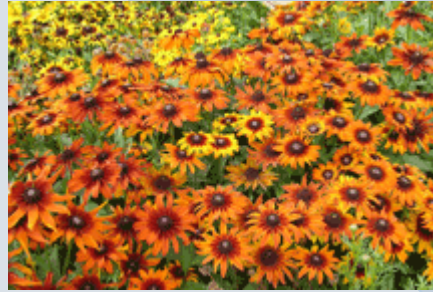




ARAPAHOE COUNTY



Landscape Code Amendment

Planning Case #LDC21-001

BOCC Study Session - September 3, 2024



History

- ❑ Landscape regulations first appeared in the Land Development Code in 1999.
- ❑ Modified through the years, 2003 was the latest amendment when xeric plants were added to the plant list.



Why amend the landscape code?

- Environmental Changes:
 - Hotter and drier.
 - Higher water demands with the growing population.
 - Rising water costs to serve development
 - Decrease in water tables.
- Look at how to conserve water and use it more efficiently.
- Comprehensive Plan encourages water conservation and efficiency policies.
 - Goal PFS 1 – Ensure an adequate water supply in terms of quantity and quality for existing and future developments.
 - Goal PFS 2 – Integrate water and land use planning.
 - Goal PFS 3 – Reduce overall water consumption in the County.
- Sections are confusing and need clarification either by simplifying or amending.
- Missing information/topics, new technology, techniques, and products.



Amendment History

- BOCC- Results of the survey (June 2021).
- Grant from Sonoran Institute, hired a consultant (Dec. 2021- Dec. 2022)
- Review by County staff and SEMSWA (March-April 2023 and Oct.-Nov. 2023)
- Review by professionals, developers, water districts & nurseries (June-July 2023)
- Survey and review by the public (Feb.-March 2024)
- Review by County staff of the Development Application Manual (April 2024)
- PC Study Session (May 2024)
- BOCC Study Session (September 2024)
- PC Public Hearing (October 2024)
- BOCC Public Hearing (November 2024)



Planning Commission Study Session

❑ Concerns

- Requiring professionals to develop landscape, irrigation, and tree preservation plans.
 - Increase the cost of development and staff time.
 - Practiced by other municipalities and some counties.
 - Development Application Manual – include standard charts and notes, and signature blocks.
 - Requiring professionals to produce plans, install developments, and conduct inspections.

Name	Landscape Plan	Irrigation Plan	Tree Preservation Plan/Survey
City of Aurora	Yes	Yes	Yes
City and County of Denver	Yes	Yes	Yes
City of Centennial	Yes	Schematic plan	Protection zone narrative
City of Westminster	Yes	Yes	Yes
Town of Castle Rock	Yes	Yes	No
City of Longmont	Yes	Guidelines no plan required	Yes
City of Fort Collins	Yes	Yes	Yes
City of Arvada	Yes	Notes on landscape plan	Yes
Douglas County	Yes	No	No
Larimer County	Yes	Guidelines no plan required	Preservation and protection requirements in the code
Boulder County	Yes	No	No



Planning Commission Study Session

❑ Concerns

- Applications that require to adhere to landscape code.

Open space areas, new development and redevelopment, expansion of existing sites that are non-residential (commercial and industrial) and parking lot expansions.

- Not applied to individual lots or ADUs.

- Maintenance of landscapes

- Responsibility of property owners or HOAs



Plant List

- ❑ Average rainfall in the Denver Metro Area is 18 inches.
- ❑ Requiring plants to be native or drought tolerant (xeric).
 - Developed a plant list.
- ❑ Reduce disease and insect problems.
 - Not more than 30% of trees and shrubs shall be of a single genus.
 - Not more than 20% of trees and shrubs shall be of a single species.
- ❑ Group plants according to the same irrigation requirements (hydrozones).
- ❑ Promote preservation of natural areas, native species, and non-native vegetation (trees and shrubs) on a site.
 - Count towards minimum landscape requirements.



