

Memorandum

City of Lawrence and Douglas County Planning & Development Services

TO: Lawrence-Douglas County Planning Commission

FROM: Mary Miller, Planning Staff

CC: Scott McCullough, Planning Director
Sheila Stogsdill, Assistant Planning Director

Date: July 14, 2008

RE: Item No. 18; Revisions to the Text Amendment for Protection of Environmentally Sensitive Areas, Section 20-1109, Development Code

The Planning Commission initiated text amendment TA-12-27-07 at their October meeting to revise the protection standards, clarify the Sensitive Areas Site Plan review process in Section 20-1101, and revise definitions in 20-1701. The Planning Commission received public comment on the amendment at their May meeting, and deferred taking any action to the June meeting. The amendment was revised and provided to the Commissioners at the June meeting where additional public comment was received and revisions were suggested by several of the Commissioners. The amendment was revised to reflect the comments received and is being presented to the Commission at their July meeting with a staff recommendation to forward the text amendment to the City Commission with a recommendation for approval.

The various comments received and revisions made are discussed below:

1. A statement listing the benefits provided by the protection of environmentally sensitive areas was added as recommended by Commissioner Harris in Section 22-1109(a).
2. Section 20-1109(c) which states that appeals from the Planning Commission's determination could be made to the City Commission has been revised to state that the Planning Director's determination on the site plan can be appealed to the City Commission.
3. Several Commissioners asked about the list of native trees and questioned if all native trees should be included. Staff contacted the Douglas County Extension Office and the Kansas Biological Survey and developed a list of native trees which includes both indigenous and naturalized trees. The text amendment has been revised to remove the list of native tree species and to reference the more comprehensive list which is available in the Planning Office. (The list of native trees is included as Attachment A with this memo.)

4. It was suggested that Archaeological and Historic Sites which have had an application for listing submitted prior to the submittal of the sensitive area site plan be protected in addition to sites which are listed. The Commission asked staff to determine if someone other than a property owner could submit an application to list a property or structure. Section 22-402 of the City Code contains the application procedure and Section 22-405 contains the protest procedure for listings. Applications may be made only by resolution of the City Commission or the Historic Resource Commission. It may be possible for someone other than the property owner to request that the City Commission submit an application for a property. If the property owner protests, the City Commission will either discontinue the application, or a 2/3 vote would be required for approval if the site was determined to be 'highly significant.' In Staff's opinion, it would be difficult for someone other than the property owner to submit an application for listing on a property; therefore the revision to include properties which have had an application submitted as an environmentally sensitive feature has been made.
5. It was suggested that Individually Significant Trees should have separate dimensions for different species of trees. In the interest of making this a transparent and easily implemented regulation, the use of one size for evergreen and one size for deciduous trees is appropriate. Staff discussed this issue with staff from the Kansas Biological Survey (KBS) who indicated that 10" for evergreen and 12" for deciduous trees should capture the majority of the individually significant trees.
6. Kelly Kindscher, environmental scientist with KBS, proposed a revision regarding the identification of native prairie remnants. While he stated that the Kansas Biological Survey would be happy to help in the identification, he pointed out that there are other companies which are qualified to do this work that we should include. Consulting firms have been included to the entities which may make determinations of native prairie. In addition, a list of approved consulting firms will be maintained in the Planning Office.
7. Kelly also recommended including replanting requirements for native prairies which were destroyed. Section 20-1101(h)(3) includes his recommended language.
8. Commissioner Rasmussen suggested revising the term 'wetland specialist' to more clearly define who could make the wetland determination. Staff researched the Army Corps of Engineers website and has revised the language in Section 20-1109(c)(2) to state that jurisdictional wetlands are 'determined' by the Army Corps of Engineers, rather than 'approved'. The person who can make a wetland delineation has been revised from a 'wetland specialist' to a **professional wetland scientist, certified by the Society of Wetland Scientists or the Army Corps of Engineers, the Natural Resource Conservation Service, the Kansas Biological Survey, or the Army Corps of Engineers** in Section 20-1109(i)(1)(b).
9. Commissioner Rasmussen questioned the policy that 100% of a jurisdictional wetland must be preserved. He asked if jurisdictional wetlands could be developed for road construction. Infrastructure is exempt from the provisions of this regulation, per Section 22-1109(e) if the Planning Director has determined that the amount of damage to the sensitive features is minimized either through construction methods or location and has provided written approval of the

exemption request The term 'infrastructure' as defined in the Development Code includes 'roads'. Staff provided alternate language in Section 20-1109)(m)(5) to include a provision for development on up to 15% of critical sensitive features through the appeal process to the City Commission with the exception of floodway. Development is prohibited in the floodway in the Floodplain Management Regulations, in Section 12 of the Development Code.

10. The Planning Director asked Staff to clarify who has standing to make an appeal from a sensitive area site plan. The property owner, applicant, City Commission and adjacent property owners have standing to make an appeal. This language is included in Section 20-1109 (m) and (n).
11. The public commented on the possibility of protecting drainageways and ephemeral streams as well as constant and intermittent streams. Staff discussed this with the City Stormwater Engineer who indicated that the drainage study would address proposed changes to drainageways. If a drainageway were proposed to be disturbed, adequate drainage would be required to be provided on the site. Staff also spoke with Andy Zigler of the Kansas Office of the US Geological Survey who indicated that the intermittent streams shown with a dashed line of the Quad Maps would include any ephemeral streams for property within the City and the area surrounding it. Therefore, it is not necessary to include a separate category for ephemeral streams.
12. Commissioner Rasmussen questioned the ranking of wildlife corridors. Continuous woodland areas create wildlife corridors and woodlands which were contiguous or connected to other woodlands off-sites were listed as a higher priority than isolated woodlands. Section 20-1109(j)(2) was revised to place woodlands that are contiguous with other off-site woodland areas that may function as wildlife corridors in the 'important sensitive area' ranking rather than the 'desirable' to emphasize the higher priority ranking.
13. Some commissioners questioned if 'expert testimony' should be required when items are brought before the Planning Commission or City Commission. Staff and the applicant always have the option of including information from experts; however, this should not be a requirement of this provision. The goal of this text amendment is to provide clear provisions and regulations which can be implemented by staff. Expert advice may be sought and used during the review or modification process but is not intended to be necessary for implementation of these standards.

Lawrence Native Tree List

Taken from the Indigenous, Naturalized, & Adventive
Trees, Shrubs, & Vines of Kansas
Kansas Biological Survey
2004

Common Name	Scientific Name	Indigenous	Naturalized
Boxelder	<i>Acer negundo</i>	X	
Silver Maple	<i>Acer saccharinum</i>	X	
Eastern Ohio Buckeye	<i>Aesculus glabra</i> var. <i>glabra</i>	X	
Western Ohio Buckeye	<i>Aesculus glabra</i> , var <i>arguta</i>	X	
Tree of Heaven	<i>Ailanthus altissima</i>		X
Black Alder	<i>Alnus glutinosa</i>		X
Smooth Alder	<i>Alnus serrulata</i>		X
Downy Service-Berry	<i>Amelanchier arborea</i> var. <i>arborea</i>	X	
Common Pawpaw	<i>Asimina triloba</i>	X	
River Birch	<i>Betula nigra</i> .		X
Common Paper-Mulberry	<i>Broussonetia papyrifera</i>		X
Bitter-Nut Hickory	<i>Carya cordiformis</i>	X	
Pecan	<i>Carya illinoensis</i>	X	
King-Nut Hickory	<i>Carya laciniosa</i>	X	
Shag-Bark Hickory	<i>Carya ovata</i>	X	
Black Hickory	<i>Carya texana</i>		X
Mocker-Nut Hickory	<i>Carya tomentosa</i>		X
Southern Catalpa	<i>Catalpa bignonioides</i>		X
Northern Catalpa	<i>Catalpa speciosa</i>		X
Sugar Hackberry	<i>Celtis laevigata</i>	X	
Common Hackberry	<i>Celtis occidentalis</i>	X	
Net-Leaf Hackberry	<i>Celtis reticulata</i>		X
Dwarf Hackberry	<i>Celtis tenuifolia</i>	X	
Redbud	<i>Cercis Canadensis</i>	X	
Narrow-Leaf Desert-Willow	<i>Chilopsis linearis</i> var. <i>linearis</i>		X
Flowering Dogwood	<i>Cornus florida</i>		X
Downy Hawthorn	<i>Crataegus mollis</i>	X	
Common Persimmon	<i>Diospyros virginiana</i>	X	
Russian-Olive	<i>Elaeagnus angustifolia</i> L.		X
Autumn-Olive	<i>Elaeagnus umbellata</i>		X
Eastern Wahoo	<i>Euonymus atropurpureus</i>	X	
White Ash	<i>Fraxinus americana</i>	X	
Green Ash	<i>Fraxinus pennsylvanica</i>	X	

Revised 07/07/08 to list only indigenous and naturalized trees

<u>Common Name</u>	<u>Scientific Name</u>	<u>Indigenous</u>	<u>Naturalized</u>
Blue Ash	<i>Fraxinus quadrangulata</i>		X
Common Honey-locust	<i>Gleditsia triacanthos</i>	X	
Kentucky Coffeetree	<i>Gymnocladus dioica</i>	X	
Black Walnut	<i>Juglans nigra</i>	X	
Eastern Red Cedar	<i>Juniperus virginiana</i> L.	X	
Golden-Rain Tree	<i>Koelreuteria paniculata</i>		X
Osage-Orange	<i>Machura pomifera</i>		X
Wild Crab Apple	<i>Malus coronaria</i> var. <i>coronaria</i>	X	
Iowa Crab Apple	<i>Malus ioensis</i> var. <i>ioensis</i>	X	
White Mulberry	<i>Morus alba</i>		X
Red Mulberry	<i>Morus rubra</i>	X	
American Hop-hornbeam	<i>Ostrya virginiana</i>	X	
Common Sycamore	<i>Platanus occidentalis</i>	X	
Silver Poplar	<i>Populus alba</i>		X
Plains Cottonwood	<i>Populus deltoides</i> subsp. <i>monilifera</i>	X	
Peach	<i>Prunus persica</i>		X
Black Cherry	<i>Prunus serotina</i> var. <i>serotina</i>	X	
White Oak	<i>Quercus alba</i>	X	
Shingle Oak	<i>Quercus imbricaria</i>	X	
Bur Oak	<i>Quercus macrocarpa</i>	X	
Black-Jack Oak	<i>Quercus marilandica</i>	X	
Pin Oak	<i>Quercus palustris</i>	X	
Chinquapin Oak	<i>Quercus prinoides</i>	X	
Dwarf Chinquapin Oak	<i>Quercus prinoides</i>	X	
Northern Red Oak	<i>Quercus rubra</i>	X	
Shumard's Oak	<i>Quercus shumardii</i>	X	
Post Oak	<i>Quercus stellata</i>	X	
Black Oak	<i>Quercus velutina</i>	X	
Bush's Oak	<i>Quercus xbushii</i>	X	
Deceptive Oak	<i>Quercus xfallax</i>	X	
Faxon's Oak	<i>Quercus xfaxonii</i>	X	
Fernow's Oak	<i>Quercus xfernowii</i>	X	
False Post Oak	<i>Quercus xstelloides</i>	X	
Common Buckthorn	<i>Rhamnus cathartica</i>		X
Black Locust	<i>Robinia pseudoacacia</i>	X	
Peach-Leaf Willow	<i>Salix amygdaloides</i>	X	
Carolina Willow	<i>Salix caroliniana</i>	X	
Diamond Willow	<i>Salix eriocephala</i> subsp. <i>eriocephala</i> var. <i>eriocephala</i>	X	

Revised 07/07/08 to list only indigenous and naturalized trees

<u>Common Name</u>	<u>Scientific Name</u>	<u>Indigenous</u>	<u>Naturalized</u>
Black Willow	<i>Salix nigra</i>	X	
White Sassafras	<i>Sassafras albidum</i>		X
Woolly Jungle-Plum, Ironwood, or Chittamwood	<i>Sideroxylon lanuginosum subsp. oblongifolium</i>	X	
Small-Flower Tamarisk	<i>Tamarix parviflora</i>		X
Salt-Cedar	<i>Tamarix ramosissima</i>		X
American Basswood	<i>Tilia americana var. americana</i>	X	
Winged Elm	<i>Ulmus alata</i>	X	
American Elm	<i>Ulmus americana</i>	X	
Siberian Elm	<i>Ulmus pumila</i>		X
Slippery Elm	<i>Ulmus rubra</i>	X	
Rock Elm	<i>Ulmus thomasii</i>	X	

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Revised 07/07/08 to list only indigenous and naturalized trees

Memorandum

City of Lawrence and Douglas County Planning & Development Services

TO: Lawrence-Douglas County Planning Commission
FROM: Mary Miller, Planning Staff
CC: Scott McCullough, Planning Director
Sheila Stogsdill, Assistant Planning Director
Date: July 21, 2008
RE: Item No. 18; Revisions to the Text Amendment for Protection of
Environmentally Sensitive Areas, Section 20-1109, Development
Code

Since the June Planning Commission meeting, Staff has received comments on the proposed text amendment language from various individuals. Stan Rasmussen, Planning Commissioner, met with Staff to discuss language which may be unclear. The amendment has been revised based on his suggestions to clarify language and to reformat the amendment so that standards and guidelines are clearly listed in a separate section and not distributed throughout the amendment. Frank Norman of Norman Ecological Consulting provided information on the native prairie remnants as well as other ecological issues. The text amendment has been revised to include the language and reformatting as a result of these discussions.

The revised amendment is included with this memo in two forms. One which shows the changes (text which has been deleted since the June meeting is marked with a 'strike-through', text that has been deleted based on these recent discussions are marked with a 'double stike-through'; proposed new language is in bold print while new language that has been added since the June meeting is in bold italicized print, and language which is moved elsewhere in the amendment is highlighted).

Following, is a 'clean' copy of the amendment with the changes incorporated into the text.

JULY REVISIONS—SHOWING CHANGES

Section 20-1109 Protection Standards for Environmentally Sensitive Areas

(a) Purpose

The Environmentally Sensitive Areas Standards are intended to protect ~~and, where possible, enhance the natural environment of~~ **sensitive natural and historic features of** the City of Lawrence ~~while recognizing the need for urban development as the City meets its urban development goals.~~

These standards are intended to provide flexibility in the design of developments on lands with environmentally sensitive areas in order to use land efficiently and to preserve environmentally sensitive areas. ~~as open space amenities.~~
Environmentally sensitive natural areas left in their natural state provide many benefits to the community including flood control, erosion control, water filtration, storm water runoff areas, passive recreation, wildlife protection, etc. Recognizing and protecting these benefits decreases the City's losses and improves the quality of life.

These standards are intended to allow modifications of the requirements of the base zoning district and subdivision regulations. During the review process, the specific circumstances surrounding each application, such as the types and amounts of sensitive features that are present; special constraints to the development such as being in an infill location; and the need for the extension of public utilities or infrastructure will be considered. The Environmentally Sensitive Areas standards ~~will~~ **shall** be applied in an effort to achieve development solutions that best promote the spirit, intent and purpose of protecting environmentally sensitive lands.

(b) Objectives

The objectives of these standards are:

- (1) To identify and prioritize environmentally sensitive areas during the initial stages of the development review process.
- (2) To establish levels of protection for environmentally sensitive ~~features~~ **areas** which vary with the priority ranking of each feature or combination of features.
- (3) To aid developers in the creation of plans so that negative impacts to the environmentally sensitive areas are avoided or minimized to the greatest extent possible.
- (4) To coordinate sensitive areas protection with other City environmental programs such as the Floodplain Management Regulations, and the City Stormwater Ordinance.
- (5) To encourage the use of innovative ~~and flexible~~ development techniques and to provide flexibility in the planning process when needed to balance environmental and economic goals.
- (6) To establish levels of protection for existing sensitive areas and institute requirements for the restoration of sensitive areas found to be prematurely destroyed or altered.

(c) Applicability of Environmental Design Standards

The provisions of this Article regarding environmental protection for sensitive ~~areas~~ ~~lands~~ shall apply to all construction and development activity in all zoning districts except as expressly exempted in this ~~Section~~ **20-1109(e)**.

