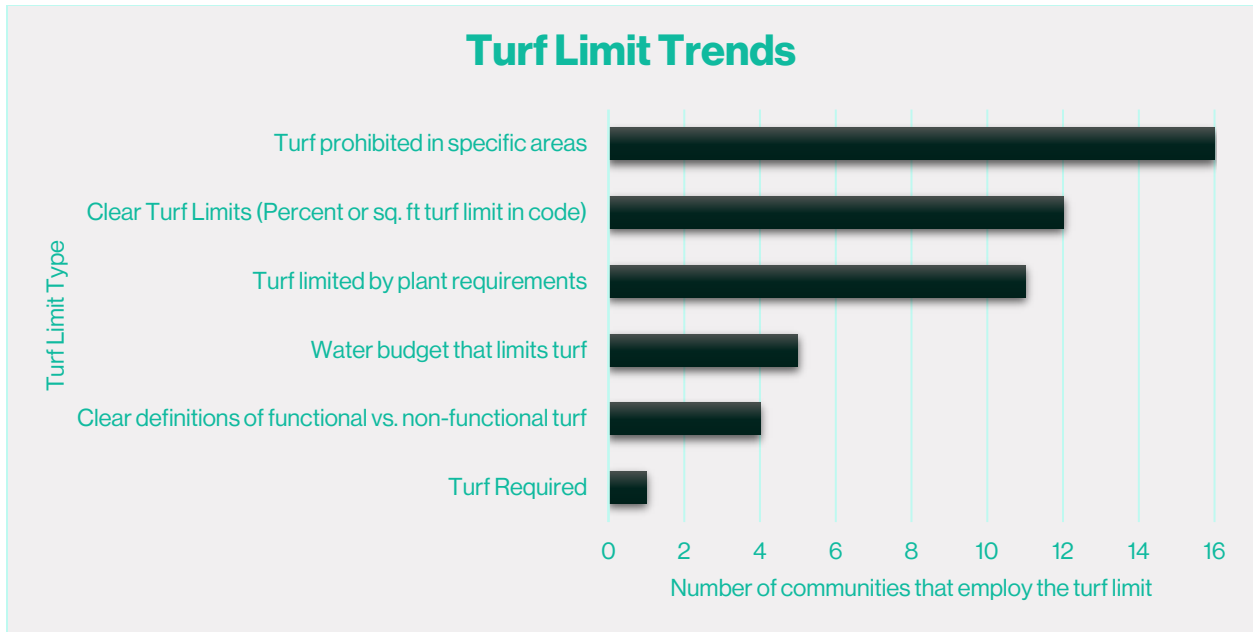


Figure 1. Turf limit trends identified in the research.

Turf Prohibited in Specific Areas

The most common strategy to limit turf was to directly prohibit it in certain areas (e.g., medians or curbside landscapes) or to limit irrigation such that turf was effectively restricted. Of the 16 landscape codes that employ this strategy:

- **Nine** do not allow cool season turf in medians.
- **Six** do not allow turf in curbside landscapes.
- **Seven** limit turf in other narrow areas, typically by specifying that turf is not allowed in areas less than 8 or 10 ft. wide. These areas are likely specified because they don't serve a recreational purpose, and they are difficult to irrigate efficiently with overhead irrigation.
- **Seven** restrict landscape areas that can be irrigated through overhead irrigation systems (e.g., prohibiting overhead irrigation on medians, curbside landscapes, narrow areas). Since turf is most effectively irrigated using overhead irrigation, these codes effectively limit turf in those areas. Some codes require drip irrigation instead, which is an expensive and technically challenging irrigation solution for turfgrass.
- **Eight** prohibit turf on sloped areas. Sloped areas are difficult to water efficiently because water runs down the slope and pools at the bottom, rather than soaking in to the ground. In these areas, more water is typically applied to counteract this issue, leading to water waste.
- **One** community – Colorado Springs – only allows turf to be planted in areas that are at least 100 sq. ft., recognizing that smaller parcels are harder to water efficiently and lead to water waste issues like overspray.

Clear Turf Limits

Of the 40 codes examined, 12 have clearly delineated turf limits for new development and redevelopment. These limits generally include a percentage and/or a square footage of turf that is allowed on a residential or commercial property. Among the 12 communities:

- **Eight** limit turf on both residential and nonresidential properties;
- **Two** limit turf only on residential properties; and
- **Two** limit turf only on nonresidential properties.

While turf limit percentages range from 25% to 50% of landscaped area on residential properties, the most frequently used percentage turf limit is 25% on residential properties, and 25% or 30% on nonresidential properties.