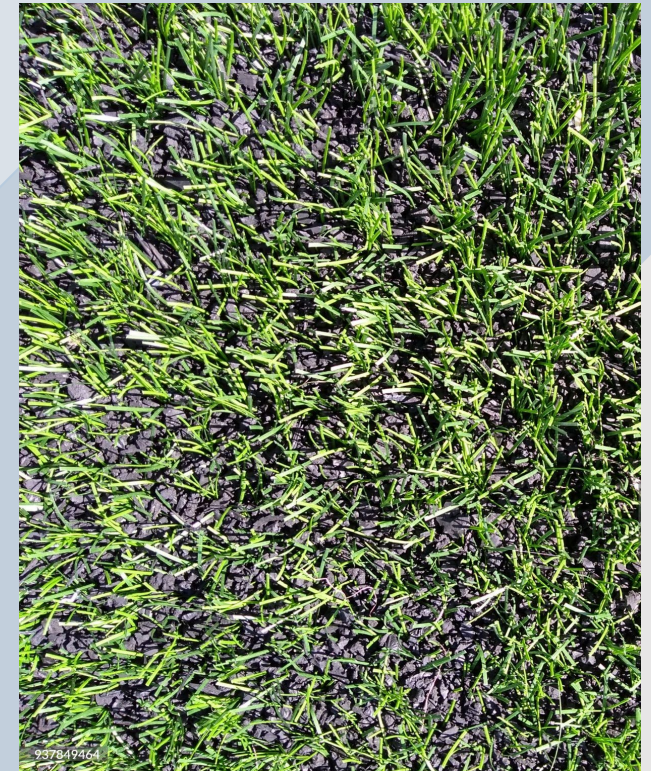
Turf Limitations

- ❑ Turf is generally considered non-functional since it is more decorative and not used for recreational purposes or civic or community events.
- ❑ Limited turf as follows:
 - Prohibit high water use turf/seed (Kentucky bluegrass, tall fescue, creeping bentgrass, etc.) except in cases of high pedestrian traffic areas, recreation fields, or water control measures.
 - High water use turf requires over 18 gallons per SF or 29 inches of irrigation annually.
- ❑ SFD, SFD cluster, duplex, and townhome development shall be limited to 25% of the total combined yard area or a maximum of 500 SF on a lot, whichever is less.
- ❑ SFA developments on one lot and multi-family development (triplex, fourplex, multi-family, or condominium) turf shall not exceed 20% of the required common area and used in high-traffic or active/passive recreation areas.
- ❑ Prohibited in industrial and commercial development except for water quality control measures.
- ❑ Prohibited in buffers, parking lot islands, street medians, curbside landscapes, subdivision entries, shopping centers, and new golf courses.



Artificial Turf

- ❑ Prohibited in all nonresidential and residential zone districts, except designated sports fields and sports facilities on public and private property.
- ❑ Artificial turf shall be pervious and installed according to industry specifications and maintained in a manner to mimic a healthy living turf.





Artificial Turf

☐ Pros:

- Don't have to water, mow, and stays green.