If a proposed development, as specified in this section, contains any of the environmentally sensitive ~~areas~~ ~~features~~ described below, the environmentally sensitive design standards and guidelines shall apply. Where disagreements occur regarding the presence or amount of environmentally sensitive ~~areas~~ ~~features~~ contained on a property, the Planning **Director's determination on the Sensitive Areas Site Plan may be appealed to the City Commission.** ~~Commission shall determine compliance with this Article based upon the submitted evidence of staff, and/or the applicant. Appeals from the Planning Commission determination shall be made to the City Commission.~~

Environmentally Sensitive ~~Areas~~ ~~Features~~ include the following:

- (1) Regulatory Floodplain:
 - (i) Regulatory Floodway, designated on the FEMA Flood Insurance Rate Map for Douglas County.
 - (ii) Regulatory Floodway Fringe **(100 year flood)**, designated on the FEMA Flood Insurance Rate Map for Douglas County.
- (2) **Wetlands, including** jurisdictional wetlands as ~~approved~~ **determined** and regulated by the U.S. Army Corps of Engineers.
- (3) Streams, shown on the United States Geological Survey Quadrangle (USGS Quad) Maps as blue solid or dashed lines, and their corridors.
- (4) Woodland Areas: Any tract of land containing one (1) acre or more which is shown as 'woodland' or 'forest' on the City GIS Woodland Baseline Map.
- (5) Individually Significant Trees: an existing healthy tree which, when measured four feet above grade, has a minimum diameter **at breast height, 54 in.** of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) **or any native species. A list of native trees (including both indigenous and naturalized species) is available at the Planning Office.** ~~any of the following native species: walnut, red maple, shagbark hickory, black cherry, black locust, American elm, hackberry, osage orange, white/red mulberry, chinkapin oak, bur oak, white oak, black oak, honeylocust, cottonwood, sycamore, red cedar, black gum, or yellow poplar.~~
- (6) Prominent Geologic Features with Rocky Outcroppings: A rocky protrusion of 50% or more exposed rock having greater than a 3:1 slope, a minimum height of 20' above the surrounding grade and covering an area of 1 or more acres.
- (7) Archaeological and Historic Sites listed on local, state, or federal registers **or those that have an application on file for listing which was submitted prior to the sensitive area site plan.**

- (8) Prairie remnant of one (1) acre or larger: Prairie areas that have remained ~~relatively untouched~~ **intact** on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger. Prairie areas will be determined by the Kansas Biological Survey, **or a consulting firm with local expertise in these habitats**, as areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies). **A list of approved consulting firms for prairie determination is available in the Planning Office.**
- (9) Slopes:
 - i. Steep Slopes: A slope of fifteen percent (15%) but less than twenty five percent (25%).
 - ii. Critical Slopes: A slope of twenty five percent (25%) but less than forty percent (40%)
 - iii. Protected slopes: Any slope of forty percent (40%) or steeper.

The presence of environmentally sensitive ~~areas~~ **features** shall be determined from an examination of the site and the following resources:

- (1) FEMA Flood Insurance Rate Map for Douglas County
- (2) USGS Quad Maps
- (3) City GIS Woodland Baseline Map
- (4) US Fish and Wildlife Service **National Wetland Inventory** Maps
- (5) Douglas County Natural Areas Inventory Map
- (6) City GIS Map, ***including baseline woodland map and contour map.***
- (7) ***Douglas County Soil Survey***
- (8)
- (9) ***Other resources which may be appropriate***

(d) Determination of Development Land Area

In determining whether a proposed development contains sensitive ~~areas~~ **lands**, all contiguous lands under the same ownership or control shall be considered. Lands owned or controlled by a partnership, trust or corporation shall be considered along with lands owned directly by the applicant and lands under option to the applicant or a partnership, trust or corporation under the effective control of the applicant.

(e) Exemptions.

The following activities are exempt from the requirements of this section:

- (1) Extension of public utilities and infrastructure: A written request for exemption must be submitted to the Planning Director. Development activity may occur only after the Planning Director has determined that the amount of damage to the **environmentally** sensitive ~~areas~~ **features** is minimized either through construction methods or location and has provided written approval of the exemption request.
- (2) Existing Single-Dwelling and Duplex Residences: Normal maintenance/expansion of single-family or duplex residences, including exterior remodeling, reconstruction, construction, or replacement of single-family or duplex residences and accessory structures.

- (3) Existing Subdivisions for Single-Dwelling and Duplex Residences: Construction of new single-family or duplex residences in platted subdivisions that are in existence, or for which applications for plats have been submitted, prior to the effective **DATE OF THIS TEXT AMENDMENT**.
- (4) Woodland Management Activities. Practices associated with 'timber management standards' as defined by the International Society of Arboriculture, or its successor, or existing tree farming operations, such as Christmas tree farming, fruit, or nut production and tree nurseries, during such time as the land is used for tree farming operations are exempt.

(f) Sensitive Areas Site Plan

Development activity on lands with environmentally sensitive areas as set forth in Section **XX(4)** shall require submission and approval of a Sensitive Areas Site Plan.

A Sensitive Areas Site Plan must be approved by the Planning Director prior to woodland clearing, grading or any development activity on lands that contain environmentally sensitive ~~areas~~ ~~features~~ specified in **Section XX(4)**. Appeals from the Planning Director's determination on the Sensitive Areas Site Plan shall be made to the City Commission. An appeal must be filed within ~~30~~ **9 calendar** days of the Planning ~~Commission's~~ **Director's** determination.

The Sensitive Areas Site Plan ~~can~~ may be submitted concurrent with the submittal of any other site plan or development plan; however, revisions to the development plans may be necessary in order to comply with the approved Sensitive Areas Site Plan. To avoid revisions, prior submittal of the Sensitive Areas Site Plan is recommended with a concept development plan. The Sensitive Areas Site Plan will be incorporated with other development or site plans for the property. The designated protected areas must be clearly shown on all associated development plans, including public improvement plans.

(g) ~~Non-compliant Development Activity Occurs Without Approval of a Sensitive Areas Site Plan.~~

If development occurs which is not compliant with an approved Sensitive Areas Site Plan or if clearing, grading or other development activity occurs on lands determined to contain environmentally sensitive ~~areas~~ ~~features~~ as of **the effective date of this text amendment** without prior approval of a Sensitive Areas Site Plan, the sensitive areas ~~and features~~ will be determined for the property using the best available data (aerials, surveys, baseline maps, etc.) and the property shall be made whole to the extent required in Section **X(10)** under the following guidelines prior to building permits being granted:

- (1) Removal of trees from woodland areas: If woodland areas are altered by human activity such as clearcutting or removal of trees to the degree that the property no longer meets the definition of 'woodland', the property owner shall protect the area that would have been required to be protected with a Sensitive Areas Site Plan. The property owner shall replace the trees at a ratio of 1 tree per every 200 sq. ft. of prior woodland area to the extent

required in Section **X(10)**. Replacement trees shall ***meet the following size standards: a minimum caliper of two and one-half inches (2.5") for deciduous trees and a minimum planted height of six feet (6') for evergreen species. The replacement trees shall*** consist of a minimum of 6 species which may be native or selected from the Northeast Kansas Preferred Species Tree List. Trees which are considered native are listed on the ***Kansas Native Tree List which is available in the Planning Office.*** (This requirement is in addition to any street tree, buffering, or other landscaping that is required by the Development Code.)

- (2) Damage to Stream Corridor: If the stream or stream corridor is altered by human activity, such as the removal of trees or vegetation ***with the exception of poisonous or noxious weeds***, or in anyway altering the channel, the property owner shall reestablish the channel per the approval of the City Stormwater Engineer and replace the trees at a ratio of 1 tree per every 200 sq. ft. of area of stream corridor and shall reestablish ground cover per the approval of the City Stormwater Engineer. ***In addition, modification of the stream channel may be in violation of Section 404 of the Clean Water Act as well as the Stream Obstruction Act of the Division of Water Resources.***
- (3) Destruction of remnant prairie. If an area that has been determined by the KS Biological Survey, **or approved consulting firm**, as having remnant prairies is plowed or otherwise destroyed, the area of the former remnant prairie, as defined by the KS Biological Survey **or approved consulting firm** must be preserved as open space and replanted with prairie vegetation to the extent required in Section X(10). **At least 75% of the native species that were likely at the site, as determined by the Kansas Biological Survey or consulting firm, will be reseeded replanted.** ~~The restoration area replanted plants will be maintained and at least 50% of those will have been established one year from planting until the reseeded native vegetation reaches a minimum of 75% cover (which typically takes three years after planting) as determined by KBS or approved consulting firm. A three year restoration and maintenance plan shall be developed by the property owner with the assistance of the Kansas Biological Survey or approved consulting firm and will be filed with the Planning Office and at least 50% of those will have been established one year from planting.~~
- (4) Other features If environmentally sensitive features other than those specifically listed in this sub-section are destroyed or damaged, the property shall be reviewed as if the sensitive feature were intact using the best available data and the area required to be protected shall be repaired through restoration. A restoration plan shall be developed by the Planning Director.

(h) Sensitive Areas Site Plan Procedure

A Sensitive Areas Site Plan shall be submitted and approved prior to any development activity, including vegetation removal or grading. The Sensitive Areas Site Plan may be submitted prior to, or concurrent with, another development application, i.e. plat, site plan, rezoning, etc. The Sensitive Areas Site Plan shall delineate and note all sensitive areas and designate protected sensitive areas and associated buffers.

A Sensitive Areas Site Plan shall be reviewed by the Planning Director in accordance with the Site Plan review procedure listed in Section 20-1305.

A Sensitive Areas Site Plan is normally submitted in preparation for another development proposal, such as a plat, development plan or site plan; therefore, there is no review fee for a Sensitive Areas Site Plan.

(1) ***Sensitive Areas*** Site Plan Contents:

(i) The site plan shall be arranged so the top of the plan represents north or, if otherwise oriented, is clearly and distinctly marked.

(ii) The site plan shall clearly delineate the property boundaries, ~~and~~ all of the ***environmentally*** sensitive areas located on the property, and ~~shall~~ designate protection ***buffers*** ~~zones~~ for sensitive areas as prescribed below.

a. Regulatory Floodplain, including Floodway and Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County.

b. Wetlands. The site plan shall show the delineation of ~~any a~~ jurisdictional wetlands ~~area that is accepted~~ ***that has been determined by per*** the US Army Corps of Engineers ***regulations and guidance*** prior to submittal of the Sensitive Areas Site Plan. ~~and~~ The site plan shall ***also*** show any area that is included on the U.S. Fish and Wildlife Service ***National Wetlands Inventory*** Wetland Map, as a ~~suspected or~~ potential wetland area, along with a 100' buffer area unless the Natural Resource Conservation Service, the Kansas Biological Survey, the Army Corps of Engineers or a ~~wetland specialist, professional wetland scientist, certified by the Society of Wetland Scientists, or the Army Corps of Engineers,~~ determine that the area is not a wetland.

c. Streams and stream corridors. Streams that are shown in solid or dashed blue lines on the USGS Quad Map shall be included with their corridors. ~~When other sensitive features are located within a stream corridor, the most stringent required protective buffer shall apply.~~ Unless exempt under the provisions of this Section, the following ***protective*** buffer requirements shall be maintained:

The stream corridor shall be a 200 ft. wide area, centered on the stream. If an ordinance establishing stream corridor widths for

individual streams is adopted by the City, the stream corridor width in the ordinance will apply.

The amount of stream corridor required may be reduced by the City Stormwater Engineer if requiring the full stream corridor buffer would preclude reasonable use of the property, and enhanced vegetative cover will be provided in any remaining buffer area to the extent possible. A waiver request must be provided in writing to the City Stormwater Engineer which explains how the provision of the full required stream corridor precludes reasonable use of the property.

- d) Woodland Areas. A sensitive Areas Site Plan shall be approved for any property containing a woodland area prior to woodland clearing or any development activity. The City Woodland Baseline Map shall be used to determine the amount of wooded areas on site. The following requirements apply to development on properties with woodland areas:

The woodland area required to be retained shall be delineated to include a buffer area by measuring fifty feet (50') outward from the trunks of trees intended to be preserved.

If a modification request is submitted to the Planning Commission and the Planning Commission determines that the required woodland area cannot be retained due to site constraints or infrastructure requirements, replacement trees will be required. ***Deciduous replacement trees shall have a minimum 2.5 in. caliper and evergreen replacement trees shall have a minimum planted height of 6 ft.*** One tree shall be planted for every two hundred (200) square feet of woodland removed from the otherwise required retention area and shall be a ~~mixture of~~ **a minimum of 6 species**. Species which are either native to Kansas or are included in the Northeast Kansas Preferred Species List shall be used for replacement trees. The Northeast Kansas Preferred Species List and a list of native Kansas species is available in the Planning Office. The replacement of trees may be waived ***by the Planning Commission*** if it is determined that site constraints prohibit the replacement of trees on site.

To the extent possible, woodlands located on steep slopes and/or within 100 year floodplains ~~should~~ **shall** be given the highest retention priority.

- e) Individually significant trees. The species and size (***dbh***) of the tree(s) shall be noted on the plan.
- f) Archaeological and Historic Sites.

- g) Prairie remnants one acre in area or larger. If development is proposed on a property which is shown on the Douglas County Natural Areas Inventory Map as containing remnant prairies these areas must be delineated and noted on the Sensitive Areas Site Plan, if confirmed by the Kansas Biological Survey **or consulting agency with local expertise. A list of approved consulting agencies is maintained in the Planning Office.**

Prairie remnants associated with other sensitive features shall be treated as environmental assets, and shall be considered no-build areas to the extent possible, and used for buffers, filter strips along waterways and/or neighborhood open space.

- h) Steep slopes, slopes with grades of 15% or higher
A Sensitive Areas Site Plan is required prior to any development activity on property containing slopes with grades greater than 15% ***which indicates the areas containing slopes of 15% to 25%, 25% to 40% and above 40%.***

A grading plan ***shall be submitted*** ~~is required~~ in addition to a Sensitive Areas Site Plan prior to any development activity on property containing slopes with grades between 25% and 40%. **Disturbance of slopes with 25% to 40% grades requires approval of the City Stormwater Engineer.**

Slopes greater than 40% grade shall not be graded and shall remain in the existing state, except that natural vegetation may be supplemented by other plant material. A buffer will be required around any slopes of 40% grade or more. Two feet (2') of buffer will be provided for each foot of vertical rise of the slope up to a maximum buffer of fifty feet (50'). **No development activity, including removal of trees and other vegetation, shall be allowed within the buffer with the exception of the removal of noxious or poisonous weeds.**

- i) A site summary table shall be provided which includes the total site area, the area of each environmentally sensitive area delineated on the site plan, and the percentage of the total site which is included in each area. Areas with overlapping environmentally sensitive features shall be listed along with the percentage of the total.

(i) **Ranking and Required Protection of Environmentally Sensitive Areas Features**

Protection of certain environmentally sensitive ~~areas~~ ~~features~~ in their natural state is more critical than others. The following priority scheme will ***serve as a 'ranking sequence' and will*** assist in the determination of environmentally sensitive areas in which protection is 'critical', those in which protection is important and ~~should~~ **shall** be achieved to the greatest extent possible and those for which protection is desirable.

The total amount of the site which shall be required to be protected depends on the type and amount of features present.

Critical Environmentally Sensitive Areas are required to be protected in their entirety. All protected areas together shall not be required to exceed 30% of gross land area unless critical sensitive areas exist. 10% of the designated sensitive area shall serve, and may be improved, as an open space amenity to the development as passive or active recreation.

When determining which ***environmentally sensitive areas*** ~~features~~ should **shall** be protected, protection will be required in the following ranking order:

- (1) Critical Sensitive Areas. Areas containing the following: ~~critical sensitive features:~~ regulatory floodway, stream corridors, jurisdictional wetlands, slopes with greater than 40% grade, or archaeological and historic sites. Protection of 100% of these sensitive ***areas*** ~~features~~ is required regardless of the percentage of the total site area which is included.
- (2) Important Sensitive Areas. Areas containing the following: ~~critical sensitive features:~~ **non-jurisdictional wetlands**, slopes between 25% and 40% grade, regulatory floodway fringe, native prairie remnants, **woodlands that are contiguous with other off-site woodland areas that may function as wildlife corridors**, and ~~areas with~~ two or more environmentally sensitive ***areas*** ~~features~~, other than those listed as 'critical sensitive ***areas*** ~~features~~', occurring together. Environmentally Sensitive ~~Features or~~ Areas that occur together are of higher priority than any one ~~feature~~ ***sensitive area*** occurring singularly. The priority increases with the number of environmentally sensitive ***areas*** ~~features~~ occurring together. Protection of ***these*** areas ~~containing these features~~ is required to the maximum extent noted above. **To the extent possible, woodlands located on steep slopes and/or within 100 year floodplains should shall be given the highest retention priority.**
- (3) Desirable Sensitive Areas. Areas ~~with~~ ***in which the following occur singularly: slopes between 15% and 25%, isolated woodland areas, and individually significant trees.*** ~~environmentally sensitive features, other than those listed as critical or important sensitive areas. In addition, woodland areas that are part of a larger continuous wooded area that may extend off-site are of higher priority than woodland areas that are isolated.~~ Protection of areas containing these features is required to the maximum extent noted above.

Environmentally Sensitive ***Areas*** ~~Features~~ shown on the site plan are prioritized for protection by the ranking scheme above in combination with an evaluation of the development proposal, the surrounding area (to determine connectivity) and the mix of sensitive features present on the site.

(j) DEVELOPMENT OPTIONS

The following development options are available for properties containing environmentally sensitive ~~lands:~~ **areas**:

- (1) May develop as a Planned Development, per standards in Section 20-701, to protect the greatest amount of environmentally sensitive ~~features—possible~~ **areas** while accommodating development. The minimum amount of natural open space to be preserved will be determined after a review of the Sensitive Areas Site Plan. Planned Developments provide the following additional flexibility: reduced lot sizes, increase in maximum net residential density by up to 25%, reduction in minimum setback standards of the base district with some restrictions, increase in the height of the buildings, and reduction in the number of off-street parking spaces required.
- (2) May develop as a Cluster Development per standards listed in Section 20-702. If environmentally sensitive ~~features~~ **areas** are present, a Cluster Development may exceed the 35 lots permitted in Section 20-702(c)(1). Cluster Development allows the property to develop at the same maximum density as the base zoning district permits, but with no minimum lot area or lot width requirements. Special setbacks for the perimeter apply and 10' separation is required between all detached dwellings.
- (3) May develop with a site plan, or single-dwelling or duplex residential development may occur through a traditional subdivision, when a review of the Sensitive Areas Site Plan indicates that it is possible to develop the property according to the regulations of the base zoning district while protecting the sensitive areas through easements, building envelopes, common-ownership tracts, or other means. The development proposal shall be reviewed with the approved Sensitive Areas Site Plan to insure that the proposed development will preserve the amount of sensitive areas necessary. The Sensitive Areas Site Plan shall be incorporated with any submitted development proposal, i.e. plat, site plan, development plan, etc. The protected sensitive areas and building envelopes must be shown on the preliminary and final plat to insure that buildings and construction activity do not encroach into the sensitive areas. A note must be included on the plat or site plan noting the party responsible for the maintenance of the protected environmentally sensitive areas and stating that all development activity, including grading and construction, is prohibited within the protected sensitive areas.

