

DRAFT ENVIRONMENTAL ASSESSMENT SECTIONS FOR COA ENVIRONMENTAL CRITERIA MANUAL

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Since its original addition to the section §25-8-121 COA Land Development Code, the corresponding requirements concerning Environmental Assessments in sections 1.3.0 of the Environmental Criteria Manual have been listed as "Future Sections". In order to address the need for clearer and unambiguous guidance for developers submitting site plans for review, the following proposed sections have been drafted. The information required has also been used in directing City Capital Improvement Plan project managers in conducting environmental assessments for their projects. Additional measures may be necessary and this proposal will likely be revised significantly through stakeholder suggestions. The process for including these sections in the ECM will include board and commission review as well as council consideration for approval.

1.3.0 Environmental Assessment

(A) Pursuit to the City of Austin's Land Development Code (LDC), Section 25-8-121, an environmental assessment shall be filed and electronic PDF copy submitted, as detailed below, with the director of Watershed Protection and Development Review for proposed development located:

(1) over a karst aquifer

(a) provide Edward's Aquifer recharge zone map with site location, using the most current information

Descriptions of Regulated Areas: LDC, 25-8-2, D, 3 and 5

(2) within an area draining to a karst aquifer

(a) provide contributing zone map to Edward's Aquifer recharge zone

Descriptions of Regulated Areas: LDC, 25-8-2, D, 4

(3) in a water quality transition zone (WQTZ)

Description of Regulated Areas: LDC 25-8-2, D, 1, 2, 7, 8, 9, 10

Waterway Classifications: LDC 25-8-91

WQTZs Established: LDC 25-8-93

- (a) provide a site map or description, identifying the WQTZ boundary
- (b) address LDC restrictions and transfers of development intensity applicable to the WQTZ

WQTZ Suburban Watershed Requirements: LDC 25-8-393, 395
WQTZ Water Supply Suburban Requirements: LDC 25-8-423, 425
WQTZ Water Supply Rural Requirements: LDC 25-8-453, 455
WQTZ Barton Springs Zone Requirements: LDC 25-8-483, 484

- (4) in a critical water quality zone (CWQZ)

Description of Regulated Areas: LDC 25-8-2, D, 1, 2, 7, 8, 9, 10
Waterway Classifications: LDC 25-8-91
CWQZs Established: LDC 25-8-92

- (a) provide a site map or description, identifying the CWQZ boundary
- (c) address LDC restrictions and transfers of development intensity applicable to the CWQZ

CWQZ Suburban Watershed Requirements: LDC 25-8-392, 395
CWQZ Water Supply Suburban Requirements: LDC 25-8-422, 425
CWQZ Water Supply Rural Requirements: LDC 25-8-452, 455
CWQZ Barton Springs Zone Requirements: LDC 25-8-482, 484

reference:

City of Austin. 2004. Austin Watershed Regulation Areas: Desired Development Zone and Drinking Water Protection Zone.

- (5) in a flood plain

- (a) provide a map of the floodplains as defined by FEMA
- (b) COA floodplains in all water courses up to 64 acres of drainage

- (6) on a tract with a gradient of more than 15 percent

- (a) provide a description or a slope map, identifying areas with over 15 percent slopes.

- (B) An environmental assessment must:

- (1) identify critical environmental features (CEFs) and propose protective measures for the features
 - (a) springs

1. are defined as points or zones of natural groundwater discharge in upland and/or riparian zones which produce measurable flow downgradient of the source (> 0.01 cu.ft./sec.) or a pool, or both, however small, characterized by the presence of a mesic plant community (refer to Facultative-wet or Obligate plant species as listed in the National List of Plant Species That Occur in Wetlands, South Plains, Region 6, U.S. Department of the Interior, Washington D.C.)
2. are shown on a CEF map with proposed setbacks
 - a. standard setback - 150' radius around spring

CEF Buffer Zones: LDC, Section 25-8-281 C, 1a
 - b. modified setback - same square footage as standard setback with 50' minimum below spring and square foot balance applied upgradient or area contributing to the spring
 - c. administrative variance - 50' to 150' radius around spring with recommendation from Environmental Resource Management Division, COA/WPDR