Over the past two years, several communities including Aurora, Castle Rock, and Broomfield have passed more restrictive turf limits. Aurora and Castle Rock both limit turf to 500 sq. ft. or less of a backyard in single family residential properties and prohibit it in commercial, industrial, and institutional properties, except in active recreation areas. Broomfield limits both residential and nonresidential turf to 30% of a landscape and requires that low water grass species be used in place of cool season turf. Many other cities have followed their lead or are currently updating their codes to follow suit.

Water-Wise Planting Requirements

Water-wise plant requirements are a popular way to limit turf, as eleven communities employ this in some form in their code. Planting requirements can take many forms including specifying exactly which types of plants are allowed, requiring developers to choose plants from a specific plant list, requiring all or a certain percentage of a landscape to be low water or native plants, or suggesting low water plants be used.

Two codes include plant requirements that essentially prohibit cool season turfgrass for new development. Castle Rock's code requires plants to be selected from a city plant list and does not allow any plants that require over 10 inches of irrigation per year at nonresidential properties. Castle Rock also prohibits plant materials that require over 19 inches of irrigation per year in any areas where grasses are allowed at residential properties and specifies that 100% Kentucky bluegrass is not allowed. Developers are required to choose plants from the city plant list. The City and County of Broomfield also limits the types of grasses that can be planted at new and redeveloped properties with a specification that grass seed mixes that include more than 20% of a cool season turf species cannot be used in new landscapes. This means cool season turf species like Kentucky bluegrass are not allowed in new development, and grass must instead be a low water hybrid or low water use species to meet the city's requirements.

Five communities require a certain percentage of plants in a landscape to be drought-tolerant, native, or low water use. For example, Edgewater requires 25% of a landscape to be planted with non-irrigated, very low, or low water use plants. Many of the other codes examined in the research suggest or recommend the use of regionally adapted, native, or low water plants.

Water Budget Trends

Five communities put in place water budgets that limit the amount of water a landscape may use to a specific amount that is less than the water requirements of cool season turf. For example, Fort Collins

set a water budget of 15 inches per sq. ft. per growing season. This effectively prohibits turfgrass, which requires 22-24 inches of water during its growing season on the Front Range.

Clear Definitions of Functional and Nonfunctional Turf

Four cities include definitions of functional versus nonfunctional areas of turf. Functional areas typically include actively programmed recreational areas, and nonfunctional areas include spaces where turf is not actively used such as office parks and parking lots. These definitions can be helpful to cities when approving new development and giving guidance on where to allow or limit turf in new landscapes, instead of leaving developers to guess and fall back on using turf instead of water-wise landscaping.

Turf Minimum Trends

Only one community was found to require turf in new single family residential development. The city requires at least 25% of a single family residential landscape to be cool season turfgrass, with a maximum threshold of 50%. The city is currently in the process of updating their landscape code.

Findings from Community Survey

Of the 17 respondents to the community survey, nine had adopted codes that limit turfgrass and eight had not. Respondents were asked for details about their motivations and priorities for limiting turf in the landscape code and whether they have any code changes in process (see questions in [Appendix B](#)).

Turf limit included in a community planning effort or priority

Respondents were asked to share whether goals or priorities around limiting turfgrass were included in a community planning effort or council priority. Of the six responses to this question:

- **Two** communities prioritized limiting turf in their landscape code in their water efficiency plans;
- **Two** communities prioritized turf limits in their comprehensive plans; and
- **Two** communities limited turf to address their city council's priorities.

Community landscape code priorities

Of the nine responses to the question of what values and goals their community is prioritizing with their landscape code, the choice with the highest number of top rankings was water savings. Project affordability was the second most highly ranked response. Staff capacity and expertise to review/approve also ranked highly, as well as aesthetics. The lowest ranked options were safety, reducing urban heat island effect, trees, and environmental protection (watershed, open space, etc.).