(k) Sensitive Areas Development Design *Standards and Guidelines*:

- (1) Street rights-of-way, public utility corridors and building sites ~~should~~ **shall** be located so as to minimize their impact on environmentally sensitive areas.
- (2) Where possible, environmentally sensitive areas to be protected ~~should~~ **shall** be located within designated public or private open space, either

through dedication, a conservation easement, or control by a homeowner's association.

- (3) If a review of the Sensitive Areas Site Plan and proposed development indicates that it is not possible or reasonable to protect the required amount of sensitive ~~areas~~ **features**, mitigation may be possible. A mitigation plan shall be submitted to the Planning Commission for review. Any appeals from the Planning Commission's determination on the mitigation plan shall be heard by the City Commission.
- (4) When other sensitive features are located within a stream corridor, the most stringent required protective buffer shall apply.
- (5) Prairie remnants associated with other sensitive features shall be treated as environmental assets, and shall be considered no-build areas to the extent possible, and used for buffers, filter strips along waterways and/or neighborhood open space.
- (6) Disturbance of slopes with 25% to 40% grades requires approval of the City Stormwater Engineer.
- (7) Slopes greater than 40% grade shall not be graded and shall remain in the existing state, except that natural vegetation may be supplemented by other plant material.
- (8) No development activity, including removal of trees and other vegetation, shall be allowed within the buffer **with the exception of the removal of noxious or poisonous weeds.**

(I) Modifications to the Sensitive Area Design Standards and Guidelines

The development standards and guidelines contained in this section are to be used as minimum requirements for evaluating development plans on lands containing environmentally sensitive areas. However, the standards and guidelines are not intended to restrict creativity or prohibit reasonable economic returns on developing property. An applicant may request modifications of the sensitive areas design standards and guidelines, such as, but not limited to, a reduction in the area required to be preserved, or a change in the hierarchy ranking of protected features, if all the following criteria are met:

- 1) The modification will be in harmony with the purpose and intent of this section.
- 2) The modification will generally enhance the sensitive areas site or development plan and will not have an adverse impact on its physical, visual or spatial characteristics.
- 3) The modification shall not result in a configuration of lots or a street system which is impractical.

- 4) The modification shall not threaten or diminish the public's health, safety or welfare.
- 5) The modification shall not include or alter **critical** environmentally sensitive ~~areas~~ ~~features~~ for which protection is required, such as 'floodway' or 'jurisdictional wetlands'. **Modification to critical features, exclusive of 'floodway' would be possible only through the appeal process and would be limited to no more than 15% of the feature. Development in the floodway is prohibited by other sections of the Code.**

Prior to the adoption of the City Stream Ordinance, the amount of stream corridor required may be reduced by the City Stormwater Engineer if requiring the full stream corridor buffer would preclude reasonable use of the property, and enhanced vegetative cover will be provided in any remaining buffer area to the extent possible. A waiver request must be provided in writing to the City Stormwater Engineer which explains how the provision of the full required stream corridor precludes reasonable use of the property. Following the adoption of the City Stream Ordinance, the modification process for stream corridor would be the same as for other critical environmentally sensitive areas.

If a modification request is submitted to the Planning Commission and the Planning Commission determines that the required woodland area cannot be retained due to site constraints or infrastructure requirements, replacement trees will be required. ***Deciduous replacement trees shall have a minimum 2.5 in. caliper and evergreen replacement trees shall have a minimum planted height of 6 ft.*** One tree shall be planted for every two hundred (200) square feet of woodland removed from the otherwise required retention area and shall be a ~~mixture of a~~ **minimum of 6 species**. Species which are either native to Kansas or are included in the Northeast Kansas Preferred Species List shall be used for replacement trees. The Northeast Kansas Preferred Species List and a list of native Kansas species is available in the Planning Office. The replacement of trees may be waived ***by the Planning Commission*** if it is determined that site constraints prohibit the replacement of trees on site.

Modification requests will be reviewed by Planning Staff and presented to the Planning Commission. The Planning Commission shall make the determination on the modification request. Appeals of the Planning Commission's decision shall be made to the City Commission.

(m) Appeals

- (1) From Planning Director's determination on the Sensitive Area Site Plan.**

The following persons and entities have standing to appeal the Planning Director's determination on Sensitive Areas Site Plans: the applicant, the property owner, the City Commission, and adjacent property owners. The appeal must be filed with, and received by, the Planning Office within 9 days of the Planning Director's determination.

(2) From Planning Commission's decision on mitigation and modification requests.

The following persons and entities have standing to appeal the Planning Commission's decision on mitigation and modification requests: the applicant; the City Commission; and adjacent property owner. The appeal must be filed with, and received by, the Planning Office within 14 *calendar* days of the Planning Commission's decision.

The following are definitions to be added to general glossary

Clearcutting. The removal of ~~most or~~ all trees on a site, or the removal of more than one-half (0.5) acre of trees in an area determined to be sensitive by this section, during a single timber harvesting operation or within a three (3) year period.

Environmentally Sensitive Areas – Areas containing natural features and/or natural resources which include regulatory floodplain, jurisdictional wetlands, streams and their corridors, woodland areas, individually significant trees, prominent geologic features with rocky outcroppings, archaeological and historic sites, prairie remnants and steep slopes.

Individually Significant Tree – A significant tree is an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) or any of the following native species: ~~Walnut, Red Maple, Shagbark Hickory, Black Cherry, Black Locust, American Elm, Chinese Elm, Hackberry, Osage Orange, White/Red Mulberry, Chinkapin Oak, Bur Oak, White Oak, Black Oak, Honey Locust, Cottonwood, Sycamore, Red Cedar, Black Gum, or Yellow Poplar.~~ **A list of native species, including both indigenous and naturalized species, is available at the Planning Office.**

Jurisdictional Wetland. **Jurisdictional wetlands are wetlands that are subject to Section 404 of the Clean Water Act *per the US Army Corps of Engineers regulations and guidelines.*** ~~The Army Corps of Engineers (CE) and Environmental Protection Agency (EPA) are responsible for making jurisdictional determinations of wetlands regulated under Section 404 of the Clean Water Act. Under Section 404, the Secretary of the Army, acting through the Chief of Engineers, is authorized to issue permits for the discharge of dredged or fill materials into the waters of the United States, including wetlands, with program oversight by EPA.~~

Open Space – An area of land or water, either landscaped or essentially unimproved, which is used to meet human recreational or spatial needs, or for resource protection. Open space areas may or may not be improved but can include playfields, trails, greenbelts/greenways, community gardens, farmed areas, buffers between land uses of differing intensities, areas within community or neighborhood parks and other environmentally sensitive areas.

Prairie Remnants – Prairie areas that have remained **intact** ~~relatively untouched~~ on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger: Prairie areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies)

Stream — ~~A stream is a natural body of flowing water, whether constant or intermittent, that begins at headwaters and gathers water from run-off, rain, snow melt, groundwater discharge or from underground springs. Streams hold great importance regardless of size or flow. Streams provide a variety of aesthetic and ecological values and are important wildlife habitats. All streams shown in blue dashed or solid lines on the USGS Quad maps are included in this listing.~~

Woodland – Any tract of land with a contiguous wooded area not less than one (1) acre and containing not less than one hundred (100) trees per acre that are two inches (2 in.) in diameter or greater measured **at diameter breast height (dbh) which is a point 54 in.** above the ground. The extent of any woodland plant community or any part thereof shall be measured from the outermost drip line of all the trees in such plant community. Woodland shall include any area where clearcutting has occurred within the previous three years.

Woodland Area – Area of 1 acre **or more** which is denoted as 'woodland' or 'forest' on the City Woodland Baseline Map. Data for the woodland baseline map is taken from City-wide aerial photography. For recently annexed properties the City Woodland Baseline Map is based on data developed from satellite imagery provided by the Kansas Applied Remote Sensing Program and the Kansas Biological Survey. This map serves as the baseline for woodland area and will serve as the basis for Sensitive Areas Site Plans, or for determining if woodland was present on land which was disturbed prior to the submittal of a Sensitive Areas Site Plan. A tree inventory may be conducted by the property owner using the definition of 'woodland', to refine the limits of the woodland area.

Woodland Clearing – **The removal of trees to the extent that the area no longer meets the definition of woodland.**

Stream Corridor –A stream corridor is a stream **shown on the USGS Quad Map as a solid or dashed blue line** and a 200' vegetated buffer area, which is centered on the stream. When a Stream Ordinance establishing a corridor or buffer width for each stream in the City has been adopted, the width of each stream corridor will be as set out in the Ordinance.

RESOURCES

U.S. Fish and Wildlife Service National Wetlands Inventory Map. Available at the U.S. Fish and Wildlife Service website www.fws.gov/nwi

City Baseline Map for Woodland Areas. Includes woodland area shown on the City GIS map, satellite imagery from the Kansas Applied Remote Sensing Program and Kansas Biological Survey, and aerials from USDA Farm Service Agency National Agriculture Imagery Program (NAIP).

City Gis Maps for contour information.

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Revised TA showing changes

July 21, 2008

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**Federal Emergency Management Agency (FEMA) Federal Insurance Rate
Maps(FIRM) for Douglas County.**

United States Geological Survey Quadrangle Maps.

Douglas County Natural Areas Inventory Map.

Douglas County Soil Survey

JULY REVISED AMENDMENT—WITH CHANGES INCORPORATED

Section 20-1109 Protection Standards for Environmentally Sensitive Areas

(a) Purpose

The Environmentally Sensitive Areas Standards are intended to protect sensitive natural and historic features of the City of Lawrence as the City meets its urban development goals.

These standards are intended to provide flexibility in the design of developments on lands with environmentally sensitive areas in order to use land efficiently and to preserve environmentally sensitive areas. Environmentally sensitive areas left in their natural state provide many benefits to the community including flood control, erosion control, water filtration, storm water runoff areas, passive recreation, wildlife protection, etc. Recognizing and protecting these benefits decreases the City's losses and improves the quality of life.

These standards are intended to allow modifications of the requirements of the base zoning district and subdivision regulations. During the review process, the specific circumstances surrounding each application, such as the types and amounts of sensitive features that are present; special constraints to the development such as being in an infill location; and the need for the extension of public utilities or infrastructure will be considered. The Environmentally Sensitive Areas standards shall be applied in an effort to achieve development solutions that best promote the spirit, intent and purpose of protecting environmentally sensitive lands.

(b) Objectives

The objectives of these standards are:

- 1) To identify and prioritize environmentally sensitive areas during the initial stages of the development review process.
- 2) To establish levels of protection for environmentally sensitive areas which vary with the priority ranking of each feature or combination of features.
- 3) To aid developers in the creation of plans so that negative impacts to the environmentally sensitive areas are avoided or minimized to the greatest extent possible.
- 4) To coordinate sensitive areas protection with other City environmental programs such as the Floodplain Management Regulations, and the City Stormwater Ordinance.
- 5) To encourage the use of innovative development techniques and to provide flexibility in the planning process when needed to balance environmental and economic goals.
- 6) To establish levels of protection for existing sensitive areas and institute requirements for the restoration of sensitive areas found to be prematurely destroyed or altered.

(c) Applicability of Environmental Design Standards

The provisions of this Article regarding environmental protection for sensitive areas shall apply to all construction and development activity except as expressly exempted Section 20-1109(e).

If a proposed development, as specified in this section, contains any of the environmentally sensitive areas described below, the environmentally sensitive design standards and guidelines shall apply. Where disagreements occur regarding the presence or amount of environmentally sensitive areas contained on a property, the Planning Director's determination on the *Sensitive Areas* Site Plan may be appealed to the City Commission.

Environmentally Sensitive **Areas** include the following:

- 1) Regulatory Floodplain:
- 2) Regulatory Floodway, designated on the FEMA Flood Insurance Rate Map for Douglas County.
- 3) Regulatory Floodway Fringe (*100 year flood*), designated on the FEMA Flood Insurance Rate Map for Douglas County.
- 4) Wetlands, including jurisdictional wetlands as determined and regulated by the U.S. Army Corps of Engineers.
- 5) Streams, shown on the United States Geological Survey Quadrangle (USGS Quad) Maps as blue solid or dashed lines, and their corridors.
- 6) Woodland Areas: Any tract of land containing one (1) acre or more which is shown as 'woodland' or 'forest' on the City GIS Woodland Baseline Map.
- 7) Individually Significant Trees: an existing healthy tree which, when measured four feet above grade, has a minimum diameter at breast height, (54 in.) of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) or any native species. A list of native trees (including both indigenous and naturalized species) is available at the Planning Office.
- 8) Prominent Geologic Features with Rocky Outcroppings: A rocky protrusion of 50% or more exposed rock having greater than a 3:1 slope, a minimum height of 20' above the surrounding grade and covering an area of 1 or more acres.
- 9) Archaeological and Historic Sites listed on local, state, or federal registers or *those that* have an application on file for listing which was submitted prior to the sensitive area site plan.
- 10) Prairie remnant of one (1) acre or larger: Prairie areas that have remained *intact* on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger. Prairie areas will be determined by the Kansas Biological Survey, or a consulting firm with local expertise in these habitats, as areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies). A list of approved consulting firms for prairie determination is available in the Planning Office.
- 11) Slopes:
 - i. Steep Slopes: A slope of fifteen percent (15%) but less than twenty five percent (25%).

- ii. Critical Slopes: A slope of twenty five percent (25%) but less than forty percent (40%)
- iii. Protected slopes: Any slope of forty percent (40%) or steeper.

The presence of environmentally sensitive areas shall be determined from an examination of the site and the following resources:

- 1) FEMA Flood Insurance Rate Map for Douglas County
- 2) USGS Quad Maps
- 3) City GIS Woodland Baseline Map
- 4) US Fish and Wildlife Service National Wetland Inventory Maps
- 5) Douglas County Natural Areas Inventory Map
- 6) City GIS Map, including baseline woodland map and contour map.
- 7) Douglas County Soil Survey
- 8) HISTORICAL
- 9) Other resources which may be appropriate

(d) Determination of Development Land Area

In determining whether a proposed development contains sensitive areas, all contiguous lands under the same ownership or control shall be considered. Lands owned or controlled by a partnership, trust or corporation shall be considered along with lands owned directly by the applicant and lands under option to the applicant or a partnership, trust or corporation under the effective control of the applicant.

(e) Exemptions.

The following activities are exempt from the requirements of this section:

- 1) Extension of public utilities and infrastructure: A written request for exemption must be submitted to the Planning Director. Development activity may occur only after the Planning Director has determined that the amount of damage to the environmentally sensitive areas is minimized either through construction methods or location and has provided written approval of the exemption request.
- 2) Existing Single-Dwelling and Duplex Residences: Normal maintenance/expansion of single-family or duplex residences, including exterior remodeling, reconstruction, construction, or replacement of single-family or duplex residences and accessory structures.
- 3) Existing Subdivisions for Single-Dwelling and Duplex Residences: Construction of new single-family or duplex residences in platted subdivisions that are in existence, or for which applications for plats have been submitted, prior to the effective **DATE OF THIS TEXT AMENDMENT**.
- 4) Woodland Management Activities. Practices associated with 'timber management standards' as defined by the International Society of Arboriculture, or its successor, or existing tree farming operations, such as Christmas tree farming, fruit, or nut production and tree nurseries, during such time as the land is used for tree farming operations are exempt.

(f) Sensitive Areas Site Plan

Development activity on lands with environmentally sensitive areas as set forth in Section **XX(4)** shall require submission and approval of a Sensitive Areas Site Plan.

A Sensitive Areas Site Plan must be approved by the Planning Director prior to woodland clearing, grading or any development activity on lands that contain environmentally sensitive areas specified in **Section XX(4)**. Appeals from the Planning Director's determination on the Sensitive Areas Site Plan shall be made to the City Commission. An appeal must be filed within 9 calendar days of the Planning Director's determination.

The Sensitive Areas Site Plan may be submitted concurrent with the submittal of any other site plan or development plan; however, revisions to the development plans may be necessary in order to comply with the approved Sensitive Areas Site Plan. To avoid revisions, prior submittal of the Sensitive Areas Site Plan is recommended with a concept development plan. The Sensitive Areas Site Plan will be incorporated with other development or site plans for the property. The designated protected areas must be clearly shown on all associated development plans, including public improvement plans.

