



COLORADO
Department of Transportation
Office of the Executive Director

RELEASE MEMORANDUM

TO: All CDOT Employees

FROM: Shoshana M. Lew, Executive Director
Herman Stockinger, Deputy Executive Director & OPRG Director
Darius Pakbaz, Director of Transportation Development
John Lorme, Director of Maintenance and Operations
Jane Hann, Environmental Programs Branch Manager
Pamela Cornelisse, Landscape Architect Section Manager
Ken Howlett, Roadside Vegetation/Environment Specialist

RE: Updated Procedural Directive 503.1 “Landscaping Requirements and Colorado Pollinator Highways”

DATE: November 17, 2023

- 1. Name of Updated Procedural Directive:**
Procedural Directive 503.1 “Landscaping Requirements and Colorado Pollinator Highways” (formerly “Landscaping with Colorado Native Plant Species and Managing the Colorado Pollinator Highway”)
- 2. Executive Summary:**
Procedural Directive 503.1 was adopted in 2018 and governs the process and requirements for the Colorado Department of Transportation’s management of vegetation to protect the environment and promote safety and resiliency on its property. The Directive also explains the process for maintaining Colorado’s Pollinator Highway on I-76. In addition to a streamlined title, the Directive has been updated with expanded resources and authority as well as recognition of the prominent role the Division of Maintenance and Operation plays in implementing landscaping requirements. Additional details were added regarding the types of native plant species to be used along the right-of-way versus the use of non-native plants in specific irrigated landscapes for facilities and local agency projects. Other minor, non-substantive changes were made to the Directive.
- 3. Offices to Contact with Questions:**
The Environmental Programs Branch at pamela.cornelisse@state.co.us
The Office of Policy and Government Relations at herman.stockinger@state.co.us
- 4. Effective Date of Updated Procedural Directive:** November 1, 2023





Subject: Landscaping Requirements and Colorado Pollinator Highways
Effective Date: 11/1/23
Supersedes: 7/20/18
Originating Office: Division of Transportation Development and Division of Maintenance and Operations

I. Purpose

This Procedural Directive provides direction to the Colorado Department of Transportation (CDOT or Department) in an effort to increase safety and resiliency along rights-of-way (ROWs) by requiring installation of vegetation native to Colorado and the local ecoregion. The purpose of this requirement is to stabilize soils, reduce and slow stormwater runoff, enhance and preserve the diversity of Colorado's ecosystems, conserve and protect water resources, and reduce lifecycle and maintenance costs on CDOT projects and managed properties. This Directive mandates the use of native vegetation along CDOT ROWs and allows for exceptions only under certain conditions. See Section V.B.2. The scope of this Directive may be broadened in the future to include designating additional Colorado Pollinator Highways.

CDOT seeks to promote the use of Colorado native plant species that support self-sustaining dynamic ecosystems along our highway corridors, and as vegetation becomes established, providing greater resistance to non-native invasive species and climate change. Using native plants lessens the project lifecycle cost by reducing mowing, water use, and fertilizer/herbicide use, thus improving air quality, protecting waterways, and helping to enhance and protect wildlife and associated habitat. Increasing native plant diversity along roadsides benefits all species including those that are, or have the potential to become, federally listed under the Endangered Species Act. Using Colorado native plant species as roadside habitat is essential to ecosystem services such as pollinator lifecycles, increased diversity, wildlife food chains, climate regulation, nutrient cycling, waste decomposition, recreation, and pollination of many state grown crops.

This Procedural Directive provides guidance to CDOT for irrigating ornamental plantings at gateways, streetscapes, and facilities. The use of ornamental plants in irrigated settings allows for increased selection for aesthetics, shade, reducing heat island effect, and buffering of views.

II. Authority

Executive Director, pursuant to C.R.S. § 43-1-105.

[23 U.S.C. 131\(a\)](#) Title I of the Highway Beautification Act of 1965, as amended



[§ 23 C.F.R. 752.4](#) (Landscape Development)

[§ 23 C.F.R. 752.11](#) (Landscape and Roadside Development)

[FHWA Executive Memorandum](#) on Roadside Use of Native Plants

[Executive Order 13148](#) “Greening the Government Through Leadership in Environmental Management”, Part 6

[Executive Order D 2023 018](#) “Establishing an Office of Sustainability for State Facilities and Operations, Directing the Electrification of Lawn and Garden Equipment Used by State Government, and Directing the Development of a Water Efficient Landscaping Policy by State Facilities”

§ 37-96-101, *et seq.*, C.R.S., “State Projects Water Conservation in Landscaping Act”

§ 35-5.5, C.R.S., “Colorado Noxious Weed Act”

[§ 35-5-101 through 107](#), “State Department of Agriculture Act of 1949, Wildlife General Provisions”

House Joint Resolution 17-1029 (Designating Interstate 76 as the “Colorado Pollinator Highway”)

III. Applicability

This Procedural Directive applies to all Divisions, Regions, Offices, and Branches of CDOT. It also applies to consulting firms performing contracting work for CDOT, state and local agencies performing work under CDOT authority, any entity that receives funding from CDOT for projects, and any local agency project, or access, utility, or special use permit work within CDOT ROWs.