(b) bluffs

1. are defined as an abrupt vertical change in topography of more than 40 feet with an average slope steeper than four feet of rise for one foot of horizontal travel (400 %)
2. standard setback - 150' radius around the bluff

CEF Buffer Zones: LDC Section 25-8-281, C1a
3. modified setback - same square footage as standard setback with 50' minimum below bluff and square foot balance applied upgradient of bluff
4. administrative variance - 50' to 150' radius around bluff with recommendation from Environmental Resource Management Division, COA/WPDR

(c) canyon rimrocks

1. are defined as an abrupt vertical rock outcrop of more than 60% slope, greater than 4 feet vertically, and a horizontal extent equal or greater than 50'
2. standard setback - 150' radius around rimrock

CEF Buffer Zones: LDC Section 25-8-281, C1a

3. modified setback - same square footage as standard setback with 50' minimum below rimrock and square foot balance applied upgradient of rimrock
4. administrative variance - 50' to 150' around rimrock with recommendation from Environmental Resource Management Division (ERM), Watershed Protection and Development Review Department (WPDR), City of Austin

(d) caves

1. are defined as large underground voids, delineated by a surveyed cave map

Point Recharge Identification Criteria: ECM Section 1.10.0 - 1.10.3, & 1.10.4, C1

2. significance is determined by following the evaluation protocol, ECM Section 1.10.4, A & B
3. standard setback - 150' to 300' radius around surveyed cave map's delineation (LDC Section 25-8-281, and ECM Section 1.10.4, C, 3, and Figures 1-61, 1-62, 1-63 ECM Appendix V)
4. modified setback - same square footage as the standard setback applied to the principal drainage pattern to the cave (ECM Section 1.10.4, C2)
5. administrative variance - 50' to 150' radius around cave as recommended by ERM staff and justified by ECM Section 10.10.4, C, 4 and Figure 1-61, 1-62, 1-63 ECM Appendix V)
6. guidance for protection of caves in undesirable pre-existing conditions is provided in the ECM Section 10.10.4, C, 5

(e) sinkholes and significant recharge fractures

1. are defined as a circular or oblong depressions formed in soluble rock by the action of subterranean water which is a potential point of significant recharge (with or without a surface opening)
2. significance is determined by following the evaluation protocol, ECM Section 1.10.4, A & B
3. standard setback - 150' to 300' radius around surveyed around surface delineation of feature (LDC Section 25-8-281, and ECM Section 1.10.4, C, 3, and Figure 1-61, 1-62, 1-63 ECM Appendix V)
4. modified setback - same square footage as the standard setback applied over the principal drainage pattern to the sinkhole or fracture (ECM Section 1.10.4, C, 2)

5. administrative variance - 50' to 150' radius around sinkhole or fracture as recommended by ERM staff and justified by ECM Section 10.10.4, C, 4, and Figure 1-61, 1-62, 1-63 ECM Appendix V)
 6. guidance for protection of sinkholes in undesirable pre-existing conditions is provided in the ECM Section 10.10.4, C, 5
- (f) wetlands (LDC, Section 25-8-282)
1. are defined as lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. An area shall be classified as a wetland, regardless of size, if it meets the Army Corps of Engineers three parameter technical criteria as outlined in the Corps of Engineers 1987 Wetlands Delineation Manual (Section D. Routine Determinations):
 - a. three parameters for wetland determination include prevalence hydrophytic vegetation, hydric soil formation, and presence of adequate hydrology
 - b. wetland hydrology and hydric soils can be assumed if an area under examination is dominated (over 50% vegetative cover) by Facultative-wet and/or Obligate plant species as listed in the National List of Plant Species That Occur in Wetlands, South Plains, Region 6, U.S. Department of the Interior, Washington D.C.

and an abrupt boundary is evident between Facultative-wet and/or Obligate plant communities and Upland plant communities
 - c. if the area is dominated by Facultative plant species, the hydric soil and hydrology parameters cannot be assumed and are also required for determination as a wetland

the area is not a wetland if dominated by Upland plant species
 - d. exceptions include permitted water quality wet ponds, roadside ditches, and ornamental ponds fed by wells or other artificial sources of hydrology
 - e. potential wetlands are mapped on the U.S. Department of Interior, Fish and Wildlife Department, National Wetland Inventory Quad Maps; however, these areas must meet the Army Corps 1987 Delineation Manual criteria before classified as CEFs
 2. standard setback - 150' around the outside edge of the wetland area; appropriate for wetlands fed by sheet flow from all directions
 3. modified setback - same square footage as the standard

setback applied to the natural drainage patterns above and below the wetland; appropriate for fringe wetlands along streams or ponds in-line with streams