(g) Non-compliant Development Activity

If development occurs which is not compliant with an approved Sensitive Areas Site Plan or if clearing, grading or other development activity occurs on lands determined to contain environmentally sensitive areas as of **the effective date of this text amendment** without prior approval of a Sensitive Areas Site Plan, the sensitive areas will be determined for the property using the best available data (aerials, surveys, baseline maps, etc.) and the property shall be made whole to the extent required in Section **X(10)** under the following guidelines prior to building permits being granted:

- (1) Removal of trees from woodland areas: If woodland areas are altered by human activity such as clearcutting or removal of trees to the degree that the property no longer meets the definition of 'woodland', the property owner shall protect the area that would have been required to be protected with a Sensitive Areas Site Plan. The property owner shall replace the trees at a ratio of 1 tree per every 200 sq. ft. of prior woodland area to the extent required in Section **X(10)**. Replacement trees shall meet the following size standards: a minimum caliper of two and one-half inches (2.5") for deciduous trees and a minimum planted height of six feet (6') for evergreen species. The replacement trees shall consist of a minimum of 6 species which may be native or selected from the Northeast Kansas Preferred Species Tree List. Trees which are considered native are listed on the Kansas Native Tree List which is available in the Planning Office. (This requirement is in addition to any street tree, buffering, or other landscaping that is required by the Development Code.)
- (2) Damage to Stream Corridor: If the stream or stream corridor is altered by human activity, such as the removal of trees or vegetation with the exception of poisonous or noxious weeds, or in anyway altering the channel, the

property owner shall reestablish the channel per the approval of the City Stormwater Engineer and replace the trees at a ratio of 1 tree per every 200 sq. ft. of area of stream corridor and shall reestablish ground cover per the approval of the City Stormwater Engineer. In addition, modification of the stream channel may be in violation of Section 404 of the Clean Water Act as well as the Stream Obstruction Act of the Division of Water Resources.

- (3) Destruction of remnant prairie. If an area that has been determined by the KS Biological Survey, or approved consulting firm, as having remnant prairies is plowed or otherwise destroyed, the area of the former remnant prairie, as defined by the KS Biological Survey or approved consulting firm must be preserved as open space and replanted with prairie vegetation to the extent required in Section X(10). At least 75% of the native species that were likely at the site, as determined by the Kansas Biological Survey or consulting firm, will be reseeded. The restoration area will be maintained until the reseeded native vegetation reaches a minimum of 75% cover (which typically takes three years after planting) as determined by the SK Biological Su8rvey or approved consulting firm. A three year restoration and maintenance plan shall be developed by the property owner with the assistance of the Ks Biological Survey or approved consulting firm and will be filed with the Planning Office.
- (4) Other features If environmentally sensitive features other than those specifically listed in this sub-section are destroyed or damaged, the property shall be reviewed as if the sensitive feature were intact using the best available data and the area required to be protected shall be repaired through restoration. A restoration plan shall be developed by the Planning Director.

(h) Sensitive Areas Site Plan Procedure

A Sensitive Areas Site Plan shall be submitted and approved prior to any development activity, including vegetation removal or grading. The Sensitive Areas Site Plan may be submitted prior to, or concurrent with, another development application, i.e. plat, site plan, rezoning, etc. The Sensitive Areas Site Plan shall delineate and note all sensitive areas and designate protected sensitive areas and associated buffers.

A Sensitive Areas Site Plan shall be reviewed by the Planning Director in accordance with the Site Plan review procedure listed in Section 20-1305.

A Sensitive Areas Site Plan is normally submitted in preparation for another development proposal, such as a plat, development plan or site plan; therefore, there is no review fee for a Sensitive Areas Site Plan.

- 1) Sensitive Areas Site Plan Contents:
 - i. The site plan shall be arranged so the top of the plan represents north or, if otherwise oriented, is clearly and distinctly marked.

ii. The site plan shall clearly delineate the property boundaries, all of the environmentally sensitive areas located on the property, and designate protection buffers for sensitive areas as prescribed below.

- (a) Regulatory Floodplain, including Floodway and Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County.
- (b) Wetlands. The site plan shall show the delineation of any jurisdictional wetlands that has been determined ~~by~~ per the US Army Corps of Engineers regulations and guidance prior to submittal of the Sensitive Areas Site Plan. The site plan shall also show any area that is included on the U.S. Fish and Wildlife Service National Wetlands Inventory Map, as a potential wetland area, along with a 100' buffer area unless the Natural Resource Conservation Service, the Kansas Biological Survey, the Army Corps of Engineers or a professional wetland scientist, certified by the Society of Wetland Scientists, or the Army Corps of Engineers, determine that the area is not a wetland.
- (c) Streams and stream corridors. Streams that are shown in solid or dashed blue lines on the USGS Quad Map shall be included with their corridors. Unless exempt under the provisions of this Section, the following protective buffer requirements shall be maintained:

The stream corridor shall be a 200 ft. wide area, centered on the stream. If an ordinance establishing stream corridor widths for individual streams is adopted by the City, the stream corridor width in the ordinance will apply.

- (d) Woodland Areas. A sensitive Areas Site Plan shall be approved for any property containing a woodland area prior to woodland clearing or any development activity. The City Woodland Baseline Map shall be used to determine the amount of wooded areas on site. The following requirements apply to development on properties with woodland areas:

The woodland area required to be retained shall be delineated to include a buffer area by measuring fifty feet (50') outward from the trunks of trees intended to be preserved.

- (e) Individually significant trees. The species and size (*dbh*) of the tree(s) shall be noted on the plan.
- (f) Archaeological and Historic Sites.
- (g) Prairie remnants one acre in area or larger. If development is proposed on a property which is shown on the Douglas County

Natural Areas Inventory Map as containing remnant prairies these areas must be delineated and noted on the Sensitive Areas Site Plan, if confirmed by the Kansas Biological Survey or consulting agency with local expertise. A list of approved consulting agencies is maintained in the Planning Office.

- (h) Steep slopes, slopes with grades of 15% or higher
A Sensitive Areas Site Plan is required prior to any development activity on property containing slopes with grades greater than 15% ***which indicates the areas containing slopes of 15% to 25%, 25% to 40% and above 40%.***

A grading plan ***shall be submitted*** ~~is required~~ in addition to a Sensitive Areas Site Plan prior to any development activity on property containing slopes with grades between 25% and 40%.

A buffer will be required around any slopes of 40% grade or more. Two feet (2') of buffer will be provided for each foot of vertical rise of the slope up to a maximum buffer of fifty feet (50').

- (i) A site summary table shall be provided which includes the total site area, the area of each environmentally sensitive area delineated on the site plan, and the percentage of the total site which is included in each area. Areas with overlapping environmentally sensitive features shall be listed along with the percentage of the total.

(i) Ranking and Required Protection of Environmentally Sensitive Areas

Protection of certain environmentally sensitive areas in their natural state is more critical than others. The following priority scheme will serve as a 'ranking sequence' and will assist in the determination of environmentally sensitive areas in which protection is 'critical', those in which protection is important and shall be achieved to the greatest extent possible and those for which protection is desirable.

The total amount of the site which shall be required to be protected depends on the type and amount of features present.

Critical Environmentally Sensitive Areas are required to be protected in their entirety. All protected areas together shall not be required to exceed 30% of gross land area unless critical sensitive areas exist. 10% of the designated sensitive area shall serve, and may be improved, as an open space amenity to the development as passive or active recreation.

When determining which environmentally sensitive areas shall be protected, protection will be required in the following ranking order:

- 1) Critical Sensitive Areas. Areas containing the following: regulatory floodway, stream corridors, jurisdictional wetlands, slopes with greater than 40% grade,

or archaeological and historic sites. Protection of 100% of these sensitive areas is required regardless of the percentage of the total site area which is included.

- 2) Important Sensitive Areas. Areas containing the following: non-jurisdictional wetlands, slopes between 25% and 40% grade, regulatory floodway fringe, native prairie remnants, woodlands that are contiguous with other off-site woodland areas that may function as wildlife corridors, and two or more environmentally sensitive areas, other than those listed as 'critical sensitive areas', occurring together. Environmentally sensitive areas that occur together are of higher priority than any one sensitive area occurring singularly. The priority increases with the number of environmentally sensitive areas occurring together. Protection of these areas is required to the maximum extent noted above.
- 3) Desirable Sensitive Areas. Areas in which the following occur singularly: slopes between 15% and 25%, isolated woodland areas, and individually significant trees. Protection of areas containing these features is required to the maximum extent noted above.

Environmentally sensitive areas shown on the site plan are prioritized for protection by the ranking scheme above in combination with an evaluation of the development proposal, the surrounding area (to determine connectivity) and the mix of sensitive features present on the site.

(j) DEVELOPMENT OPTIONS

The following development options are available for properties containing environmentally sensitive areas:

- 1) May develop as a Planned Development, per standards in Section 20-701, to protect the greatest amount of environmentally sensitive areas possible while accommodating development. The minimum amount of natural open space to be preserved will be determined after a review of the Sensitive Areas Site Plan. Planned Developments provide the following additional flexibility: reduced lot sizes, increase in maximum net residential density by up to 25%, reduction in minimum setback standards of the base district with some restrictions, increase in the height of the buildings, and reduction in the number of off-street parking spaces required.
- 2) May develop as a Cluster Development per standards listed in Section 20-702. If environmentally sensitive areas are present, a Cluster Development may exceed the 35 lots permitted in Section 20-702(c)(1). Cluster Development allows the property to develop at the same maximum density as the base zoning district permits, but with no minimum lot area or lot width requirements. Special setbacks for the perimeter apply and 10' separation is required between all detached dwellings.
- 3) May develop with a site plan, or single-dwelling or duplex residential development may occur through a traditional subdivision, when a review of the Sensitive Areas Site Plan indicates that it is possible to develop the

property according to the regulations of the base zoning district while protecting the sensitive areas through easements, building envelopes, common-ownership tracts, or other means. The development proposal shall be reviewed with the approved Sensitive Areas Site Plan to insure that the proposed development will preserve the amount of sensitive areas necessary. The Sensitive Areas Site Plan shall be incorporated with any submitted development proposal, i.e. plat, site plan, development plan, etc. The protected sensitive areas and building envelopes must be shown on the preliminary and final plat to insure that buildings and construction activity do not encroach into the sensitive areas. A note must be included on the plat or site plan noting the party responsible for the maintenance of the protected environmentally sensitive areas and stating that all development activity, including grading and construction, is prohibited within the protected sensitive areas.

(k) Sensitive Areas Development Design Standards and Guidelines:

- 1) Street rights-of-way, public utility corridors and building sites shall be located so as to minimize their impact on environmentally sensitive areas.
- 2) Where possible, environmentally sensitive areas to be protected shall be located within designated public or private open space, either through dedication, a conservation easement, or control by a homeowner's association.
- 3) If a review of the Sensitive Areas Site Plan and proposed development indicates that it is not possible or reasonable to protect the required amount of sensitive *areas*, mitigation may be possible. A mitigation plan shall be submitted to the Planning Commission for review. Any appeals from the Planning Commission's determination on the mitigation plan shall be heard by the City Commission.
- 4) When other sensitive features are located within a stream corridor, the most stringent required protective buffer shall apply.
- 5) Prairie remnants associated with other sensitive features shall be treated as environmental assets, and shall be considered no-build areas to the extent possible, and used for buffers, filter strips along waterways and/or neighborhood open space.
- 6) Disturbance of slopes with 25% to 40% grades requires approval of the City Stormwater Engineer.
- 7) Slopes greater than 40% grade shall not be graded and shall remain in the existing state, except that natural vegetation may be supplemented by other plant material.

- 8) No development activity, including removal of trees and other vegetation, shall be allowed within the buffer with the exception of the removal of noxious or poisonous weeds.

(I) Modifications to the Sensitive Area Design Standards and Guidelines

The development standards and guidelines contained in this section are to be used as minimum requirements for evaluating development plans on lands containing environmentally sensitive areas. However, the standards and guidelines are not intended to restrict creativity or prohibit reasonable economic returns on developing property. An applicant may request modifications of the sensitive areas design standards and guidelines, such as, but not limited to, a reduction in the area required to be preserved, or a change in the hierarchy ranking of protected features, if all the following criteria are met:

1. The modification will be in harmony with the purpose and intent of this section.
2. The modification will generally enhance the sensitive areas site or development plan and will not have an adverse impact on its physical, visual or spatial characteristics.
3. The modification shall not result in a configuration of lots or a street system which is impractical.
4. The modification shall not threaten or diminish the public's health, safety or welfare.
5. The modification shall not include or alter critical environmentally sensitive areas for which protection is required, such as 'floodway' or 'jurisdictional wetlands'. Modification to critical features, exclusive of 'floodway' would be possible only through the appeal process and would be limited to no more than 15% of the feature. Development in the floodway is prohibited by other sections of the Code.

Prior to the adoption of the City Stream Ordinance, the amount of stream corridor required may be reduced by the City Stormwater Engineer if requiring the full stream corridor buffer would preclude reasonable use of the property, and enhanced vegetative cover will be provided in any remaining buffer area to the extent possible. A waiver request must be provided in writing to the City Stormwater Engineer which explains how the provision of the full required stream corridor precludes reasonable use of the property. Following the adoption of the City Stream Ordinance, the modification process for stream corridor would be the same as for other critical environmentally sensitive areas.

If a modification request is submitted to the Planning Commission and the Planning Commission determines that the required woodland area cannot be retained due to site constraints or infrastructure requirements, replacement trees will be required. Deciduous replacement trees shall have a minimum 2.5 in. caliper and evergreen replacement trees shall have a minimum planted height of 6 ft. One tree shall be planted for every two hundred (200) square feet of woodland removed from the otherwise required retention area and shall be a ~~mixture of~~ a minimum of 6 species. Species which are either native to Kansas or are included

in the Northeast Kansas Preferred Species List shall be used for replacement trees. The Northeast Kansas Preferred Species List and a list of native Kansas species is available in the Planning Office. The replacement of trees may be waived by the Planning Commission if it is determined that site constraints prohibit the replacement of trees on site.

Modification requests will be reviewed by Planning Staff and presented to the Planning Commission. The Planning Commission shall make the determination on the modification request. Appeals of the Planning Commission's decision shall be made to the City Commission.

(m) Appeals

- (1) From Planning Director's determination on the Sensitive Area Site Plan.

The following persons and entities have standing to appeal the Planning Director's determination on Sensitive Areas Site Plans: the applicant, the property owner, the City Commission, and adjacent property owners. The appeal must be filed with, and received by, the Planning Office within 9 days of the Planning Director's determination.

- (2) From Planning Commission's decision on mitigation and modification requests.

The following persons and entities have standing to appeal the Planning Commission's decision on mitigation and modification requests: the applicant; the City Commission; and adjacent property owner. The appeal must be filed with, and received by, the Planning Office within 14 *calendar* days of the Planning Commission's decision.

The following are definitions to be added to general glossary

Clearcutting. The removal of all trees on a site, or the removal of more than one-half (0.5) acre of trees in an area determined to be sensitive by this section, during a single timber harvesting operation or within a three (3) year period.

Environmentally Sensitive Areas – Areas containing natural features and/or natural resources which include regulatory floodplain, jurisdictional wetlands, streams and their corridors, woodland areas, individually significant trees, prominent geologic features with rocky outcroppings, archaeological and historic sites, prairie remnants and steep slopes.

Individually Significant Tree – A significant tree is an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) or any native species. A list of native species, including both indigenous and naturalized species, is available at the Planning Office.

Jurisdictional Wetland. Jurisdictional wetlands are wetlands that are subject to Section 404 of the Clean Water Act per the US Army Corps of Engineers regulations and guidelines.

Open Space – An area of land or water, either landscaped or essentially unimproved, which is used to meet human recreational or spatial needs, or for resource protection. Open space areas may or may not be improved but can include playfields, trails, greenbelts/greenways, community gardens, farmed areas, buffers between land uses of differing intensities, areas within community or neighborhood parks and other environmentally sensitive areas.

Prairie Remnants – Prairie areas that have remained intact on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger: Prairie areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies)

Woodland – Any tract of land with a contiguous wooded area not less than one (1) acre and containing not less than one hundred (100) trees per acre that are two inches (2 in.) in diameter or greater measured at diameter breast height (dbh) which is a point 54 in. above the ground. The extent of any woodland plant community or any part thereof shall be measured from the outermost drip line of all the trees in such plant community. Woodland shall include any area where clearcutting has occurred within the previous three years.

Woodland Area – Area of 1 acre or more which is denoted as 'woodland' or 'forest' on the City Woodland Baseline Map. Data for the woodland baseline map is taken from City-wide aerial photography. For recently annexed properties the City Woodland Baseline Map is based on data developed from satellite imagery provided by the Kansas Applied Remote Sensing Program and the Kansas Biological Survey. This map serves as the baseline for woodland area and will serve as the basis for Sensitive Areas Site Plans,

or for determining if woodland was present on land which was disturbed prior to the submittal of a Sensitive Areas Site Plan. A tree inventory may be conducted by the property owner using the definition of 'woodland', to refine the limits of the woodland area.

Woodland Clearing – The removal of trees to the extent that the area no longer meets the definition of woodland.

Stream Corridor –A stream corridor is a stream shown on the USGS Quad Map as a solid or dashed blue line and a 200' vegetated buffer area, which is centered on the stream. When a Stream Ordinance establishing a corridor or buffer width for each stream in the City has been adopted, the width of each stream corridor will be as set out in the Ordinance.

RESOURCES

U.S. Fish and Wildlife Service National Wetlands Inventory Map. Available at the U.S. Fish and Wildlife Service website www.fws.gov/nwi

City Baseline Map for Woodland Areas. Includes woodland area shown on the City GIS map, satellite imagery from the Kansas Applied Remote Sensing Program and Kansas Biological Survey, and aeriels from USDA Farm Service Agency National Agriculture Imagery Program (NAIP).

City Gis Maps for contour information.

Federal Emergency Management Agency (FEMA) Federal Insurance Rate Maps(FIRM) for Douglas County.

United States Geological Survey Quadrangle Maps.

Douglas County Natural Areas Inventory Map.