IV. Definitions

“Biologists” are CDOT employees with relevant training and qualifications who act in an advisory capacity on soil science, wildlife, revegetation, habitat, and climate science topics.

“Colorado Native Plant Species” means a native plant species that occurs naturally in a particular region, or an ecosystem and/or habitat in Colorado, without direct or indirect human actions. *See* § 35-5.5-103(15), C.R.S.

“Forb” means an herbaceous flowering plant other than a tree, shrub, grass or grass-like species.



“Integrated Roadside Vegetation Management (IRVM)” means a statewide maintenance program led by the CDOT Division of Maintenance and Operations resulting in many benefits, such as improving safety by delineating the highway, reducing erosion, establishing sight distance, reducing noxious weeds, and enhancing the aesthetic appearance of the highway system. The area covered by vegetation management extends from the roadway shoulder to ROW limits and includes medians. The IRVM includes roadside landscape and vegetation control, which is the treatment given to vegetation, either native or planted within the limits of the ROW. Maintenance activities include mechanical, biological, and chemical controls. Mechanical control includes mowing, brush control, tree removal, planting, and seeding with native grasses and pollinator species. Biological control includes the use of predators, parasitoids, and disease organisms to control select species. Chemical control includes judicious use of herbicides.

“Ornamental Plants” are nursery grown perennials, grasses, shrubs, and trees that are often propagated for their attractive features. Ornamental Plants are native cultivars or non-natives adapted to local climate, elevation, and soils and are not invasive in Colorado’s ecosystems. These plants require supplemental irrigation to grow.

“Pollinator Habitat” means the areas of perennial vegetation consisting of native flowering forbs or woody shrubs that provide both habitat and food for pollinating insects, birds, or mammals.

“Water-wise Landscape” is a landscape that is functional, attractive, and easily maintained in its natural surroundings. A water-wise landscape helps to conserve water by using plants with low water needs and grouping plants together with similar water requirements.

“Wetland Specialists” are CDOT region or Headquarters (HQ) employees specializing in an advisory capacity for wetland regulations and wetland soils and vegetation.

“Xeriscape” means a landscape design used in arid regions with an ustic or xeric soil moisture class requiring little or no irrigation and generally requiring less maintenance than typically irrigated landscapes by grouping like-water-needs plants together in a landscape. Plants used in xeriscape design are drought tolerant, native or non-native plant species that are adapted to Colorado’s arid landscapes. These species include ornamental plants that are adapted to site conditions, respond and adapt to changing climate and environmental conditions, and are not likely to be invasive or a source of non-native invasive pathogens.

V. Requirements

A. Federal Requirements

The Highway Beautification Act of 1965 requires construction within the ROW of all federally funded highways or on adjoining scenic lands to conform to [landscape development](#)



[requirements](#). In addition, CDOT shall follow all other landscape and planting requirements of Section 7 consultation, 404 permits, and wetland mitigation requirements.

B. CDOT Requirements

1. CDOT ROWs and Non-irrigated Landscapes

a. CDOT ROWs disturbed for construction or maintenance activities shall be seeded with Colorado native plant species appropriate to the site conditions and ecoregion.

- i. Seed mixes should include a minimum of five (5) drought tolerant perennial grass species with a mixture of both cool and warm season, bunch and rhizomatous perennial grasses, and where appropriate, include salt tolerant species.
- ii. Seed mixes should include a minimum of four (4) native forbs of varying plant families, bloom times, and colors.
- iii. Seed mixes can contain a small percentage (1-2%) of non-native cover crops consisting of sterile annual grasses to aid in establishment of native species.
- iv. Species should be low growing to minimize routine mowing and improve sight distance and safety.

b. Coordinate with the appropriate staff or agency for project specific seed selection.

- i. Utility, Access, Property Management, and Special Use Permit type project teams will coordinate with CDOT Landscape Architect/Specialist, Biologist, Environmental Project Manager, or Permanent Stabilization Subject Matter Expert.
- ii. For projects within federally-owned ROW or a Highway Easement Deed, coordinate with the respective federal agency for recommendations, review, and approval of proposed seed mixes.

2. Local Agency and CDOT Facility Irrigated Landscapes

Irrigated gateway, downtown streetscapes, or CDOT-managed facilities may use ornamental plants along with native plants. Such irrigated landscape projects shall be designed using the principles of water-wise landscaping to conserve water resources.

a. Trees, shrubs, perennials, vines, and groundcovers shall be grouped for similar water requirements.

b. Irrigated areas should be kept at a minimum and must use high-efficiency irrigation systems designed to reduce water use.



c. CDOT facilities and rest areas shall use native or drought tolerant turfgrass. Local agency projects shall consider installing native or drought tolerant turf grasses as low water and low maintenance alternative to bluegrass lawns.

d. Colorado has a limited number of native trees and shrubs, most of which are not appropriate for gateway or downtown streetscape plantings. Many local agencies have approved or recommended street tree lists. Refer to these lists for appropriate tree recommendations when available.

e. In these designs, the use of water-wise landscaping principles in irrigated landscapes is recommended to reduce water use. Ornamental plantings should be drought tolerant, appropriate to the site's USDA hardiness zone, soils, site elevation, etc.