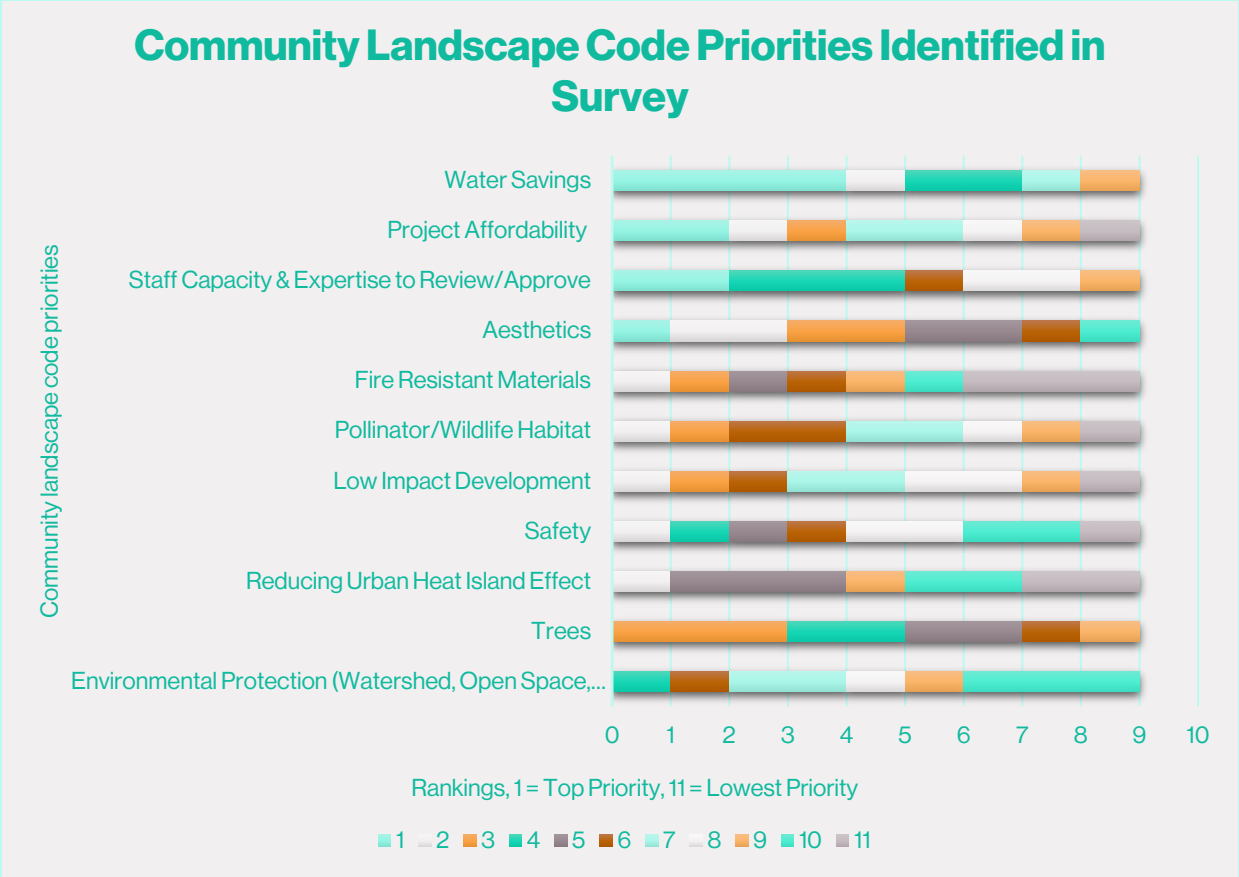


Figure 2. Ranking of what community respondents are prioritizing in their landscape codes, from highest, to lower priority.

Code changes in process

Eight community respondents reported that they have code changes in process or are planning to update their code in the next few years. Seven of these communities plan to limit turf in their code update. One community plans to update their code but will not include any limits on turf in new development because their community is entirely built out. They are focused instead on demand management on existing landscapes.

Of the communities that are currently updating or planning to update their codes, some provided their community’s motivation for the update. Several communities are updating their landscape code because they are grappling with a lack of water availability and need to restrict water usage to ensure an adequate future supply for their community. Other communities plan to use their landscape code to improve community aesthetics and plant coverage in landscapes to reach other environmental goals like improved urban cooling and reduced stormwater runoff. The City of Fountain, for example, has had success in reducing turf in new developments through conservation-oriented system development charges that offer a lower water connection fee for landscapes that have only a small cool season turf

element.⁹ However, the city does not have specific landscape code requirements for new developments, and as a result, developers have been meeting the tap fee reduction incentive by installing landscapes that include a small area of cool season turfgrass and a large amount of rock. The city would like to improve landscape aesthetics by updating its landscape code to provide more guidance for landscapes in new development to create both water-wise and beautiful landscapes.

Colorado Landscape Code Examples

In recent years, a growing number of Colorado communities have adopted landscaping codes that significantly reduce the allowable amount of turf in new and redeveloped landscapes. Below are some notable examples.

City of Aurora



- Year of code adoption: 2022
- Population: 400,235 in 2024
- Summary: Limits turf to 500 sq. ft. of a residential backyard. No nonfunctional turf allowed.