4. wetland mitigation - minimum 1:1 replacement of same square footage as wetland CEF and standard 150' setback; appropriate for isolated wetlands whose source of hydrology will be compromised by the proposed development

Examples of wetland replacements to be approved by Environmental Resource Management staff may include:

- a. on-site constructed wet ponds (for direction see ECM, Section 1.6.6, Design Guidelines For Wet Ponds)
 - b. on-site detention ponds landscaped with a native wet prairie (for direction see COA Standard Specification Manual, Section 609S, Native Grassland Seeding and Planting For Erosion Control) (Change wording in Drainage Criteria Manual 8.6.0, D, mowing requirements)
 - c. additional on-site buffers around existing water features
 - d. on-site bio-filtration + infiltration enhancement of standard sedimentation/filtration water quality ponds (consists of replacing most of sand bed with wet prairie landscape over porous soil, over gravel infiltration substrate)
5. wetland restoration or enhancement for water quality controls; appropriate for existing ponds in-line with unclassified waterways or isolated ponds that can treat a development's storm water runoff (ECM, Section 1.6.6)

- (2) provide an environmental justification for spoil disposal locations or roadway alignments

- (a) spoil disposal sites (for guidance see LDC, Sections 25-8-323 and 25-8-343)
- (b) roadway alignments are justified by selecting alternatives of least impact to environmental resources or sensitive areas including, trees (LDC, Sections 25-8-602 through 25-8-627), stream crossings (LDC, Section 25-8-262), and slopes (LDC, Sections 25-8-301 and 25-8-322)

- (3) propose methods to achieve overland flow and justify enclosed storm sewers (LDC, Section 25-8-185)

- (a) employ buffers around unclassified drainages as grassy filter strips for water quality credit where sheet flow can be maintained from adjacent impervious cover (water quality credit typically 1:1, impervious cover treated to grassy filter strip employed)

- (4) describe proposed industrial uses and the pollution abatement

program (LDC, Section 25-8-125 and ECM, Section 1.3.4)

1.3.1 Hydrogeologic Element

(A) generally describe the topography, soils, and geology of the site

- (1) references may include USGS Topo 7.5' Quad Maps, USDA Soil Survey County Maps, Barton Springs/Edwards Aquifer Conservation District, 2003, 1:28,000 *Geologic Map of the Barton Springs Segment of the Edwards Aquifer*, and USGS Geologic Quad Maps

Bureau of Economic Geology, University of Texas. 1992 Geologic Map of the Austin Area, Texas.

City of Austin. 2003. Watershed Boundaries and Aquifer Recharge Zone.

- (2) USDA. 1974. Soil Survey of Travis County, Texas. Soil Conservation Service now Natural Resource Conservation Service, Temple Texas.

(B) identify springs, bluffs, canyon rimrock, and significant point recharge features including caves, sinkholes, faults, solution cavities and enlarged fractures

reference:

Texas Commission on Environmental Quality. 2001. *Edwards Aquifer Protection Program, Chapter 213 Rules – Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone Within the Transition Zone*. Map. Digital data. November 28, 2001. Austin, Texas

- (1) a karst survey over the Edwards Aquifer Recharge Zone should be provided, consisting of 50' transects across the project site

(C) demonstrate that proposed drainage patterns will protect the quality and quantity of recharge at significant point recharge features (LDC Section 25-8-281, and ECM Section 1.10.4, C, 3, and Figure 1-61, 1-62, 1-63 ECM Appendix V)

1.3.2 Vegetative Element

(A) demonstrate that the proposed development preserves to the greatest extent practicable the significant trees and vegetation on the site (follow guidelines outlined in LDC, Sections 25-8-602, 603, 604, 605, 621, 622, 623, 624, 625, 626, and 627)

demonstrate that the proposed development provides maximum erosion control and overland flow benefits from the vegetation

- (1) use ECM, Section 3.5.1 to determine tree significance when comparing alternative development sites or alignments