- Specify salt tolerant species where appropriate.
- An Intergovernmental Agreement shall document the local agency's responsibility to irrigate and maintain the gateway or downtown streetscape for the life of the landscape.
- CDOT Landscape Architects/Specialists and/or Biologists shall review, provide recommendations for, and authorize approved plant lists.

3. Wetlands and Habitat Replacement

Disturbed wetland and habitat areas are to be revegetated as required by their respective

a. Revegetation shall be ecoregion and site specific with Colorado native plant species.

b. Site specific soils and hydrologic conditions shall be considered when determining seed lists and/or planting plans.

c. Planting plans shall have a goal to increase habitat and species diversity.

d. CDOT wetland biologists shall review, provide recommendations, and approve all proposed plant lists.

4. CDOT Right of Way Maintenance

CDOT's Integrated Roadside Vegetation Management (IRVM), referenced in CDOT's Manual of Maintenance, outlines maintenance procedures that benefit native plants and pollinators along CDOT ROWs and designated pollinator highways.



- a. In regard to fertilizers, herbicides, and plant stock sources, CDOT shall aim to reduce the use of chemicals in the environment and increase the use of alternatives. See Executive Order 13148 “Greening the Government Through Leadership in Environmental Management.”
- b. While complete elimination of herbicides is not possible due to the presence of noxious weeds in our ROWs, CDOT Maintenance personnel shall act as a resource to use industry best practices to recommend the use of alternatives to herbicides and shall use CDOT’s IRVM as a best management practice to support functioning ecosystems where possible.

C. Designation of Pollinator Highways

CDOT ROWs are important pollinator habitats. Pollinators face a variety of adverse factors, including crop monocultures, chemical use to manage weeds and pests, anthropogenic pollution, climate change, proliferation of non-native species, and loss and fragmentation of natural habitats. ROWs can be important habitats for pollinators that may not be otherwise available and can serve as a corridor link to other suitable habitats. Other positive outcomes of enhancing pollinator habitat along roadsides include improving aesthetics and promoting tourism by leaving a positive and lasting impression on the traveling public.

The Shortgrass Prairie Initiative provides a proactive approach by directing CDOT maintenance to use a mowing regime that benefits pollinators on the Eastern Plains.

Interstate 76 from mile marker 1 to mile marker 183 is Colorado’s first designated “Colorado Pollinator Highway” that commits CDOT to improving roadside pollinator habitat. Accordingly, CDOT will maintain pollinator habitat along the Colorado Pollinator Highway through methods described in the IRVM and referenced in the CDOT Manual of Maintenance Procedures.

Regarding nominating and adding additional “Colorado Pollinator Highways” and managing pollinator habitats along highway corridors, the intent of this Procedural Directive is to broaden the scope at the appropriate time by expanding the number of highway corridors that will be managed to protect pollinator habitats. The Division of Maintenance and Operations has a statewide IRVM program which includes pollinator habitat management on other highway corridors.

VI. Documents Relevant to this Directive

[CDOT Form 463](#)

[CDOT Landscape Architecture Manual](#)



[CDOT Manual of Maintenance Procedures](#)

CDOT Integrated Roadside Vegetation Management

CDOT Wetland and 404 Guidance

[Executive Order 13148, "Greening the Government Through Leadership in Environmental Management,"](#) issued April 21, 2000.

[Pollinators and Roadsides: Best Management Practices for Managers and Decision Makers](#)

FHWA PART 752—[Landscape and Roadside Development](#)

[FHWA Roadside Revegetation Manual.](#) An Integrated Approach to Establishing Native Plants

[FHWA Roadside Best Management Practices that Benefit Pollinators.](#) Handbook for Supporting Pollinators through Roadside Maintenance and Landscape Design.

[House Joint Resolution 17-1029](#) (Designating Interstate 76 as the “Colorado Pollinator Highway”)

[Section 7 Endangered Species Act](#)

[Senate Bill 40 Guidelines](#)

[Shortgrass Prairie Initiative](#)

85 FR 81813, 2020-27523 [Endangered and Threatened Wildlife and Plants; 12-Month Finding for the Monarch Butterfly](#)

VII. Implementation Plan

This Procedural Directive shall be effective upon signature.

The Office of Policy and Government Relations shall post this Procedural Directive on CDOT’s intranet as well as on public announcements.



VII. Review Date

This directive shall be reviewed on or before October 2028.

A handwritten signature in black ink that reads "Shoshana M Lew".

Shoshana Lew
Executive Director

11/1/2023

Date of Approval