Douglas County Soil Survey

Section 20-1109 Protection Standards for Environmentally Sensitive Areas

(a) Purpose

The Environmentally Sensitive Area Standards are intended to protect and, where possible, enhance the natural environment of **sensitive natural and historic features of the City of Lawrence while recognizing the need for urban development as the City meets its urban development goals.**

These standards are intended to provide flexibility in the design of developments on lands with environmentally sensitive areas in order to use land efficiently and to preserve environmentally sensitive areas as open space amenities. **Environmentally sensitive natural areas left in their natural state provide many benefits to the community including flood control, erosion control, water filtration, storm water runoff areas, passive recreation, wildlife protection, etc. Recognizing and protecting these benefits decreases the City's losses and improves the quality of life.**

These standards are intended to allow modifications of the requirements of the base zoning district and subdivision regulations. During the review process, the specific circumstances surrounding each application, such as the types and amounts of sensitive features that are present; special constraints to the development such as being in an infill location; and the need for the extension of public utilities or infrastructure will be considered. The Environmentally Sensitive Area standards will be applied in an effort to achieve development solutions that best promote the spirit, intent and purpose of protecting environmentally sensitive lands.

(b) Objectives

The objectives of these standards are:

- (1) To identify and prioritize environmentally sensitive areas during the initial stages of the development review process.
- (2) To establish levels of protection for environmentally sensitive features which vary with the priority ranking of each feature or combination of features.
- (3) To aid developers in the creation of plans so that negative impacts to the environmentally sensitive areas are avoided or minimized to the greatest extent possible.
- (4) To coordinate sensitive areas protection with other City environmental programs such as the Floodplain Management Regulations, and the City Stormwater Ordinance.
- (5) To encourage the use of innovative and flexible development techniques and to provide flexibility in the planning process when needed to balance environmental and economic goals.
- (6) To establish levels of protection for existing sensitive areas and institute requirements for the restoration of sensitive areas found to be prematurely destroyed or altered.

(c) Applicability of Environmental Design Standards

The provisions of this Article regarding environmental protection for sensitive lands shall apply to all construction and development activity in all zoning districts except as expressly exempted in this section.

If a proposed development, as specified in this section, contains any of the environmentally sensitive features described below the environmentally sensitive design standards and guidelines shall apply. Where disagreements occur regarding the presence or amount of environmentally sensitive features contained on a property, the Planning **Director's determination on the site plan may be appealed to the City Commission.** ~~Commission shall determine compliance with this Article based upon the submitted evidence of staff, and/or the applicant. Appeals from the Planning Commission determination shall be made to the City Commission.~~

Environmentally Sensitive Features include the following:

- (1) Regulatory Floodplain:
 - (i) Regulatory Floodway, designated on the FEMA Flood Insurance Rate Map for Douglas County.
 - (ii) Regulatory Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County.
- (2) **Wetlands, including** jurisdictional wetlands as ~~approved~~ **determined** and regulated by the U.S. Army Corps of Engineers.
- (3) Streams, shown on the United States Geological Survey Quadrangle (USGS Quad) Maps as blue solid or dashed lines, and their corridors.
- (4) Woodland Areas: Any tract of land containing one (1) acre or more which is shown as 'woodland' or 'forest' on the City GIS Woodland Baseline Map.
- (5) Individually Significant Trees: an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) **or any native species. A list of native trees (including both indigenous and naturalized species) is available at the Planning Office.** ~~any of the following native species: walnut, red maple, shagbark hickory, black cherry, black locust, American elm, hackberry, osage orange, white/red mulberry, chinkapin oak, bur oak, white oak, black oak, honeylocust, cottonwood, sycamore, red cedar, black gum, or yellow poplar.~~
- (6) Prominent Geologic Features with Rocky Outcroppings: A rocky protrusion of 50% or more exposed rock having greater than a 3:1 slope, a minimum height of 20' above the surrounding grade and covering an area of 1 or more acres.
- (7) Archaeological and Historic Sites listed on local, state, or federal registers **or have an application on file for listing which was submitted prior to the sensitive area site plan.**
- (8) Prairie remnant of one (1) acre or larger: Prairie areas that have remained relatively untouched on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger. Prairie areas will be determined by the Kansas Biological Survey, **or a consulting firm with local expertise in these habitats**, as areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies). **A list of approved consulting firms for prairie determination is available in the Planning Office.**
- (9) Slopes:

- (i) Steep Slopes: A slope of fifteen percent (15%) but less than twenty five percent (25%).
- (ii) Critical Slopes: A slope of twenty five percent (25%) but less than forty percent (40%)
- (iii) Protected slopes: Any slope of forty percent (40%) or steeper.

The presence of environmentally sensitive features shall be determined from an examination of the site and the following resources:

- (1) FEMA Flood Insurance Rate Map for Douglas County
- (2) USGS Quad Maps
- (3) City GIS Woodland Baseline Map
- (4) US Fish and Wildlife Service **National Wetland Inventory** Maps
- (5) Douglas County Natural Areas Inventory Map
- (6) City GIS Map

(d) Determination of Development Land Area

In determining whether a proposed development contains sensitive lands, all contiguous lands under the same ownership or control shall be considered. Lands owned or controlled by a partnership, trust or corporation shall be considered along with lands owned directly by the applicant and lands under option to the applicant or a partnership, trust or corporation under the effective control of the applicant.

(e) Exemptions.

The following activities are exempt from the requirements of this section:

- (1) Extension of public utilities and infrastructure: A written request for exemption must be submitted to the Planning Director. Development activity may occur only after the Planning Director has determined that the amount of damage to the sensitive features is minimized either through construction methods or location and has provided written approval of the exemption request.
- (2) Existing Single-Dwelling and Duplex Residences: Normal maintenance/expansion of single-family or duplex residences, including exterior remodeling, reconstruction, construction, or replacement of single-family or duplex residences and accessory structures.
- (3) Existing Subdivisions for Single-Dwelling and Duplex Residences: Construction of new single-family or duplex residences in platted subdivisions that are in existence, or for which applications for plats have been submitted, prior to the effective **DATE OF THIS TEXT AMENDMENT.**

- (f) Woodland Management Activities.** Practices associated with 'timber management standards' as defined by the International Society of Arboriculture, or its successor, or existing tree farming operations, such as Christmas tree farming, fruit, or nut production and tree nurseries, during such time as the land is used for tree farming operations are exempt.

(g) Sensitive Areas Site Plan

Development activity on lands with environmentally sensitive areas as set forth in Section **XX(4)** shall require submission and approval of a Sensitive Areas Site Plan.

A Sensitive Areas Site Plan must be approved by the Planning Director prior to woodland clearing, grading or any development activity on lands that contain environmentally sensitive features specified in **Section XX(4)**. Appeals from the Planning Director's determination on the Sensitive Areas Site Plan shall be made to the City Commission. An appeal must be filed within ~~30~~ **9** days of the Planning ~~Commission's~~ **Director's** determination.

The Sensitive Areas Site Plan ~~can~~ may be submitted concurrent with the submittal of any other site plan or development plan; however, revisions to the development plans may be necessary in order to comply with the approved Sensitive Areas Site Plan. To avoid revisions, prior submittal of the Sensitive Areas Site Plan is recommended with a concept development plan. The Sensitive Areas Site Plan will be incorporated with other development or site plans for the property. The designated protected areas must be clearly shown on all associated development plans, including public improvement plans.

(h) Development Activity Which Occurs Without Approval of a Sensitive Areas Site Plan

If clearing, grading or other development activity occurs on lands determined to contain environmentally sensitive features as of the effective date of this text amendment without prior approval of a Sensitive Areas Site Plan, the sensitive areas and features will be determined for the property using the best available data (aerials, surveys, baseline maps, etc.) and the property shall be made whole to the extent required in Section **X(10)** under the following guidelines prior to building permits being granted:

- (1) Removal of trees from woodland areas: If woodland areas are altered by human activity such as clearcutting or removal of trees to the degree that the property no longer meets the definition of 'woodland', the property owner shall protect the area that would have been required to be protected with a Sensitive Areas Site Plan. The property owner shall replace the trees at a ratio of 1 tree per every 200 sq. ft. of prior woodland area to the extent required in Section **X(10)**. Replacement trees shall consist of a minimum of 6 species which may be native or selected from the Northeast Kansas Preferred Species Tree List. Trees which are considered native are listed on the (This requirement is in addition to any street tree, buffering, or other landscaping that is required by the Development Code.)
- (2) Damage to Stream Corridor: If the stream or stream corridor is altered by human activity, such as the removal of trees or vegetation or in anyway altering the channel, the property owner shall reestablish the channel per the approval of the City Stormwater Engineer and replace the trees at a ratio of 1 tree per every 200 sq. ft. of area of stream corridor and shall reestablish ground cover per the approval of the City Stormwater Engineer.
- (3) Destruction of remnant prairie. If an area that has been determined by the KS Biological Survey, **or approved consulting firm**, as having remnant prairies is plowed or otherwise destroyed, the area of the former remnant prairie, as defined by the KS Biological Survey **or approved consulting firm** must be preserved as open space and replanted with prairie vegetation to the extent required in Section X(10). **At least 75% of the native species that were likely at the site, as determined by the Kansas Biological Survey or consulting firm, will be replanted. The replanted plants will be maintained and at least 50% of**

those will have been established one year from planting, as determined by KBS or approved consulting firm.

- (4) **Other features** If environmentally sensitive features other than those specifically listed in this sub-section are destroyed or damaged, the property shall be reviewed as if the sensitive feature were intact using the best available data and the area required to be protected shall be repaired through restoration. A restoration plan shall be developed by the Planning Director.

(i) Sensitive Areas Site Plan Procedure

A Sensitive Areas Site Plan shall be submitted and approved prior to any development activity, including vegetation removal or grading. The Sensitive Areas Site Plan may be submitted prior to, or concurrent with, another development application, i.e. plat, site plan, rezoning, etc. The Sensitive Areas Site Plan shall delineate and note all sensitive areas and designate protected sensitive areas and associated buffers.

A Sensitive Areas Site Plan shall be reviewed by the Planning Director in accordance with the Site Plan review procedure listed in Section 20-1305.

A Sensitive Areas Site Plan is normally submitted in preparation for another development proposal, such as a plat, development plan or site plan; therefore, there is no review fee for a Sensitive Areas Site Plan.

(1) Site Plan Contents:

- (i) The site plan shall be arranged so the top of the plan represents north or, if otherwise oriented, is clearly and distinctly marked.
- (ii) The site plan shall clearly delineate the property boundaries and all of the sensitive areas located on the property and shall designate protection zones for sensitive areas as prescribed below.
 - a. Regulatory Floodplain, including Floodway and Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County.
 - b. Wetlands. The site plan shall show the delineation of a jurisdictional wetland area ~~that is accepted~~ **as determined** by the US Army Corps of Engineers prior to submittal of the Sensitive Areas Site Plan; ~~and~~ The site plan shall **also** show any area that is included on the U.S. Fish and Wildlife Service **National Wetlands Inventory** Wetland Map, as a suspected or potential wetland area, along with a 100' buffer area unless a professional wetland scientist, certified by the Society of Wetland Scientists or the Army Corps of Engineers, ~~wetland specialist~~, the Natural Resource Conservation Service, the Kansas Biological Survey, or the Army Corps of Engineers, determine that the area is not a wetland.
 - c. Streams and stream corridors. Streams that are shown in solid or dashed blue lines on the USGS Quad Map shall be included with their corridors. When other sensitive features are located within a stream corridor, the most stringent required protective buffer shall apply. Unless exempt under

the provisions of this Section, the following buffer requirements shall be maintained:

The stream corridor shall be a 200 ft. wide area, centered on the stream. If an ordinance establishing stream corridor widths for individual streams is adopted by the City, the stream corridor width in the ordinance will apply.

The amount of stream corridor required may be reduced by the City Stormwater Engineer if requiring the full stream corridor buffer would preclude reasonable use of the property, and enhanced vegetative cover will be provided in any remaining buffer area to the extent possible. A waiver request must be provided in writing to the City Stormwater Engineer which explains how the provision of the full required stream corridor precludes reasonable use of the property.

- d) Woodland Areas. A sensitive Areas Site Plan shall be approved for any property containing a woodland area prior to woodland clearing or any development activity. The City Woodland Baseline Map shall be used to determine the amount of wooded areas on site. The following requirements apply to development on properties with woodland areas:

The woodland area required to be retained shall be delineated to include a buffer area by measuring fifty feet (50') outward from the trunks of trees intended to be preserved.

If a modification request is submitted to the Planning Commission and the Planning Commission determines that the required woodland area cannot be retained due to site constraints or infrastructure requirements, replacement trees will be required. One tree shall be planted for every two hundred (200) square feet of woodland removed from the otherwise required retention area and shall be a ~~mixture of~~ **a minimum of 6** species. Species which are either native to Kansas or are included in the Northeast Kansas Preferred Species List shall be used for replacement trees. The Northeast Kansas Preferred Species List and a list of native Kansas species is available in the Planning Office.

The replacement of trees may be waived if it is determined that site constraints prohibit the replacement of trees on site.

To the extent possible, woodlands located on steep slopes and/or within 100 year floodplains ~~should~~ **shall** be given the highest retention priority.

- e) Individually significant trees. The species and size of the tree(s) shall be noted on the plan.
- f) Archaeological and Historic Sites.
- g) Prairie remnants one acre in area or larger. If development is proposed on a property which is shown on the Douglas County Natural Areas Inventory

Map as containing remnant prairies these areas must be delineated and noted on the Sensitive Areas Site Plan, if confirmed by the Kansas Biological Survey **or consulting agency with local expertise. A list of approved consulting agencies is maintained in the Planning Office.**

Prairie remnants associated with other sensitive features shall be treated as environmental assets, and shall be considered no-build areas to the extent possible, and used for buffers, filter strips along waterways and/or neighborhood open space.

- h) Steep slopes, slopes with grades of 15% or higher
A Sensitive Areas Site Plan is required prior to any development activity on property containing slopes with grades greater than 15%.

A grading plan is required in addition to a Sensitive Areas Site Plan prior to any development activity on property containing slopes with grades between 25% and 40%. Disturbance of slopes with 25% to 40% grades requires approval of the City Stormwater Engineer.

Slopes greater than 40% grade shall not be graded and shall remain in the existing state, except that natural vegetation may be supplemented by other plant material. A buffer will be required around any slopes of 40% grade or more. Two feet (2') of buffer will be provided for each foot of vertical rise of the slope up to a maximum buffer of fifty feet (50'). No development activity, including removal of trees and other vegetation, shall be allowed within the buffer **with the exception of the removal of noxious or poisonous weeds.**

- i) A site summary table shall be provided which includes the total site area, the area of each environmentally sensitive area delineated on the site plan, and the percentage of the total site which is included in each area. Areas with overlapping environmentally sensitive features shall be listed along with the percentage of the total.

(j) Ranking and Required Protection of Environmentally Sensitive Features

Protection of certain environmentally sensitive features in their natural state is more critical than others. The following priority scheme will assist in the determination of environmentally sensitive areas in which protection is 'critical', those in which protection is important and ~~should~~ **shall** be achieved to the greatest extent possible and those for which protection is desirable.

The total amount of the site which shall be required to be protected depends on the type and amount of features present.

All protected areas together shall not be required to exceed 30% of gross land area unless critical sensitive areas exist. Critical sensitive areas must be protected in their entirety. 10% of the designated sensitive area shall serve, and may be improved, as an open space amenity to the development as passive or active recreation.

When determining which features ~~should~~ **shall** be protected, protection will be required in the following ranking order:

- (1) Critical Sensitive Areas. Areas containing the following critical sensitive features: regulatory floodway, stream corridors, jurisdictional wetlands, slopes with greater than 40% grade, or archaeological and historic sites. Protection of 100% of these sensitive features is required regardless of the percentage of the total site area which is included.
- (2) Important Sensitive Areas. Areas containing the following critical sensitive features: **non-jurisdictional wetlands**, slopes between 25% and 40% grade, regulatory floodway fringe, native prairie remnants, **woodlands that are contiguous with other off-site woodland areas that may function as wildlife corridors**, and areas with two or more environmentally sensitive features, other than those listed as 'critical sensitive features', occurring together. Environmentally Sensitive Features or Areas that occur together are of higher priority than any one feature occurring singularly. The priority increases with the number of environmentally sensitive features occurring together. Protection of areas containing these features is required to the maximum extent noted above.
- (3) Desirable Sensitive Areas. Areas with environmentally sensitive features, other than those listed as critical or important sensitive areas, occurring singularly. In addition, woodland areas that are part of a larger continuous wooded area that may extend off site are of higher priority than woodland areas that are isolated. Protection of areas containing these features is required to the maximum extent noted above.

Environmentally Sensitive Features shown on the site plan are prioritized for protection by the ranking scheme above in combination with an evaluation of the development proposal, the surrounding area (to determine connectivity) and the mix of sensitive features present on the site.

(k) DEVELOPMENT OPTIONS

The following development options are available for properties containing environmentally sensitive lands:

- (1) May develop as a Planned Development, per standards in Section 20-701, to protect the greatest amount of environmentally sensitive features possible while accommodating development. The minimum amount of natural open space to be preserved will be determined after a review of the Sensitive Areas Site Plan. Planned Developments provide the following additional flexibility: reduced lot sizes, increase in maximum net residential density by up to 25%, reduction in minimum setback standards of the base district with some restrictions, increase in the height of the buildings, and reduction in the number of off-street parking spaces required.
- (2) May develop as a Cluster Development per standards listed in Section 20-702. If environmentally sensitive features are present, a Cluster Development may exceed the 35 lots permitted in Section 20-702(c)(1). Cluster Development allows the property to develop at the same maximum density as the base

zoning district permits, but with no minimum lot area or lot width requirements. Special setbacks for the perimeter apply and 10' separation is required between all detached dwellings.

