

103.1 Evaluating Ecological Impact

103.1.1 Ecological Impact Statement. a site inventory and assessment of ecological attributes shall be conducted and a statement prepared documenting existing conditions as well as impacts both positive and negative that the project scope will have on the site. In addition, an assessment shall be provided of attributes unique to the site in the context of the Denver region, and their associated potential to positively contribute to, or to take away from if not consciously addressed, the health of the evolving ecology of Denver as a single, complete living system. The assessment shall Address how the site fits within, supports, and contributes to the system as a whole, speaking to specific characteristics and opportunities unique to the site within the broader context of regional Denver. The assessment shall also identify ways in which Denver is functioning successfully as a system supporting resident life as well as wildlife, and opportunities to improve parts of the system currently in decline. The following seven topics must be evaluated in the Statement at both the project to site scale, and the site to Denver region scale, including detailed description of how these systems are functioning ecologically, and submitted with permit application for Site Development Plan.

1. **Topography.**
 - a. Contour mapping
 - b. Unique topographic features,
 - c. Slope stability risks.
2. **Hydrology.**
 - a. Flood hazard areas
 - b. Delineated wetlands, lakes, streams, shorelines, estuaries
 - c. Onsite stormwater collection, storage capacity and reuse opportunities including procedural outline to obtain water rights
 - d. Onsite opportunity for greywater storage and reuse
 - e. Onsite opportunity for blackwater treatment, storage and reuse
3. **Climate.**
 - a. Solar exposure,
 - b. Heat island effect potential,
 - c. Prevailing winds
 - d. Monthly precipitation
 - e. Seasonal temperature ranges.
4. **Vegetation and Animal Habitat.**
 - a. Primary vegetation types
 - b. Greenfield areas
 - c. Significant trees and vegetation
 - d. Significant wildlife habitat
 - e. Threatened or endangered species habitats and corridors
 - f. Invasive plant species
 - g. Beneficial species and biodiversity
 - h. Migratory bird reliance / utilization or interruption
5. **Soils.**
 - a. Site soils survey,
 - b. Healthy soils and previously developed or disturbed soils
 - c. Earthwork balance strategy
 - d.
6. **Human use.**
 - a. View corridors
 - b. Existing and planned adjacent transportation infrastructure
 - c. Adjacent properties including previously developed land, greenspaces and wildlife habitats
 - d. Demolition and construction materials with existing recycle or reuse potential
 - e. Opportunities to encourage socioeconomic diversity within the neighborhood

- f. Opportunities for passive and active community engagement and education related to positively supportive measures for ecosystem health
7. **Human health effects.**
- a. Proximity of vulnerable populations.
 - b. Adjacent physical activity opportunities.
 - c. Proximity to major sources of air pollution.
 - d. Proximity to, scale, and extent of natural green spaces, and opportunities to co-occupy these spaces without negatively impacting health of wildlife
 - e. Air quality or air pollution potential
 - f. Waste (toxic, medical, industrial, etc) generation potential

Supporting Information:

All proposals must include a written explanation and justification as to how they address physical, environmental, and/or customary characteristics that are specific to the City and County of Denver. The following questions must be answered for a proposal to be considered.

- Purpose: What does your proposal achieve?
This proposal drives development projects to consider impacts on site, neighborhood, city and regional ecological systems, existing infrastructure and community occupants. While there are no stringency requirements, it encourages thoughtful design that is supportive of Denver’s climate, sustainability, resiliency and equity goals.
- Reason: Why is your proposal necessary?
Denver has defined progressive climate, sustainability, resiliency and equity goals in order to preserve the city’s ecology, quality of life and identity as a place with a high quality of life. There is a sense of urgency to mitigate climate change risks and reduce carbon emissions, and to protect the health of Denver as an evolving living system and community. Future code cycles will require greater creativity, innovation and ingenuity in each of the topics listed above to meet goals and preserve Denver’s unique character and establish a healthy state within the ecosystem, supportive of all residents. This framework is a starting place for driving new ways of approaching projects holistically down the road and sets the stage for adding stringency requirements later.

Urban centers are growing rapidly with an expected two thirds of the world’s population to live within cities by 2050. District scale projects are increasingly necessary to meet growth needs, however disparities in equity including income, health and wellbeing, and ecological degradation impede the potential of communities to remain sustainable.
- Substantiation: Why is your proposal valid? (i.e. technical justification)
The seven topics presented in the Ecological Impact Plan have been identified by the Sustainable Sites Initiative as core elements of responsible development that can apply to any project type and have the potential to improve regenerative qualities on sites. LEED for New Construction v4 includes a credit which outlines these seven topics and provides a simplified form to capture site attributes and discuss impacts. This outline is mimicked in the proposed language.

Bibliography and Access to Materials (as needed when substantiating material is associated with the amendment proposal):

LEEDUser LEED NC v4 Sustainable Sites (SS)c1: <https://leeduser.buildinggreen.com/credit/NC-v4/SSc1#tab-credit-language>

LEED NC v4 SSc1 Documentation Form for download: <https://www.usgbc.org/resources/site-assessment-worksheet>

Sustainable Sites Initiative: <https://digital.library.unt.edu/ark:/67531/metadc31157/>

National Collaborating Center for Determinants of Health, Vulnerable Populations definition: <https://nccdh.ca/glossary/entry/vulnerable-populations>

Other Regulations Proposed to be Affected

***For proposals to delete content from the 2019 Denver Green Code in conjunction with adding it to other mandatory Denver codes and/or regulations, only.**

Please identify which other mandatory codes or regulations are suggested to be updated (if any) to accept relocated content.

Referenced Standards:

List any new referenced standards that are proposed to be referenced in the code.

The Sustainable Sites Initiative: Guidelines and Performance Benchmarks:
https://digital.library.unt.edu/ark:/67531/metadc31157/m2/1/high_res_d/Guidelines%20and%20Performance%20Benchmarks_2009.pdf

LEED New Construction v4: <https://www.usgbc.org/resources/site-assessment-worksheet>

Impact:

How will this proposal impact cost and restrictiveness of code? ("X" answer for each item below)

Cost of construction: ___ Increase ___ Decrease _X_ No Impact
Cost of design: _X_ Increase ___ Decrease ___ No Impact
Restrictiveness: ___ Increase ___ Decrease _X_ No Impact