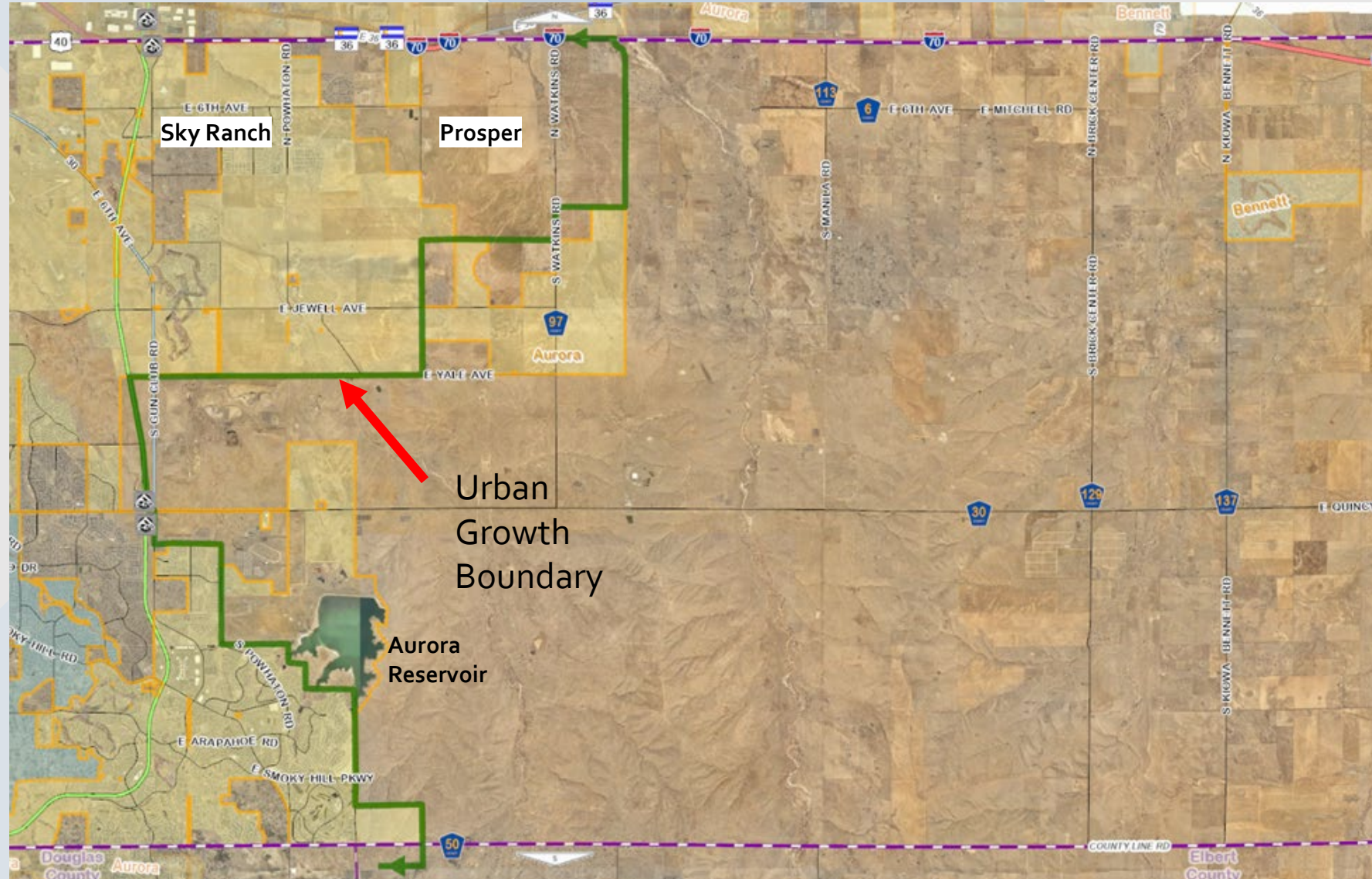
☐ Cons:

- Made from polyethylene, polypropylene, or polyamide (nylon). There's evidence that chemicals in tire crumbs of the turf can volatilize into the air and leach into the soil, and other research has identified PFAS in some of the artificial turf that is highly persistent in the environment and lasts for hundreds of years.
- Product life: varies (eight to 20 years, depending on who you talk to), and then it goes into the landfill.
- Turf gets hot in the summer and can be difficult to use during these times.
- Having this product in your yard can be challenging especially if you have dogs that urinate and defecate on it. The industry states that you can rinse down the affected areas and then apply a spray to eliminate the smell.
- Healthy risks. On-going studies.



Plant Ratios – Urban and Rural Areas of the County

- Urban Growth Boundary
- Planting requirements differ due to the water source.
- Applies to SFD, SFA & MF developments.
- Applies to commercial and Industrial developments.
- SFD – requiring minimum front yard landscaping.





Plant Ratios – Urban and Rural Areas of the County

TABLE 4-1.4.4 - URBAN RESIDENTIAL PLANT REQUIREMENTS

Development Type	Trees	Shrubs	Turf ¹	Per Square Feet of Landscape Area ²
Single-Family Detached	Min. 1 shade tree and 4 shrubs in front yard		Restriction applies	N/A
Single-Family - Two Family				
· Units on separate lots ³	1	10	Restriction applies	800
· Multiple units on one lot	1	10	Restriction applies	800
Single-Family Attached, Townhome				
· Units on separate lots ³	1	10	Restriction applies	800
· Multiple units on one lot	1	10	Restriction applies	800
Multi-Family	1	10	Restriction applies	1,000
Development with Open Space Areas ³	1	10	Restriction applies	1,000

¹See Section 4-1.4.D.4

²See - Definitions

³Applies to parcels with individual lots and common open space areas.