Aurora has been a leader in water conservation in Colorado and, specifically, in setting nonfunctional turf limits. Motivated by a limited water supply and rapid growth, Aurora has previously limited turf to 30% of the landscape in previous landscape codes. In 2022, Aurora updated its landscaping code to restrict turf on new residential properties even further – no turf is allowed in front or side yards; only in a backyard up to 500 sq. ft. Across the city, turf is no longer allowed in areas where it will not be actively used for recreation, and new golf courses will not be approved.¹⁰

⁹ WRA's report "[A Guide to Design Conservation Oriented Water System Development Charges](#)" explains these charges and how to design them to incentivize lower water use on new outdoor landscapes.

¹⁰ City of Aurora, Aurora Municipal Code Chapter 138, Article V, Division 2 https://aurora.municipal.codes/Code/138_ArtV_Div2

Town of Castle Rock



- Year of code adoption: 2022
- Population 86,501 in 2024
- Summary: Limits turf to 500 sq. ft. of backyard and specifies the required turf species. Turf is prohibited on commercial properties and in non-essential areas like medians and rights-of-way.

Castle Rock, similar to Aurora, has been motivated to impose strong limits on turf because of a limited water supply coupled with rapid growth. The town has limited turf to 30% in prior versions of its landscape code and updated it in 2022 to include stronger limits, not long after Aurora's code update. Castle Rock now only allows xeriscape, or "Coloradoscape," in residential front yards, and only permits 500 sq. ft. of turf in residential backyards. Plant species that require more than 19 inches of irrigation per year are not allowed at single family residential properties, and plants that require over 10 inches of irrigation per year are not allowed at commercial properties – essentially banning Kentucky bluegrass and requiring more water efficient grass species in new development. Low water plants are required at commercial properties, and turf is prohibited in areas like medians and rights-of-way.¹¹

¹¹ Town of Castle Rock, Landscape and Irrigation Criteria Manual, <https://www.crgov.com/DocumentCenter/View/30191/Landscape-and-Irrigation-Criteria-Manual-2024-update-PDF?bidId=>

City of Colorado Springs



- Year of code adoption: 2023
- Population: 492,204 in 2024
- Summary: Limits turf to 25% of new residential and nonresidential landscapes. Includes detailed information about native grasses.

Colorado Springs is another example of a fast-growing city that has been honing in on water conservation on new landscapes due to limited water supplies. While Colorado Springs included turf limits in its prior landscape codes, the city updated its landscape code to be more stringent and comprehensive in 2023. The code now limits turf to 25% of a landscape for both new residential and nonresidential properties. Turf is only allowed to be planted in areas that are at least 100 sq. ft., to prevent inefficient irrigation. The code and reference manual document also includes a required plant list and extensive information on native grasses.¹²

¹² City of Colorado Springs, Landscape Code and Policy Manual, https://coloradosprings.gov/system/files/2023-06/cos_landscape_code_and_policy_manual_6_5_23.pdf

City of Broomfield



- Year of adoption: 2023
- Population: 77,758 in 2024
- Summary: Turf limited to 30% of a landscape, and turf required to be a low-water blend.

Until passing a comprehensive landscape code update in 2023, Broomfield allowed new residential landscapes to include up to 60% turfgrass. As a result, turfgrass now occupies most Broomfield landscapes, and the city found that 60-70% of its water resources are dedicated to watering turfgrass landscapes. To improve their water supply resilience moving forward, Broomfield passed a landscape code update in August 2023 that limits turfgrass to 30% of a landscape and requires that turfgrass to be a low-water species. This requirement essentially banned Kentucky bluegrass in Broomfield, making it one of the strongest turf limits in Colorado.¹³

¹³ City of Broomfield, Broomfield Municipal Code §17-70
https://library.municode.com/co/broomfield/codes/municipal_code?nodeId=TIT17ZO_CH17-70LACO

City of Edgewater



- Year of adoption: 2023
- Population: 4,795 in 2024
- Summary: Turf limited to 25% on residential properties and nonfunctional turf is not permitted on commercial, industrial, and institutional properties. Water-wise plants are required in 25% of the landscape.