- (2) use ECM, Section 3.5.2 to recommend tree preservation design criteria
 - (3) use ECM, Section 3.5.3 to recommend methods to design around constraints and select design alternatives
- (B) include one of the following:
- (1) a tree survey of all trees with a diameter of at least eight inches measured four and one-half feet above natural grade level
 - a. follow guidelines established in ECM, Sections 3.3.2, 3.3.3, and 3.3.4
 - b. for Park surveys follow guidelines established in ECM, Section 5.3.1
 - (2) on approval of the city arborist, stereo aerial photographs that are nine inches in size, are at a scale of one inch to 400 feet or larger, and were photographed between the months of April and November (follow guidelines in ECM, Section 3.3.3, B, C, & D)
- (C) for a commercial or multifamily site, include a vegetation survey that shows the approximate locations and types of all significant vegetation
- (1) a general description of the vegetation
 - a. vegetational area of Texas on site
 - 1. reference: Gould, F.W., G.O. Hoffman, and C.A. Rechenthin. 1960. Vegetational areas of Texas. College Station: Texas Agricultural Extension Service, Texas A&M University.
 - b. dominate vegetational communities
 - 1. references: Diamond, D.D., D.H. Riskind, and S.L. Orzell. 1987. A framework for plant community classification and conservation in Texas. Texas J. Sci.39:203-221
 - Amos, B.B., and Gehlbach, F.R., 1988, Edwards Plateau Vegetation, Plant Ecological Studies in Central Texas.
 - Frye, Roy G., Kirby L. Brown and Craig A McMahan, 1984, The Vegetation Types of Texas. Texas Parks and Wildlife, Austin, Texas.
 - Texas Parks and Wildlife. 1978. Natural Regions of Texas. Source: "Preserving Texas' Natural Heritage," LBJ School of Public Affairs Research Project.

- c. list taxonomic and common names of dominate trees, shrubs, vines, grasses, and forbs on the development tract
- d. important species and natural areas
 - 1. identify priority and other significant woodlands and prairies as mapped on the City of Austin Biological Resource Sector Maps; contact Watershed Protection and Development Review Department, Environmental Resources Management Division for information
 - 2. identify areas defined by ECM's Glossary as Protected Riparian Areas, "Floodplain Woodlands"

follow guidelines in ECM, Sections 1.7.7, 1.7.8, and 1.7.9 to recommend protection and restoration of floodplains when alterations are proposed

1.3.3 Utilities Element

(A) wastewater report must:

- (1) provide environmental justification for a sewer line location in a critical water quality zone (see LDC 25-8-261 & 361 and follow guidelines in ECM, 1.7.7, A and B, 4)
 - a. present alternatives for tunneling, micro-boring, or optional alignments outside the critical water quality zone and compare environmental constraints for each alternative
 - b. for unavoidable construction in Parks, greenbelts, and creeks recommend guidelines outlined in ECM, Section 5.4.8, 5.4.9, and 5.4.10
- (2) verify environmental compliance for use of on-site wastewater disposal systems (LDC 25-8-361, D)

1.3.4 Pollution Attenuation Plan

- (A) a Pollution Attenuation Plan is required for all industrial development projects not enclosed in a building (LDC, 25-8-125); see definition of industrial uses (LDC, Section 25-2-5)
- (B) elements of a Pollution Attenuation Plan
 - (1) standard LDC environmental assessment including: description of tract, topography, soils, vegetation, geology, critical environmental features, endangered species
 - (2) drainage: offsite,
 - (3) proposed mitigation for losses of natural resources including avoidance measure, protective measures, and replacement

1.3.5 Endangered Species

- (A) follow guidelines presented in LDC, Sections 25-8-691, 692, 693, 694, 695, and 696
- (B) references:

Travis County Transportation and Natural Resources Department. 1996. Balcones Canyonland Endangered Species Habitat and Potential Preserve System map.

Campbell, Linda. 1995. Endangered and Threatened Animals of Texas: Their Life History and Management. Texas Parks and Wildlife Resource Protection Division, Austin, Texas.

Veni & Associates. 1992. Geologic controls on Cave Development and the Distribution of Cave Fauna in the Austin, Texas, Region. Prepared for U.S. Fish and Wildlife Service.