TABLE 4-1.4.5 - RURAL RESIDENTIAL PLANT REQUIREMENTS

Development Type	Trees	Shrubs	Turf ¹	Per Square Feet of Landscape Area ²
Single-Family Detached	Min. 1 shade tree and 3 shrubs in front yard		Restriction applies	N/A
Single-Family - Two Family				
· Units on separate lots ³	1	10	Restriction applies	1,000
· Multiple units on one lot	1	10	Restriction applies	1,000
Single-Family Attached, Townhome				
· Units on separate lots ³	1	10	Restriction applies	1,000
· Multiple units on one lot	1	10	Restriction applies	1,500
Multi-Family	1	10	Restriction applies	1,500
Development with Open Space Areas ³	1	10	Restriction applies	1,500

¹See Section 4-1.4.D.4

²See - Definitions

³Applies to parcels with individual lots and common open space areas.



Plant Ratios – Urban and Rural Areas of the County

TABLE 4-1.4.6 - URBAN NON-RESIDENTIAL PLANT REQUIREMENTS				
Development Type	Trees	Shrubs	Turf ¹	Per Square Feet of Landscape Area ²
Commercial, Industrial, Institutional, Civic, and Public land uses	1	10	Restriction applies	1,000

¹See Section 4-1.4.D.4

²See - Definitions

TABLE 4-1.4.7 - RURAL NON-RESIDENTIAL PLANT REQUIREMENTS				
Development Type	Trees	Shrubs	Turf ¹	Per Square Feet of Landscape Area ²
Commercial, Industrial, Institutional, Civic, and Public land uses	1	10	Restriction applies	2,500

¹See Section 4-1.4.D.4

²See - Definitions



Tree Preservation

- ❑ The intent of this Section is to implement a Policy to facilitate to the extent reasonable, the preservation of desirable trees on developing or re-developing land, to protect wildlife habitat as is provided by a healthy tree or tree canopy, and to preserve the character of the community from the impacts associated with the loss of desirable trees to development or re-development.
- ❑ New development or redevelopment for SDP, ASP, USR, L&E, PP, and FP applications.
- ❑ Trees two-inch caliper and larger are encouraged to be preserved. If there is evidence that it was removed before the submittal of the application or proposed to be removed, the applicant will be required to replant 200% of the removed caliper. i.e. two-inch caliper tree was removed, four inches are to be replaced.
- ❑ If there isn't space to meet the replacement trees on-site, adjacent ROW, or nearby public land.
- ❑ Trees and shrubs preserved can be counted toward the required landscape requirements.
- ❑ Tree protection guidelines for trees to remain on the site.



Stormwater Reuse

- ❑ Goal: to use stormwater to irrigate landscape areas.
- ❑ Parking lots
 - Curb cuts into landscape islands, parking row landscapes
 - Raingardens
 - Grass swales.





Irrigation

- ❑ Goal is for irrigation to be more efficient and least wasteful.
 - Require plants to be grouped according to their water needs (hydrozone).
 - Requiring water-sense labeled products and weather-based irrigation (smart controllers, rain sensors)
 - Adequate sprinkler coverage for turf and native grasses.
 - Drip irrigation in garden beds.
 - Irrigation to occur during cooler times of the day (6 p.m. to 10:00 a.m.). Water no more than three times per week.



Professional Certification & Inspections

- ❑ Landscape plans to be developed by a landscape architect and inspections conducted by this professional.
- ❑ Irrigation plans to be developed by a certified irrigation designer and installed by qualified professionals.
- ❑ Before the certificate of occupancy, a third-party certified landscape irrigation auditor to inspect and test the irrigation system.
- ❑ Require a certified/registered forester, arborist, or Colorado-registered landscape architect to conduct a tree survey.



ARAPAHOE COUNTY

Thank You

Questions, Comments, and General Discussion