Edgewater's municipal code did not include a landscape code until 2023. The landscape code adopted includes strong limits on turf in new development and redevelopment in the Denver suburb. The code limits turf to 25% on residential properties and does not allow any nonfunctional turf on commercial, industrial, and institutional properties, as well as rights-of-way, medians, and parking lots. Edgewater defines nonfunctional turf as cool season turf that is not installed in active or programmed recreation areas. Landscapes also must include 25% water-wise plants and artificial turf is prohibited. The adoption of the water-wise landscape code was a city council priority and highlighted as a water shortage prevention strategy in the Edgewater Sustainability Plan.¹⁴

Recommendations

In recent years, more Colorado communities have implemented strong turf limits in their landscape codes and others are planning to implement turf limits in the future to reduce their outdoor water demands. In this research, much of the push to limit turf was happening in communities along the Front Range, where most of the state's population resides, and where most of the growth is occurring. Among Western Slope communities, there was some notable effort to move in that direction, as well (e.g., Avon and Eagle, which recently completed landscape code updates). The expanding number of

¹⁴ City of Edgewater, Edgewater Municipal Code § 16-34
https://library.municode.com/co/edgewater/codes/municipal_code?nodid=EDMUCO_CH16ZO_ART34WAEFLARE

turf replacement programs on the Western Slope and some recent landscape code changes shows that the emphasis on outdoor water conservation is expanding across the state.

Communities with the most robust turf limits in their codes incorporate some or all of the strategies below. These strategies communicate a clear preference for water-wise landscaping and define when and where turf may be used in new development and redevelopment. Some of the strongest elements in the codes examined included:

- **Clearly defined turf limit percentages or square footage allowances.** This has become an increasingly popular strategy in the state, with the most common percentage being 25% in single family residential properties, and 30% in nonresidential properties in the communities examined in this research. Some communities have gone further to prohibit turf in a front yard at a single-family residence, and to specify that turf can only be planted up to 500 sq. ft. in a backyard.
- **Water-wise planting requirements.** Communities can take turf limits a step further by clearly defining the types of plants that are allowed, or defining what species of grass are or are not allowed in new landscapes. Castle Rock and Broomfield are excellent examples of this, as their requirements essentially ban Kentucky bluegrass in all new development, except in functional, recreational areas.
- **Clear definitions of functional vs. nonfunctional turf.** Some cities include clear definitions of areas where turf is considered functional, and allowed, such as in actively programmed recreational areas, and clear definitions of areas where turf is considered nonfunctional, such as in medians, office parks, parking lot landscapes, or on sloped areas. Providing clear definitions helps developers pinpoint where turf is allowed and where it is not, instead of leaving developers and landscape architects to guess, and potentially fall back on using turf instead of water-wise landscaping.

Additionally, several codes identified in the research are already aligned with the SB24-005 requirements to prohibit nonfunctional turf in new nonresidential development and redevelopment. Edgewater's code is fully compliant with the legislation's requirements to limit nonresidential, nonfunctional turf, artificial turf, and invasive species. Thus, it could be a helpful model for communities looking to meet the statute's requirements. Other codes, including Castle Rock and Aurora, comply with the nonresidential, nonfunctional turf limits. Castle Rock's code essentially bans Kentucky bluegrass and can be a good model for communities interested in doing the same. Aurora's landscaping code includes strong turf limits across property types and has language that promotes a strong water conservation ethic.

For communities interested in adding turf limits and water efficiency best practices to their landscape codes, relevant model codes and pro bono technical assistance opportunities can be found in

[Appendix C](#).

Conclusion and Next Steps

The shift toward limiting turf in landscaping codes is likely to be accelerated by the adoption of SB24-005, which requires all cities and counties to develop landscaping standards that prohibit nonfunctional turf in new and redevelopment by Jan. 1, 2026. In this analysis, only half of the communities reviewed limited turf through some type of policy mechanism. Since the analysis focused on only 40 landscape codes – and skewed toward larger, Front Range communities that have prioritized water conservation through turf replacement – we would assume that turf limits amongst other cities and counties are more limited. Four of the communities included in this research have landscape codes that adhere to SB24-005 requirements, and these codes could be used as a model for others.

A major challenge that communities face in complying with SB24-005 is the available staff resources, capacities, and expertise to develop, implement, and enforce a water-wise landscaping code. While many communities have overcome these barriers, in this analysis, some fast-growing communities that stand to conserve the most through turf limits, did not have turf limits in place. This is likely due to constraints on staff capacity and resources, particularly in their land use planning departments. Staff capacity and expertise was also cited as a key priority for communities in adopting certain standards in their landscaping codes. Additional research would be useful to determine if there are strategies or solutions for minimizing staff burdens associated with landscape code adoption and, especially, code implementation and enforcement. For example, some communities may turn to consultants to support code enforcement staff in conducting landscape inspections. Other communities may have sufficient capacity, but staff involved in reviewing landscape codes may benefit from gaining technical skills by participating in landscape and irrigation professional training programs, such as the Qualified Water Efficient Landscaper training or the Sustainable Landscape Management training.