- (3) May develop with a site plan, or single-dwelling or duplex residential development may occur through a traditional subdivision, when a review of the Sensitive Areas Site Plan indicates that it is possible to develop the property according to the regulations of the base zoning district while protecting the sensitive areas through easements, building envelopes, common-ownership tracts, or other means. The development proposal shall be reviewed with the approved Sensitive Areas Site Plan to insure that the proposed development will preserve the amount of sensitive area necessary. The Sensitive Areas Site Plan shall be incorporated with any submitted development proposal, i.e. plat, site plan, development plan, etc. The protected sensitive areas and building envelopes must be shown on the preliminary and final plat to insure that buildings and construction activity do not encroach into the sensitive areas. A note must be included on the plat or site plan noting the party responsible for the maintenance of the protected environmentally sensitive areas and stating that all development activity, including grading and construction, is prohibited within the protected sensitive areas.

(l) Sensitive Areas Development Design Guidelines:

- (1) Street rights-of-way, public utility corridors and building sites ~~should~~ **shall** be located so as to minimize their impact on environmentally sensitive areas.
- (2) Where possible, environmentally sensitive areas to be protected ~~should~~ **shall** be located within designated public or private open space, either through dedication, a conservation easement, or control by a homeowner's association.
- (3) If a review of the Sensitive Areas Site Plan and proposed development indicates that it is not possible or reasonable to protect the required amount of sensitive features, mitigation may be possible. A mitigation plan shall be submitted to the Planning Commission for review. Any appeals from the Planning Commission's determination on the mitigation plan shall be heard by the City Commission.

(m) Modifications to the Sensitive Area Design Standards and Guidelines

The development standards and guidelines contained in this section are to be used as minimum requirements for evaluating development plans on lands containing environmentally sensitive areas. However, the standards and guidelines are not intended to restrict creativity or prohibit reasonable economic returns on developing property. An applicant may request modifications of the sensitive areas design standards and guidelines, such as, but not limited to, a reduction in the area required to be preserved, or a change in the hierarchy ranking of protected features, if all the following criteria are met:

- (1) The modification will be in harmony with the purpose and intent of this section.

- (2) The modification will generally enhance the sensitive areas site or development plan and will not have an adverse impact on its physical, visual or spatial characteristics.
- (3) The modification shall not result in a configuration of lots or a street system which is impractical.
- (4) The modification shall not threaten or diminish the public's health, safety or welfare.
- (5) The modification shall not include or alter **critical** environmentally sensitive features for which protection is required, such as 'floodway' or 'jurisdictional wetlands'. **Modification to critical features, exclusive of 'floodway' would be possible only through the appeal process and would be limited to no more than 15% of the feature. Development in the floodway is prohibited by other sections of the Code.**

Modification requests will be reviewed by Planning Staff and presented to the Planning Commission. The Planning Commission shall make the determination on the modification request. Appeals of the Planning Commission's decision shall be made to the City Commission.

(n) Appeals

- (1) From Planning Director's determination on the Sensitive Area Site Plan.**

The following persons and entities have standing to appeal the Planning Director's determination on sensitive areas site plans: the applicant, the property owner, the City Commission, and adjacent property owners. The appeal must be filed with, and received by, the Planning Office within 9 days of the Planning Director's determination.

- (2) From Planning Commission's decision on mitigation and modification requests.**

The following persons and entities have standing to appeal the Planning Commission's decision on mitigation and modification requests: the applicant; the City Commission; and adjacent property owner. The appeal must be filed with, and received by, the Planning Office within 14 days of the Planning Commission's decision.

The following are definitions to be added to general glossary

Clearcutting. The removal of ~~most or~~ all trees on a site, or the removal of more than one-half (0.5) acre of trees in an area determined to be sensitive by this section, during a single timber harvesting operation or within a three (3) year period.

Environmentally Sensitive Areas – Areas containing natural features and/or natural resources which include regulatory floodplain, jurisdictional wetlands, streams and their corridors, woodland areas, individually significant trees, prominent geologic features with rocky outcroppings, archaeological and historic sites, prairie remnants and steep slopes.

Individually Significant Tree – A significant tree is an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) or any ~~of the following~~ native species: ~~Walnut, Red Maple, Shagbark Hickory, Black Cherry, Black Locust, American Elm, Chinese Elm, Hackberry, Osage Orange, White/Red Mulberry, Chinkapin Oak, Bur Oak, White Oak, Black Oak, Honey Locust, Cottonwood, Sycamore, Red Cedar, Black Gum, or Yellow Poplar.~~ **A list of native species, including both indigenous and naturalized species, is available at the Planning Office.**

Jurisdictional Wetland. **Jurisdictional wetlands are wetlands that are subject to Section 404 of the Clean Water Act. The Army Corps of Engineers (CE) and Environmental Protection Agency (EPA) are responsible for making jurisdictional determinations of wetlands regulated under Section 404 of the Clean Water Act. Under Section 404, the Secretary of the Army, acting through the Chief of Engineers, is authorized to issue permits for the discharge of dredged or fill materials into the waters of the United States, including wetlands, with program oversight by EPA.**

Open Space – An area of land or water, either landscaped or essentially unimproved, which is used to meet human recreational or spatial needs, or for resource protection. Open space areas may or may not be improved but can include playfields, trails, greenbelts/greenways, community gardens, farmed areas, buffers between land uses of differing intensities, areas within community or neighborhood parks and other environmentally sensitive areas.

Prairie Remnants – Prairie areas that have remained relatively untouched on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger: Prairie areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies)

Stream — ~~A stream is a natural body of flowing water, whether constant or intermittent, that begins at headwaters and gathers water from run-off, rain, snow melt, groundwater discharge or from underground springs. Streams hold great importance regardless of size or flow. Streams provide a variety of aesthetic and ecological values and are important wildlife habitats. All streams shown in blue dashed or solid lines on the USGS Quad maps are included in this listing.~~

Woodland – Any tract of land with a contiguous wooded area not less than one (1) acre and containing not less than one hundred (100) trees per acre that are two inches (2 in.) in diameter or greater measured **at diameter breast height (dbh) which is a point 54 in.** above the ground. The extent of any woodland plant community or any part thereof shall be measured from the outermost drip line of all the trees in such plant community. Woodland shall include any area where clearcutting has occurred within the previous three years.

Woodland Area – Area of 1 acre **or more** which is denoted as ‘woodland’ or ‘forest’ on the City Woodland Baseline Map. Data for the woodland baseline map is taken from City-wide aerial photography. For recently annexed properties the City Woodland Baseline Map is based on data developed from satellite imagery provided by the Kansas Applied Remote Sensing Program and the Kansas Biological Survey. This map serves as the baseline for woodland area and will serve as the basis for Sensitive Areas Site Plans, or for determining if woodland was present on land which was disturbed prior to the submittal of a Sensitive Areas Site Plan. A tree inventory may be conducted by the property owner using the definition of ‘woodland’, to refine the limits of the woodland area.

Woodland Clearing – **The removal of trees to the extent that the area no longer meets the definition of woodland.**

Stream Corridor – A stream corridor is a stream **shown on the USGS Quad Map as a solid or dashed blue line** and a 200’ vegetated buffer area, which is centered on the stream. When a Stream Ordinance establishing a corridor or buffer width for each stream in the City has been adopted, the width of each stream corridor will be as set out in the Ordinance.

RESOURCES

U.S. Fish and Wildlife Service National Wetlands Inventory Map. Available at the U.S. Fish and Wildlife Service website www.fws.gov/nwi

City Baseline Map for Woodland Areas. Includes woodland area shown on the City GIS map, satellite imagery from the Kansas Applied Remote Sensing Program and Kansas Biological Survey, and aeriels from USDA Farm Service Agency National Agriculture Imagery Program (NAIP).

Federal Emergency Management Agency (FEMA) Federal Insurance Rate Maps(FIRM) for Douglas County.

United States Geological Survey Quadrangle Maps.

Douglas County Natural Areas Inventory Map.

PLANNING COMMISSION REPORT

Regular Agenda -- Public Hearing Item

PC Staff Report
05/21/08

ITEM NO. 9: TEXT AMENDMENT TO CHAPTER 20, ARTICLE 11 DEVELOPMENT CODE (MKM)

TA-12-27-07: Consider proposed revisions to Section 20-1101 of the Development Code to extend the protection standards for environmentally sensitive features to all zoning districts and to clarify the standards and process. The text amendment was initiated by the Planning Commission at the December, 2007 meeting.

RECOMMENDATION: Staff recommends that the Planning Commission forward a recommendation for approval of the proposed amendment [TA-12-12-27-07] to revise the Sensitive Area Protection Standards in Chapter 20, Development Code to the City

Reason for Request: In reviewing and applying the Development Code, a number of issues have been identified regarding the protection standards for environmentally sensitive areas contained in Section 20-1101. Adoption of the initiated revisions will extend the protection standards to all zoning districts. The revision will also clarify the protection standards and define the Sensitive Areas Site Plan process.

RELEVANT GOLDEN FACTOR:

- Conformance with the Comprehensive Land Use Plan is the relevant factor that applies to this request. Adoption of new regulatory tools, one of which is this amendment to the Development Code, is an implementation step in Chapter 13 of HORIZON 2020, the City/County Comprehensive Land Use Plan.

PUBLIC COMMENT RECEIVED PRIOR TO PRINTING

- No written correspondence has been received.

OVERVIEW OF REVISIONS PROPOSED

Staff has identified the following issues with the implementation of the Sensitive Land Standards contained in Section 20-1101(d) as part of the Protection Standards for Residential Districts.

- The lack of clear definitions resulted in confusion as to which features are 'environmentally sensitive'; therefore, clearer definitions were established.
- Currently, the only options for developing a property which contains environmentally sensitive features is to develop as a Planned or Cluster Development. The revisions will also permit development through the traditional site planning or subdivision process if the Sensitive Area Site Plan indicates that the required amount of sensitive areas can be protected through site planning or platting without requiring variances from the

standards of the Development Code.

- The protection standards are being extended to all zoning districts with this revision; therefore, the protection standards in subsections 20-1101(d) and (e), which pertain only to development in residential districts, will be removed and a new section will be created with 'Protection Standards for Environmentally Sensitive Areas'. To avoid having to renumber all the Sections in Article 11, this section will be 20-1109.
- The revisions clarify the priority ranking of different environmentally sensitive features and provide guidance to the amount which is required to be protected.
- The revisions contain an exemption section which exempts properties meeting certain criteria from the protection standards, for instance properties which were platted prior to the adoption of this text amendment and to woodland management activities-such as tree farms.

Conformance with *Horizon 2020*

Horizon 2020 contains several recommendations for protection of environmentally sensitive features.

Policy 3.3(d)(ii), of Annexation Policies recommends that approval of development proposals be dependent on the ability to develop the land without encroachment into floodways, steep slopes (15% or greater), other environmentally sensitive lands, or sites of historic landmarks or historic features. These lands are recommended for protection when located in areas which will annex in the future, and this protection would extend into the City.

In the Residential, Commercial and Industrial Chapters Horizon 2020 recommends the integration of mature trees, natural vegetation, natural and environmentally sensitive areas whenever feasible to buffer different land uses, whether differing density residential districts or commercial and industrial from other developments.

In Policy 3.1(e)(6) of the Industrial Chapter it also recommends preserving open space and environmentally sensitive features to serve as site amenities within developments in the industrial districts.

Policy 4.4(b) of the Parks and Open Space Chapter recommends that natural areas such as steep slopes, woodlands, natural prairies, wetlands, lakes/ponds, groundwater recharge, prominent ridgelines, and other environmentally sensitive areas be integrated into the parks, recreation, and open space system, wherever possible, to encourage community connectivity and to preserve the natural processes of such areas.

Horizon 2020, in the Parks and Recreation Chapter further states that the purpose of open space is to preserve unique areas such as floodplains, wetlands, wildlife habitat, steep slopes & rock outcroppings, native prairie remnants, historic sites, agricultural lands, and other environmentally sensitive areas. (page 9-5)

As Horizon 2020 recommends the preservation of open space to serve as greenways, buffer areas, and as open space, the text amendment is in conformance with the Comprehensive Plan.

Criteria for Review and Decision-Making

Section 20-1302(f) provides review and decision-making criteria on proposed text amendments. It states that review bodies shall consider at least the following factors:

Whether the proposed text amendment corrects an error or inconsistency in the Development Code or meets the challenge of a changing condition; and

The proposed amendment corrects the following errors or inconsistencies in the Development Code:

- The Sensitive Areas Site Plan is required in the current Code, but the process has proven complicated in practice. The text amendment establishes the Sensitive Areas Site Plan process.
- The existing definitions have proven to be too vague to allow proper determination of sensitive features. The text amendment provides clear definitions of the sensitive features which are to be included.
- The existing provisions do not recognize the fact that adequate protection of sensitive lands may be possible through traditional site planning or subdivision processes, and requires any land with sensitive features to develop as a Planned or Cluster Development. Representatives of the development community have stated that in order to avoid the Planned Development or Cluster process and the requirement to preserve sensitive areas, owners would be advised to destroy any sensitive areas prior to making application for development. The text amendment provides additional development options beyond the Planned or Cluster Development to allow for more conventional platting and site planning.
- The existing language does not contain a provision for reparation of damaged lands that contained environmentally sensitive lands; thereby permitting, and even encouraging, the destruction of the environmentally sensitive features prior to the submittal of a development plan. The text amendment requires reparation of sensitive features which have been damaged prior to submittal or approval of a development proposal.

The existing language was a good foundation, but as Staff began implementing the provisions inadequacies became apparent and more definitive provisions were desired.

Whether the proposed text amendment is consistent with the Comprehensive Plan and the stated purpose of this Development Code (Sec. 20-104).

The proposed amendment to revise the Protection Standards for the Environmentally Sensitive Areas is consistent with the Comprehensive Plan and with the stated purpose of the Development Code. The Comprehensive Plan recommends setting aside land as open space for the purpose of preserving unique areas such as floodplains, wetlands, wildlife habitat, steep slopes & rock outcroppings, native prairie remnants, historic sites, agricultural lands, and other environmentally sensitive areas. In addition, the Comprehensive Plan recommends using environmentally sensitive areas and natural features to serve as buffer areas.

The proposed text amendment is also consistent with the purpose of the Development Code which is listed in Section 20-104 as implementing the Comprehensive Plan in a manner which protects, enhances and promotes the health, safety, and general welfare of the citizens of Lawrence. The protection of environmentally sensitive areas will enhance and promote the health, safety, and general welfare of the citizens of Lawrence. Protection of environmentally sensitive areas serves to reduce hazards by limiting development in the regulatory floodplain, within stream corridors or on steep slopes; and enhances the general welfare by maintaining wooded areas which serve to moderate the micro-climate, provide windbreaks, and provide connected greenways for wildlife habitat and possible future pedestrian/bike pathways through the City.

The text amendment proposes deleting Section 20-1101(d) from the Development Code and replacing it with the language below as Section 20-1109:

Section 20-1109 Protection Standards for Environmentally Sensitive Areas

(a) Purpose

The Environmentally Sensitive Area Standards are intended to protect and, where possible, enhance the natural environment of the City of Lawrence while recognizing the need for urban development.

These standards are intended to provide flexibility in the design of developments on lands with environmentally sensitive areas in order to use land efficiently and to preserve environmentally sensitive areas as open space amenities. These standards are intended to allow modifications of the requirements of the base zoning district and subdivision regulations. During the review process, the specific circumstances surrounding each application, such as the types and amounts of sensitive features that are present; special constraints to the development such as being in an infill location; and the need for the extension of public utilities or infrastructure will be considered. The Environmentally Sensitive Area standards will be applied in an effort to achieve development solutions that best promote the spirit, intent and purpose of protecting environmentally sensitive lands.

(b) Objectives

The objectives of these standards are:

- (1) To identify and prioritize environmentally sensitive areas during the initial stages of the development review process.
- (2) To establish levels of protection for environmentally sensitive features which vary with the priority ranking of each feature or combination of features.
- (3) To aid developers in the creation of plans so that negative impacts to the environmentally sensitive areas are avoided or minimized to the greatest extent possible.
- (4) To coordinate sensitive areas protection with other City environmental programs such as the Floodplain Management Regulations, and the City Stormwater Ordinance.
- (5) To encourage the use of innovative and flexible development techniques and to provide flexibility in the planning process when needed to balance environmental and economic goals.

- (6) To establish levels of protection for existing sensitive lands and institute requirements for the reparation of lands found to be prematurely destroyed or altered.

(c) Modifications to the Sensitive Area Design Standards and Guidelines

The development standards and guidelines contained in this section are to be used as minimum requirements for evaluating development plans on lands containing environmentally sensitive areas. However, the standards and guidelines are not intended to restrict creativity or prohibit reasonable economic returns on developing property. An applicant may request modifications of the sensitive areas design standards and guidelines, such as, but not limited to, a reduction in the area required to be preserved, or a change in the hierarchy ranking of protected features, if all the following criteria are met:

- (1) The modification will be in harmony with the purpose and intent of this section.
- (2) The modification will generally enhance the sensitive areas site or development plan and will not have an adverse impact on its physical, visual or spatial characteristics.
- (3) The modification shall not result in a configuration of lots or a street system which is impractical.
- (4) The modification shall not threaten or diminish the public's health, safety or welfare.
- (5) The modification shall not include or alter environmentally sensitive features for which protection is required, such as 'floodway' or 'jurisdictional wetlands'.