Water-wise landscaping codes are one of a suite of critical tools for limiting outdoor water demand and achieving Colorado's landscape transformation goals. In new development, water utilities can employ conservation-oriented system development charges that financially incentivize smaller lot size and landscape materials that use less water. For our existing landscapes, water providers can set tiered or water budget-based rates that are higher for water applied in excess outdoors. They can also enforce watering restrictions aimed at improving irrigation efficiency by prohibiting watering during the heat of the day and more than a few days a week. And they can provide rebates or other incentives for residents or businesses that convert their landscapes from turf to water-wise plants and grasses. All of these tools are crucial to meeting our state's municipal and industrial gap and transforming our landscapes into vibrant, beautiful, water-wise spaces.

Appendices

Appendix A: Turf Limits in Colorado Communities with Turf Replacement Programs

City or water provider offering turf replacement program	Local code turf limit highlights
City of Arvada	<ul style="list-style-type: none"> • Turf is limited to 50% of a single family landscape, and 35% of nonresidential or mixed-use landscapes. • Turf is not allowed on sloped areas, in street medians and any space less than eight feet wide.
Aurora Water	<ul style="list-style-type: none"> • No turf allowed in single family front yards, limited to 500 sq. ft. of a backyard. • Nonfunctional turf not allowed for new commercial or multi-family developments. • Turf is not allowed in medians or curbside landscapes.
Town of Berthoud	<ul style="list-style-type: none"> • Suggestion to limit areas of Kentucky bluegrass in a landscape.
City of Boulder	<ul style="list-style-type: none"> • Turf is limited to 25% of residential and commercial landscapes. • Very low and low water use plants suggested. • Turf not allowed on sloped areas or in areas less than 10 feet wide unless drip irrigation is used.
City of Brighton Utilities	<ul style="list-style-type: none"> • Turf areas are limited to 40% or 1,000 sq. ft. of a single family front yard. • Suggests that turf be limited to areas of high use, and low water and native plants be used elsewhere.
City & County of Broomfield	<ul style="list-style-type: none"> • Limits turf to 30% of single family and nonresidential landscapes. • Requires plants to be selected from a water-wise plant list. • Only low water varieties of turf are allowed. • Irrigation systems are required to use smart controllers and have EPA WaterSense sprinkler components.
Castle Pines North Metropolitan District	<ul style="list-style-type: none"> • Castle Pines' landscaping code does not include turf limitations.
Castle Rock Water	<ul style="list-style-type: none"> • No turf allowed in single family front yards, up to 500 sq. ft. allowed in backyards. • Turf not allowed for new commercial properties, in streetscapes, medians, or in rights-of-way.

	<ul style="list-style-type: none"> • Only low water species of turf are allowed in all types of development.
Centennial Water and Sanitation District	<ul style="list-style-type: none"> • Highlands Ranch has only landscaping guidelines. Used to require turf, now low water plants are allowed by community approval.
Colorado Springs Utilities	<ul style="list-style-type: none"> • Turf is limited to 25% of residential and commercial landscapes. • 70% of plants must be chosen from the Colorado Springs plant list. • Turf is not allowed on slopes, in medians, curbside landscapes, or areas that are less than 7 ft. wide.
Eagle County Conservation District	<ul style="list-style-type: none"> • Two codes from the service areas were examined – Minturn and Gypsum. • Minturn only allows high water use turf in functional areas, and requires 75% of plants to be native, drought tolerant species. • Gypsum’s code does not include limits on turf.
Eagle River Water & Sanitation	<ul style="list-style-type: none"> • Evaluated three landscape codes in the service area – Avon, Vail, and Eagle. • Avon requires a water budget of 7.5 gallons per sq. ft. per growing season and prohibits turf in nonessential areas including medians, streetscapes, and on slopes. • Eagle limits turf to certain sq. ft. requirements for different types of development and prohibits turf in rights-of-way. Low water plants are required in new landscaping. • Vail does not have regulations that limit turf in the landscape code.
City of Edgewater	<ul style="list-style-type: none"> • Turf limited to 25% of a landscape in residential properties, and nonfunctional turf is not allowed at commercial or institutional properties or in parking lots. • Requirement that 25% of a landscape be non-irrigated or low water use plants. • Turf not allowed in landscaped areas less than 8 ft. wide. • Turf and overhead irrigation are not allowed in streetscapes, medians, or rights-of-way.
City of Englewood	<ul style="list-style-type: none"> • No regulations related to limiting turf in the landscape code.
Town of Erie	<ul style="list-style-type: none"> • Suggestion to limit areas of bluegrass in a landscape.
City of Evans	<ul style="list-style-type: none"> • Suggestion to limit turf to high-use and functional areas.

Fort Collins Utilities	<ul style="list-style-type: none"> • There is a 15 gallon per sq. ft. water budget for all landscapes. • Suggestion to limit turf to high-traffic areas and to choose climate appropriate plants.
City of Fountain	<ul style="list-style-type: none"> • Suggestion to use native or low water vegetation when possible.
City of Frederick	<ul style="list-style-type: none"> • Requirement for 50% of a single family front yard to be drought tolerant turfgrass. • Turf limited to areas that are a minimum of 10 ft. wide.
Glenwood Springs	<ul style="list-style-type: none"> • Turf is limited to 50% of a landscaped area. Very high and high water use turfgrass is not allowed. • Requirement to select plants from the Glenwood Springs plant list. • Low flow or drip irrigation is required in landscaped areas less than 6 ft. wide.
City of Golden	<ul style="list-style-type: none"> • 50% of the landscape is required to be xeric plants. • Turf is not allowed in areas narrower than 4 ft.
Greeley Water	<ul style="list-style-type: none"> • Turf limited to 25% of all landscapes except single family residential. • A 15 gallons per sq. ft. water budget applies to all landscapes except single family residential. • Guideline to limit turf to high use areas, and suggestion to use low water grasses. • Low flow irrigation systems required in areas 11 ft. wide or less and on slopes. Turf not allowed on slopes.
City of Lafayette	<ul style="list-style-type: none"> • Limits landscape water use via a water budget of 15 gallons per sq. ft. per year.
City of Lakewood	<ul style="list-style-type: none"> • Recommendation to include drought tolerant plants and reduce the amount of turf in a landscape, although no specifics to what degree.
Little Thompson Water District	<ul style="list-style-type: none"> • Examined three local codes in the service area: Mead, Johnstown, and Firestone. • While there are no turf limits or plant requirements in any of the codes, turf is limited in medians and on slopes in Johnstown.
City of Longmont	<ul style="list-style-type: none"> • Suggestion to use low water grass and plants as the primary groundcover.
City of Louisville	<ul style="list-style-type: none"> • No landscape code found.

Loveland Water & Power	<ul style="list-style-type: none"> • Incentivizes the voluntary creation of a landscape water budget. • Requires water-wise plants on sloped areas.
Montrose County	<ul style="list-style-type: none"> • The County and the City of Montrose's codes were examined. • Montrose County does not have a landscape code. • The City of Montrose's code does not include limits on turf in a landscape.
Northern Water	<ul style="list-style-type: none"> • Large service area includes Boulder, Fort Collins, and Boulder, which were examined separately because they each have their own turf replacement programs, as well as being eligible for Northern Water's program.
City of Northglenn	<ul style="list-style-type: none"> • Limits turf to 30% of a landscape.
Pueblo West	<ul style="list-style-type: none"> • No regulations related to limiting turf in the area landscape code.
Town of Superior	<ul style="list-style-type: none"> • Suggestion to choose drought tolerant plants and low flow irrigation systems.
Thornton Water	<ul style="list-style-type: none"> • Requires single family landscapes to include a minimum of 25% turf, up to a maximum of 50%. • Requires water-wise landscaping on all types of development. • Prohibits turf in medians, rights-of-way 6 ft. wide or less, and curbside landscapes.
City of Westminster	<ul style="list-style-type: none"> • Turf is limited to 50% of nonresidential landscapes. • There is a 15 gallons per sq. ft. water budget for all landscapes. • Low flow irrigation types are required in landscapes less than 8 ft. wide.
Willow Water District	<ul style="list-style-type: none"> • Examined Centennial's code as it is in the water district's service area. • Includes a requirement that 50% of plants used in a landscape must be listed as xeric on the approved plant list.