Modification requests will be reviewed by Planning Staff and presented to the Planning Commission. The Planning Commission shall make the determination on the modification request. Appeals of the Planning Commission's decision shall be made to the City Commission.

(d) Applicability of Environmental Design Standards

The provisions of this Article regarding environmental protection for sensitive lands shall apply to all construction and development activity in all zoning districts except as expressly exempted in this section.

If a proposed development, as specified in this section, contains any of the environmentally sensitive features described below the environmentally sensitive design standards and guidelines shall apply. Where disagreements occur regarding the presence or amount of environmentally sensitive features contained on a property, the Planning Commission shall determine compliance with this Article based upon the submitted evidence of staff and/or the applicant.

Environmentally Sensitive Features include the following:

- (1) Regulatory Floodplain:
 - (i) Regulatory Floodway, designated on the FEMA Flood Insurance Rate Map for Douglas County.
 - (ii) Regulatory Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County.
- (2) Jurisdictional wetlands as determined and regulated by the U.S. Army Corps of Engineers.

- (3) Streams, shown on the United States Geological Survey Quadrangle (USGS Quad) Maps, and their corridors*² as defined by the City Stormwater Engineer.
- (4) Woodland Areas: Any tract of land with a contiguous wooded area not less than two (2) acres, as measured by the tree canopy, and containing not less than one hundred (100) trees per acre that are two inches (2") in diameter or greater 36" above the ground..
- (5) Individually Significant Trees: an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) or any of the following native species: walnut, red maple, shagbark hickory, black cherry, black locust, American elm, Chinese elm, hackberry, osage orange, white/red mulberry, chinkapin oak, bur oak, white oak, black oak, honeylocust, cottonwood, sycamore, red cedar, black gum, or yellow poplar.
- (6) Prominent Geographic Features with Rocky Outcroppings: A rocky protrusion of 50% or more exposed rock having greater than a 3:1 slope, a minimum height of 20' above the surrounding grade and covering an area of 1 or more acres.
- (7) Archaeological and Historic Sites listed on local, state, or federal registers.
- (8) *Prairie remnant of one (1) acre or larger: Prairie areas that have remained relatively untouched on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger. Prairie areas will be determined by the Kansas Biological Survey Prairie areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies) *¹*
- (9) Slopes:
 - (i) Steep Slopes: A slope of fifteen percent (15%) but less than twenty five percent (25%).
 - (ii) Critical Slopes: A slope of twenty five percent (25%) but less than forty percent (40%)
 - (iii) Protected slopes: Any slope of forty percent (40%) or steeper.

(e) Determination of Development Land Area

In determining whether a proposed development contains sensitive lands, all contiguous lands under the same ownership or control shall be considered. Lands owned or controlled by a partnership, trust or corporation shall be considered along with lands owned directly by the applicant and lands under option to the applicant or a partnership, trust or corporation under the effective control of the applicant.

(f) Exemptions.

The following activities are exempt from the requirements of this section:

- (1) Extension of public utilities and infrastructure: A written request for exemption must be submitted to the Planning Director. Development activity may occur only after the Planning Director has determined that the amount of damage to the sensitive features is minimized either through construction methods or location and has provided written approval of the exemption request.
- (2) Existing Single-Dwelling and Duplex Residences: Normal maintenance/expansion of single-family or duplex residences, including exterior remodeling,

reconstruction, construction, or replacement of single-family or duplex residences and accessory structures.

- (3) Existing Subdivisions for Single-Dwelling and Duplex Residences: Construction of new single-family or duplex residences in platted subdivisions that are in existence, or for which applications for plats have been submitted, prior to the effective **DATE OF THIS TEXT AMENDMENT**.

- (g) Woodland Management Activities. Practices associated with 'timber management standards' as defined by the International Society of Arboriculture, or its successor, or existing tree farming operations, such as Christmas tree farming, fruit, or nut production and tree nurseries, during such time as the land is used for tree farming operations are exempt.

(h) Sensitive Areas Site Plan

Development on lands with environmentally sensitive areas as set forth in Section **XX(4)** shall require submission of a Sensitive Areas Site Plan.

A Sensitive Areas Site Plan must be submitted to, and approved by the Planning Commission prior to woodland clearing, grading or any development activity on lands that contain environmentally sensitive features specified in **Section XX(4)**. The Sensitive Areas Site Plan can be submitted concurrent with the submittal of any other site plan or development plan. The Sensitive Areas Site Plan will be incorporated with other development or site plans for the property.

(i) Development Activity Which Occurs Without Approval of a Sensitive Areas Site Plan

If clearing, grading or other development activity occurs without approval of a Sensitive Areas Site Plan, the sensitive areas and features will be determined for the property using the best available data (aerials, surveys, etc.) and the property shall be made whole to the extent required in Section X(10) under the following guidelines prior to building permits being granted:

- (1) Removal of trees from woodland areas: If woodland areas are altered by human activity such as clearcutting or removal of trees to the degree that the property no longer meets the definition of 'woodland', the property owner shall protect the area that would have been required to be protected and replace the trees at a ratio of 1 tree per every 200 sq. ft. of prior woodland area to the extent required in Section X(10). (This requirement is in addition to any street tree, buffering, or other landscaping that is required by the Development Code.)
- (2) Damage to Stream Corridor: If the stream or the stream corridor, as required by the City Stormwater Engineer^{*2}, is altered by human activity, such as the removal of trees or vegetation or in anyway altering the channel, the property owner shall reestablish the channel and replace the trees at a ratio of 1 tree per every 200 sq. ft. of area of stream corridor as determined by the City Stormwater Engineer and shall reestablish ground cover per the approval of the City Stormwater Engineer.
- (3) Destruction of remnant prairie. If an area that has been determined by the KS Biological Survey as having remnant prairies is plowed or otherwise destroyed, the

area of the former remnant prairie, as defined by the KS Biological Survey must be preserved as open space and replanted with prairie vegetation to the extent required in Section X(10) . *¹

(j) Sensitive Areas Site Plan Procedure

A Sensitive Areas Site Plan shall be submitted and approved prior to any development activity, including vegetation removal or grading. The Sensitive Areas Site Plan may be submitted prior to, or concurrent with, another development application, i.e. plat, site plan, rezoning, etc. The Sensitive Areas Site Plan shall delineate and note all sensitive areas and designate protected sensitive areas and associated buffers.

A Sensitive Areas Site Plan shall be reviewed by the Planning Director in accordance with the Site Plan review procedure listed in Section 20-1305.

A Sensitive Areas Site Plan is normally submitted in preparation for another development proposal, such as a plat, development plan or site plan. There is no review fee for a Sensitive Areas Site Plan.

(1) Site Plan Contents:

(i) The site plan should be arranged so the top of the plan represents north or, if otherwise oriented, is clearly and distinctly marked.

(ii) The site plan should clearly delineate the property boundaries and all of the sensitive areas located on the property and shall designate protection zones for sensitive areas as prescribed below.

a. Regulatory Floodplain, including Floodway and Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County.

b. Wetlands. The site plan shall show the delineation of a jurisdictional wetland area that is accepted by the US Army Corps of Engineers prior to submittal of the Sensitive Areas Site Plan; and the site plan shall show any area that is included on the U.S. Fish and Wildlife Service Wetland Mapper as a suspected or potential wetland area, along with a 100' buffer area unless a certified wetland specialist, the Kansas Biological Survey, or the Army Corps of Engineers, determine that the area is not a wetland.

c. Streams and stream corridors. Streams that are shown in solid or dashed blue lines on the USGS Quad Map shall be included with corridors as established by the City Stormwater Engineer.*² When other sensitive features are located within a stream corridor, the most stringent required protective buffer shall apply. Unless exempt under the provisions of this Section, the following buffer requirements shall be maintained:

The City Stormwater Engineer will rank the streams and will provide the required width of each stream corridor based on the size of the stream, and frequency and amount of seasonal flow. *²

The amount of stream corridor required may be reduced by the City Stormwater Engineer if requiring the full stream corridor buffer would preclude reasonable use of the property, and enhanced vegetative cover will be provided in any remaining buffer area to the extent possible. A waiver request must be provided in writing to the City Stormwater Engineer which explains how the provision of the full required stream corridor precludes reasonable use of the property.

- d) Woodland Areas. Any property containing a woodland area must submit a Sensitive Areas Site Plan prior to woodland clearing or any development activity. The following requirements apply to development on properties with woodland areas:

The woodland area required to be retained shall be delineated to include a buffer area by measuring fifty feet (50') outward from the trunks of trees intended to be preserved.

If the Planning Commission determines that the required woodland area cannot be retained due to site constraints or infrastructure requirements, replacement trees will be required. One tree shall be planted for every two hundred (200) square feet of woodland removed from the otherwise required retention area and shall be of the same or equivalent species as those being removed.

The replacement of trees may be waived if it is determined by the Parks and Recreation Director that site constraints prohibit the replacement of trees on site.

To the extent possible, woodlands located on steep slopes and/or within 100 year floodplains should be given the highest retention priority.

- e) Individually significant trees. The species and size of the tree(s) shall be noted on the plan.
- f) Archaeological and Historic Sites.
- g) *Prairie remnants one acre in area or larger*
If development is proposed on a property which is shown on the Douglas County Natural Areas Inventory Map as containing remnant prairies these areas must be delineated and noted on the Sensitive Areas Site Plan, if confirmed by the Kansas Biological Survey.

*Prairie remnants associated with other sensitive features should be treated as environmental assets, and should be considered no-build areas to the extent possible, and used for buffers, filter strips along waterways and/or neighborhood open space. **¹

- h) Steep slopes, slopes with grades of 15% or higher
Any property with slopes greater than 15% grade shall be required to submit a Sensitive Areas Site Plan.

Any property with slopes between 25% and 40% grade shall be required to submit a Sensitive Areas Site Plan and a grading plan. Disturbance of slopes with 25% to 40% grades requires approval of the City Stormwater Engineer.

Any property with slopes of 40% grade or more shall be required to submit a Sensitive Areas Site Plan. Slopes greater than 40% grade shall not be graded and must remain in the existing state, except that natural vegetation may be supplemented by other plant material. A buffer will be required around any slopes of 40% grade or more. Two feet (2') of buffer will be provided for each foot of vertical rise of the slope up to a maximum buffer of fifty feet (50'). No development activity, including removal of trees and other vegetation, shall be allowed within the buffer.

- i) A site summary table must be provided which includes the total site area, the area of each environmentally sensitive area delineated on the site plan, and the percentage of the total site which is included in each area. Areas with overlapping environmentally sensitive features must be listed along with the percentage of the total.

(k) Ranking and Required Protection of Environmentally Sensitive Features

Protection of certain environmentally sensitive features is more critical than others. The following priority scheme will assist in the determination of environmentally sensitive areas in which protection is 'critical', those in which protection is important and should be achieved to the greatest extent possible and those for which protection is desirable.

All protected areas together shall not be required to exceed 20% of gross land area unless critical sensitive areas exist. Critical sensitive areas must be protected in their entirety. 10% of the protected area shall serve, and may be improved, as an open space amenity to the development as passive or active recreation.

When determining which features should be protected, protection will be required in the following ranking order:

- (1) Critical Sensitive Areas. Areas containing the following critical sensitive features: floodway, stream corridors, jurisdictional wetlands, slopes with greater than 40% grade, or archaeological and historic sites. Protection of 100% of these sensitive features is required.
- (2) Protected Sensitive Areas. Slopes between 25% and 40% grade, floodplain and areas with two or more environmentally sensitive features, other than those listed as 'critical sensitive features', occurring together. Environmentally Sensitive Features or Areas that occur together are of higher priority than any one feature occurring singularly. The priority increases with the number of

environmentally sensitive features occurring together. Protection of areas containing these features is required to the maximum extent noted above.

- (3) Desirable Sensitive Areas. Areas with environmentally sensitive features, other than those listed as critical or protected sensitive areas, occurring singularly. In addition, woodland areas that are part of a larger continuous wooded area that may extend off site are of higher priority than woodland areas that are isolated. Protection of areas containing these features is required to the maximum amount noted above.

Environmentally Sensitive Features shown on the site plan are prioritized for protection by the ranking scheme above in combination with an evaluation of the development proposal, the surrounding area (to determine connectivity) and the mix of sensitive features present on the site.

(I) DEVELOPMENT OPTIONS

The following development options are available for properties containing environmentally sensitive lands:

- (1) May develop as a Planned Development, per standards in Section 20-701, to protect the greatest amount of environmentally sensitive features possible while accommodating development. The minimum amount of natural open space to be preserved will be determined after a review of the Sensitive Areas Site Plan. Planned Developments provide the following additional flexibility: reduced lot sizes, increase in maximum net residential density by up to 25%, reduction in minimum setback standards of the base district with some restrictions, increase in the height of the buildings, and reduction in the number of off-street parking spaces required.
- (2) May develop as a Cluster Development per standards listed in Section 20-702. If environmentally sensitive features are present, a Cluster Development may exceed the 35 lots permitted in Section 20-702(c)(1). Cluster Development allows the property to develop at the same maximum density as the base zoning district permits, but with no minimum lot area or lot width requirements. Special setbacks for the perimeter apply and 10' separation is required between all detached dwellings.
- (3) May develop with a site plan, or single-dwelling or duplex residential development may occur through a traditional subdivision, when a review of the Sensitive Areas Site Plan indicates that it is possible to develop the property according to the regulations of the base zoning district while protecting the sensitive areas through easements, building envelopes, common-ownership tracts, or other means. The development proposal shall be reviewed with the approved Sensitive Areas Site Plan to insure that the proposed development will preserve the amount of sensitive area necessary. The Sensitive Areas Site Plan shall be incorporated with any submitted development proposal, i.e. plat, site plan, development plan, etc. The protected sensitive areas and building envelopes must be shown on the preliminary and final plat to insure that buildings and construction activity do not encroach into the sensitive areas. A note must be included on the plat or site plan noting the party responsible for

the maintenance of the protected environmentally sensitive areas and stating that all development activity, including grading and construction, is prohibited within the protected sensitive areas.

(m) Sensitive Areas Development Design Guidelines:

- (1) Street rights-of-way, public utility corridors and building sites should be located so as to minimize their impact on environmentally sensitive areas.
- (2) Where possible, environmentally sensitive areas to be protected should be located within designated public or private open space, either through dedication, a conservation easement, or control by a homeowner's association.
- (3) If a review of the Sensitive Areas Site Plan and proposed development indicates that it is not possible or reasonable to protect the required amount of sensitive features, mitigation may be possible. A mitigation plan shall be submitted to the Planning Commission for review. Any appeals from the Planning Commission's determination on the mitigation plan would be heard by the City Commission.

Notes. The text amendment is a draft document. Changes may be required as a result of the input received at the Planning Commission meeting. Changes to definitions of the following environmentally sensitive features are anticipated by Staff as more information is obtained:

**¹ --Prairie Remnants will be included in this text amendment if a map is available which shows where prairie remnants are located or if criteria is established which will allow for the identification of prairie remnants by Planning Staff and property owners.. It is Planning Staff's intent that the criteria for determining if environmentally sensitive features are present should be objective and easy for Staff, developers and property owners to apply.*

**² --Stream Corridor widths vary based on the size of the stream and the amount of seasonal flow. Staff is working with the City Stormwater Engineer to establish corridor widths for different types of streams rather than requiring a 100' wide corridor for all streams.*

The following are definitions to be added to general glossary

Clearcutting. The removal of most or all trees on a site, or the removal of more than one-half (0.5) acre of trees in an area determined to be sensitive by this section, during a single timber harvesting operation or within a three (3) year period.

Environmentally Sensitive Areas – Areas containing natural features and/or natural resources which include regulatory floodplain, jurisdictional wetlands, streams and their corridors, woodland areas, individually significant trees, prominent geographic features with rocky outcroppings, archaeological and historic sites, prairie remnants and steep slopes.

Individually Significant Tree – A significant tree is an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) or any of the following native species: Walnut, Red Maple, Shagbark Hickory, Black Cherry, Black Locust, American Elm, Chinese Elm, Hackberry, Osage Orange, White/Red Mulberry, Chinkapin Oak, Bur Oak, White Oak, Black Oak, Honey Locust, Cottonwood, Sycamore, Red Cedar, Black Gum, or Yellow Poplar.

Open Space – An area of land or water, either landscaped or essentially unimproved, which is used to meet human recreational or spatial needs, or for resource protection. Open space areas may or may not be improved but can include playfields, trails, greenbelts/greenways, community gardens, farmed areas, buffers between land uses of differing intensities, areas within community or neighborhood parks and other environmentally sensitive areas.

*Prairie Remnants – Prairie areas that have remained relatively untouched on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger: Prairie areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies) *¹*

Stream – A stream is a natural body of flowing water, whether constant or intermittent, that begins at headwaters and gathers water from run-off, rain, snow melt, or from underground springs. Streams hold great importance regardless of size or flow. Streams provide water, a variety of aesthetic values and are important wildlife habitats. All streams shown in blue dashed or solid lines on the USGS Quad maps are included in this listing.

The following term will be replaced:

~~Stand of Mature Trees: An area of ½ acre or more covered by densely wooded growth of mature trees having a minimum height of 25 feet.~~

Woodland Area – Any tract of land with a contiguous wooded area not less than two (2) acres and containing not less than one hundred (100) trees per acre that are two inches (2") in diameter or greater measured 36" above the ground. The extent of any woodland plant community or any part thereof shall be measured from the outermost drip line of all the trees in such plant community. Woodland shall include any area where clearcutting has occurred within the previous three years.