Appendix B: Community Survey Questions

1. Name
2. Title
3. Organization
4. Is the language found in your local landscape code, provided in the email sent to you, correct?
 - a. Yes
 - b. No
 - c. Somewhat I'd like to explain
5. Is there any information you would like to add, change, or correct? If so, please reference where this information can be found in your code. (Note: this research is not intended to cover all water-wise landscaping standards in your code, it is focused on standards that limit the amount of high water use plants/turfgrass installed in the landscape such as a cool season turf limit, requirements for native/drought tolerant plants, limits on overhead irrigation that in effect limits turfgrass, or a landscape water budget).
6. If your city limits high water use plants/turfgrass installed in the landscape, when was the limitation adopted, and what was your community's motivation? (Write N/A if you do not have high water use plant/turfgrass limits.)
7. If your city limits high water use plants/turfgrass installed in the landscape, was the limit linked to any of the following?
 - a. Water Conservation Plan Priority
 - b. Comprehensive Plan Priority
 - c. City Council Priority
 - d. Other (Please explain)
8. Does your community have any changes to your landscape code in the works?
 - a. Yes, we're currently updating the code to include limits on high water use plants/turfgrass
 - b. Yes, we're currently updating the code but it won't include any change to limits on high water use plants/turfgrass
 - c. Not yet, but we're considering an update in the future that would include limits on high water use plants/turfgrass
 - d. No
9. If you have any changes to your landscape code in the works, when do you hope to adopt this change, and what is your community's motivation to do so? (e.g. Water Conservation Plan priority, Comprehensive plan priority, City Council priority, water shortage prevention, etc.)
10. If you have a landscape code, what is your community prioritizing with your code? Please rank the options below in order of highest to lowest priority.
 - a. Aesthetics
 - b. Pollinator/Wildlife Habitat
 - c. Low Impact Development
 - d. Staff Capacity & Expertise to Review/Approve
 - e. Safety
 - f. Reducing Urban Heat Island Effect
 - g. Trees
 - h. Water savings
 - i. Environmental protection (watershed, open space, etc.)
 - j. Fire Resistant Materials
 - k. Project Affordability
11. Would you like to set up a call to discuss any of this survey information further with Western Resource Advocates? (If yes, we'll be in touch to schedule a call!)
 - a. Yes
 - b. No
12. Is there anything else you would like to add?

Appendix C: Additional Resources

The following resources may be helpful for communities looking for more examples of water-wise landscape code language or those interested in pro bono technical assistance to update their landscaping codes.

Model Codes

DOLA Template Land Development Code¹⁵

The DOLA Template Land Development Code will include a landscaping section with template language for Colorado municipalities and counties to use when updating their landscape codes. It will include water-wise best practices and turf limit language that is compliant with SB24-005. The primary audience for the template code is small to mid-sized municipalities and counties. This resource is expected to be available by fall 2024.

South Metro Water Supply Authority Model Regional Water Efficient Landscape and Irrigation Ordinance¹⁶

The South Metro Water Supply Authority's Water Efficient Landscape and Irrigation Ordinance provides model water-wise landscape and irrigation language for communities updating their landscape codes. The guide was originally published in 2017 and is expected to be revised and reissued in 2024. The revised version will be compliant with SB24-005.

Communities interested in updating their landscaping codes to include or strengthen turf limits, meet SB24-005 requirements, and incorporate other water-wise elements may be eligible for pro bono technical assistance from the following programs.

Technical Assistance

WaterNow Alliance Project Accelerator Program¹⁷

The WaterNow Alliance Project Accelerator Program provides 250 hours of pro bono technical support to utilities, cities, towns, special districts, and other entities responsible for drinking water systems. Project Accelerator has supported several communities to update existing landscaping codes to better align with community water conservation goals. The City and County of Broomfield was one recipient of this assistance – provided by WaterNow and Western Resource Advocates – and now has one of Colorado's strongest water-wise codes. Project Accelerator applications are typically accepted twice a year.¹⁸

Growing Water Smart Technical Assistance

The Sonoran Institute and the Babbitt Center manage the Growing Water Smart Program in Colorado.¹⁹ After communities attend a 2.5-day workshop that offers them tools to plan for water and land use planning integration, they are eligible to apply for technical assistance opportunities that can include up to 100 hours of pro bono support. Past projects have included landscape code audits and recommendations to improve water-wise elements in a landscape code. Information about the technical assistance opportunities is shared periodically post workshop completion.

¹⁵ Department of Local Affairs, Division of Local Government, Land Use Codes, <https://dlg.colorado.gov/land-use-codes>

¹⁶ South Metro Water Supply Authority, Model Regional Water Efficient Landscape and Irrigation Ordinance, 2017, https://southmetrowater.org/application/files/1915/7894/2140/FINAL_SMWSA_ModelLandscapeOrdinance_2017-1.pdf

¹⁷ WaterNow Alliance, Project Accelerator program, <https://waternow.org/our-work/our-work-projects/project-accelerator/>

¹⁸ WaterNow Alliance, Project Accelerator program Broomfield CO Project, <https://waternow.org/project/broomfield-co/>

¹⁹ Sonoran Institute, Colorado Growing Water Smart Program, <https://resilientwest.org/growing-water-smart/colorado-growing-water-smart/>