The following term will be revised:

Stream Corridor – ~~A strip of land 100 feet wide, of which the centerline shall be the centerline of a stream that is not an intermittent stream or an intermittent stream specifically identified in the comprehensive plan as a significant intermittent stream subject to protection.~~

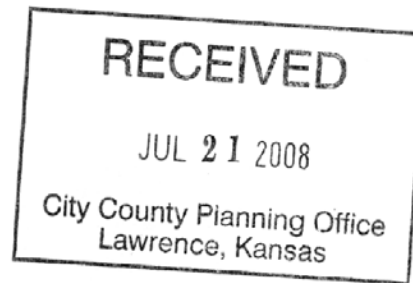
A stream corridor is a stream and its buffer area, the width of which varies according to the size of the stream, the amount of flow, and topography of the site. The City Stormwater Engineer will determine the required buffer area for streams. *²

League of Women Voters of Lawrence-Douglas County

P.O. Box 1072, Lawrence, Kansas 66044

July 20, 2008

Brad Finkeldei, Chairman
Members
Lawrence-Douglas County Planning Commission
City Hall
Lawrence, Kansas 66044



RE: ITEM NO.18, REVISIONS TO THE TEXT AMENDMENT FOR PROTECTION OF
ENVIRONMENTALLY SENSITIVE AREAS, [new] SECTION 20-1109, DEVELOPMENT CODE

Dear Chairman Finkeldei and Planning Commissioners:

We appreciate the study and effort that have gone into these revisions. However, there remain some concerns that we very much hope can be resolved. Please see the enclosed copy of our annotations on the new revision of this code.

We object to the arbitrary limit of preserving only 30% of each tract except where sensitive features are listed as "critical." For example, if half of a tract is sensitive land, it seems reasonable if the remainder can be developed. The balance between the broad needs of the community and public welfare, including a long-term view of environmental need, must be considered as well as the needs of individuals. As Horizon 2020 states:

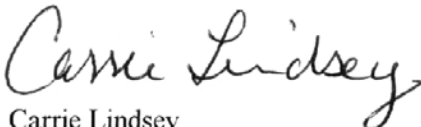
Page 1-3 General Goal "...It is the goal of the planning process to achieve a maximum of individual freedom, *but public welfare must prevail.*" [emphasis added].

In fact, it could be interpreted, because the language is not clear to us, that only 30% of the site of each sensitive feature need be saved rather than "30% of each ownership tract." We hope that will be corrected. For other comments, please see the annotated copy.

We hope that the city and county will seriously consider adopting Transferable Development Rights or some similar program to enable our land system to better protect both the land and the rights of farmers and owners of environmentally sensitive lands. The establishment of a minimum arbitrary amount of such land to be preserved only partially accommodates the limits and constraints of such lands.

Thank you for considering these comments.

Sincerely yours,



Carrie Lindsey
President



Alan Black, Chairman
Land Use Committee

Attachment

Section 20-1109 Protection Standards for Environmentally Sensitive Areas

(a) Purpose

The Environmentally Sensitive Area Standards are intended to protect and, where possible, enhance the natural environment of **sensitive natural and historic features of the City of Lawrence while recognizing the need for urban development as the City meets its urban development goals.**

These standards are intended to provide flexibility in the design of developments on lands with environmentally sensitive areas in order to use land efficiently and to preserve environmentally sensitive areas as open space amenities. **Environmentally sensitive natural areas left in their natural state provide many benefits to the community including flood control, erosion control, water filtration, storm water runoff areas, passive recreation, wildlife protection, etc. Recognizing and protecting these benefits decreases the City's losses and improves the quality of life.**

Thank you.

(b) Objectives

The objectives of these standards are:

- (1) To identify and prioritize environmentally sensitive areas during the initial stages of the development review process.
- (2) To establish levels of protection for environmentally sensitive features which vary with the priority ranking of each feature or combination of features.
- (3) To aid developers in the creation of plans so that negative impacts to the environmentally sensitive areas are avoided or minimized to the greatest extent possible.
- (4) To coordinate sensitive areas protection with other City environmental programs such as the Floodplain Management Regulations, and the City Stormwater Ordinance.
- (5) To encourage the use of innovative and flexible development techniques and to provide flexibility in the planning process when needed to balance environmental and economic goals.
- (6) To establish levels of protection for existing sensitive areas and institute requirements for the restoration of sensitive areas found to be prematurely destroyed or altered.

(c) Applicability of Environmental Design Standards

The provisions of this Article regarding environmental protection for sensitive lands shall apply to all construction and development activity in all zoning districts except as expressly exempted in this section.

If a proposed development, as specified in this section, contains any of the environmentally sensitive features described below the environmentally sensitive design standards and guidelines shall apply. Where disagreements occur regarding the presence or amount of environmentally sensitive features contained on a property, the Planning **Director's determination on the site plan may be appealed to the City Commission.** ~~Commission shall determine compliance with this Article based upon the submitted evidence of staff, and/or the applicant. Appeals from the Planning Commission determination shall be made to the City Commission.~~

Environmentally Sensitive Features include the following:

- (1) Regulatory Floodplain:
 - (i) Regulatory Floodway, designated on the FEMA Flood Insurance Rate Map for Douglas County.
 - (ii) Regulatory Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County.
- (2) **Wetlands, including** jurisdictional wetlands as ~~approved~~ **determined** and regulated by the U.S. Army Corps of Engineers.
- (3) Streams, shown on the United States Geological Survey Quadrangle (USGS Quad) Maps as blue solid or dashed lines, and their corridors.
- (4) Woodland Areas: Any tract of land containing one (1) acre or more which is shown as 'woodland' or 'forest' on the City GIS Woodland Baseline Map.
- (5) Individually Significant Trees: an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) **or any native species. A list of native trees (including both indigenous and naturalized species) is available at the Planning Office.** ~~any of the following native species: walnut, red maple, shagbark hickory, black cherry, black locust, American elm, hackberry, osage orange, white/red mulberry, chinkapin oak, bur oak, white oak, black oak, honeylocust, cottonwood, sycamore, red cedar, black gum, or yellow poplar.~~
- (6) Prominent Geologic Features with Rocky Outcroppings: A rocky protrusion of 50% or more exposed rock having greater than a 3:1 slope, a minimum height of 20' above the surrounding grade and covering an area of 1 or more acres.
- (7) Archaeological and Historic Sites listed on local, state, or federal registers **or have an application on file for listing which was submitted prior to the sensitive area site plan.**
- (8) Prairie remnant of one (1) acre or larger: Prairie areas that have remained relatively untouched on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger. Prairie areas will be determined by the Kansas Biological Survey, **or a consulting firm with local expertise in these habitats,** as areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies). **A list of approved consulting firms for prairie determination is available in the Planning Office.**
- (9) Slopes:

There is a Valley Channel zoning district for certain areas in the county that needs to be followed, also. Is this considered a part of the "Regulatory Floodplain?" It should be.

There are some native trees such as redbud and flowering plum that do not live much beyond that size. The younger trees of this species, as one example also need protections.

Many communities consider that slopes over 20% should be left undisturbed.

These should not allow a 15% exception. →

- (i) Steep Slopes: A slope of fifteen percent (15%) but less than twenty five percent (25%).
- (ii) Critical Slopes: A slope of twenty five percent (25%) but less than forty percent (40%)
- (iii) Protected slopes: Any slope of forty percent (40%) or steeper.

The presence of environmentally sensitive features shall be determined from an examination of the site and the following resources:

- (1) FEMA Flood Insurance Rate Map for Douglas County
- (2) USGS Quad Maps
- (3) City GIS Woodland Baseline Map Please create better maps than the previous samples.
- (4) US Fish and Wildlife Service **National Wetland Inventory** Maps
- (5) Douglas County Natural Areas Inventory Map
- (6) City GIS Map

This is better than depending on only one map.

(d) Determination of Development Land Area

In determining whether a proposed development contains sensitive lands, all contiguous lands under the same ownership or control shall be considered. Lands owned or controlled by a partnership, trust or corporation shall be considered along with lands owned directly by the applicant and lands under option to the applicant or a partnership, trust or corporation under the effective control of the applicant.

(e) Exemptions.

The following activities are exempt from the requirements of this section:

- (1) Extension of public utilities and infrastructure: A written request for exemption must be submitted to the Planning Director. Development activity may occur only after the Planning Director has determined that the amount of damage to the sensitive features is minimized either through construction methods or location and has provided written approval of the exemption request.
- (2) Existing Single-Dwelling and Duplex Residences: Normal maintenance/expansion of single-family or duplex residences, including exterior remodeling, reconstruction, construction, or replacement of single-family or duplex residences and accessory structures.
- (3) Existing Subdivisions for Single-Dwelling and Duplex Residences: Construction of new single-family or duplex residences in platted subdivisions that are in existence, or for which applications for plats have been submitted, prior to the effective **DATE OF THIS TEXT AMENDMENT.**

- (f) Woodland Management Activities.** Practices associated with 'timber management standards' as defined by the International Society of Arboriculture, or its successor, or existing tree farming operations, such as Christmas tree farming, fruit, or nut production and tree nurseries, during such time as the land is used for tree farming operations are exempt.

(g) Sensitive Areas Site Plan

Development activity on lands with environmentally sensitive areas as set forth in Section **XX(4)** shall require submission and approval of a Sensitive Areas Site Plan.

A Sensitive Areas Site Plan must be approved by the Planning Director prior to woodland clearing, grading or any development activity on lands that contain environmentally sensitive features specified in **Section XX(4)**. Appeals from the Planning Director's determination on the Sensitive Areas Site Plan shall be made to the City Commission. An appeal must be filed within ~~30~~ **9** days of the Planning ~~Commission's~~ **Director's** determination.

The Sensitive Areas Site Plan ~~can~~ may be submitted concurrent with the submittal of any other site plan or development plan; however, revisions to the development plans may be necessary in order to comply with the approved Sensitive Areas Site Plan. To avoid revisions, prior submittal of the Sensitive Areas Site Plan is recommended with a concept development plan. The Sensitive Areas Site Plan will be incorporated with other development or site plans for the property. The designated protected areas must be clearly shown on all associated development plans, including public improvement plans.

(h) Development Activity Which Occurs Without Approval of a Sensitive Areas Site Plan

If clearing, grading or other development activity occurs on lands determined to contain environmentally sensitive features as of the effective date of this text amendment without prior approval of a Sensitive Areas Site Plan, the sensitive areas and features will be determined for the property using the best available data (aerials, surveys, baseline maps, etc.) and the property shall be made whole to the extent required in **Section X(10)** under the following guidelines prior to building permits being granted:

- (1) Removal of trees from woodland areas: If woodland areas are altered by human activity such as clearcutting or removal of trees to the degree that the property no longer meets the definition of 'woodland', the property owner shall protect the area that would have been required to be protected with a Sensitive Areas Site Plan. The property owner shall replace the trees at a ratio of 1 tree per every 200 sq. ft. of prior woodland area to the extent required in **Section X(10)**. Replacement trees shall consist of a minimum of 6 species which may be native or selected from the Northeast Kansas Preferred Species Tree List. Trees which are considered native are listed on the (This requirement is in addition to any street tree, buffering, or other landscaping that is required by the Development Code.)
- (2) Damage to Stream Corridor: If the stream or stream corridor is altered by human activity, such as the removal of trees or vegetation or in anyway altering the channel, the property owner shall reestablish the channel per the approval of the City Stormwater Engineer and replace the trees at a ratio of 1 tree per every 200 sq. ft. of area of stream corridor and shall reestablish ground cover per the approval of the City Stormwater Engineer.
- (3) Destruction of remnant prairie. If an area that has been determined by the KS Biological Survey, **or approved consulting firm**, as having remnant prairies is plowed or otherwise destroyed, the area of the former remnant prairie, as defined by the KS Biological Survey **or approved consulting firm** must be preserved as open space and replanted with prairie vegetation to the extent required in **Section X(10)**. **At least 75% of the native species that were likely at the site, as determined by the Kansas Biological Survey or consulting firm, will be replanted. The replanted plants will be maintained and at least 50% of**

The trees should be replaced that have been removed. To allow a developer to eliminate all except 30% does not allow evaluation of what was destroyed. It is an invitation to do this.

Map as containing remnant prairies these areas must be delineated and noted on the Sensitive Areas Site Plan, if confirmed by the Kansas Biological Survey **or consulting agency with local expertise. A list of approved consulting agencies is maintained in the Planning Office.**

Prairie remnants associated with other sensitive features shall be treated as environmental assets, and shall be considered no-build areas to the extent possible, and used for buffers, filter strips along waterways and/or neighborhood open space.

- h) Steep slopes, slopes with grades of 15% or higher
A Sensitive Areas Site Plan is required prior to any development activity on property containing slopes with grades greater than 15%.

A grading plan is required in addition to a Sensitive Areas Site Plan prior to any development activity on property containing slopes with grades between 25% and 40%. Disturbance of slopes with 25% to 40% grades requires approval of the City Stormwater Engineer.

Slopes greater than 40% grade shall not be graded and shall remain in the existing state, except that natural vegetation may be supplemented by other plant material. A buffer will be required around any slopes of 40% grade or more. Two feet (2') of buffer will be provided for each foot of vertical rise of the slope up to a maximum buffer of fifty feet (50'). No development activity, including removal of trees and other vegetation, shall be allowed within the buffer **with the exception of the removal of noxious or poisonous weeds.**

- i) A site summary table shall be provided which includes the total site area, the area of each environmentally sensitive area delineated on the site plan, and the percentage of the total site which is included in each area. Areas with overlapping environmentally sensitive features shall be listed along with the percentage of the total.

(j) Ranking and Required Protection of Environmentally Sensitive Features

Protection of certain environmentally sensitive features in their natural state is more critical than others. The following priority scheme will assist in the determination of environmentally sensitive areas in which protection is 'critical', those in which protection is important and ~~should~~ **shall** be achieved to the greatest extent possible and those for which protection is desirable.

The total amount of the site which shall be required to be protected depends on the type and amount of features present.

You should add "of each ownership tract" 

All protected areas together shall not be required to exceed 30% of gross land area unless critical sensitive areas exist. Critical sensitive areas must be protected in their entirety. 10% of the designated sensitive area shall serve, and may be improved, as an open space amenity to the development as passive or active recreation.

We object to the arbitrary limit of only 30% of sensitive land that needs to be protected within each ownership tract, especially when forested slopes are involved. These usually are in combination but may not qualify for protection even though they are ecologically and environmentally valuable. There needs to be some other considerations. The county cluster developments were originally intended to protect environmentally sensitive lands and required at least 40% of each tract to be preserved. At the very least this should also be the case.

When determining which features ~~should~~ **shall** be protected, protection will be required in the following ranking order:

- (1) Critical Sensitive Areas. Areas containing the following critical sensitive features: regulatory floodway, stream corridors, jurisdictional wetlands, slopes with greater than 40% grade, or archaeological and historic sites. Protection of 100% of these sensitive features is required regardless of the percentage of the total site area which is included.
- (2) Important Sensitive Areas. Areas containing the following critical sensitive features: **non-jurisdictional wetlands**, slopes between 25% and 40% grade, regulatory floodway fringe, native prairie remnants, **woodlands that are contiguous with other off-site woodland areas that may function as wildlife corridors**, and areas with two or more environmentally sensitive features, other than those listed as 'critical sensitive features', occurring together. Environmentally Sensitive Features or Areas that occur together are of higher priority than any one feature occurring singularly. The priority increases with the number of environmentally sensitive features occurring together. Protection of areas containing these features is required to the maximum extent noted above.
- (3) Desirable Sensitive Areas. Areas with environmentally sensitive features, other than those listed as critical or important sensitive areas, occurring singularly. In addition, woodland areas that are part of a larger continuous wooded area that may extend off site are of higher priority than woodland areas that are isolated. Protection of areas containing these features is required to the maximum extent noted above.

This isn't clear. Please
cite section you mean.
J or J(1).



Environmentally Sensitive Features shown on the site plan are prioritized for protection by the ranking scheme above in combination with an evaluation of the development proposal, the surrounding area (to determine connectivity) and the mix of sensitive features present on the site.

(k) DEVELOPMENT OPTIONS

The following development options are available for properties containing environmentally sensitive lands:

- (1) May develop as a Planned Development, per standards in Section 20-701, to protect the greatest amount of environmentally sensitive features possible while accommodating development. The minimum amount of natural open space to be preserved will be determined after a review of the Sensitive Areas Site Plan. Planned Developments provide the following additional flexibility: reduced lot sizes, increase in maximum net residential density by up to 25%, reduction in minimum setback standards of the base district with some restrictions, increase in the height of the buildings, and reduction in the number of off-street parking spaces required.
- (2) May develop as a Cluster Development per standards listed in Section 20-702. If environmentally sensitive features are present, a Cluster Development may exceed the 35 lots permitted in Section 20-702(c)(1). Cluster Development allows the property to develop at the same maximum density as the base

The following are definitions to be added to general glossary

Clearcutting. The removal of ~~most or~~ all trees on a site, or the removal of more than one-half (0.5) acre of trees in an area determined to be sensitive by this section, during a single timber harvesting operation or within a three (3) year period.

Environmentally Sensitive Areas – Areas containing natural features and/or natural resources which include regulatory floodplain, jurisdictional wetlands, streams and their corridors, woodland areas, individually significant trees, prominent geologic features with rocky outcroppings, archaeological and historic sites, prairie remnants and steep slopes.

Individually Significant Tree – A significant tree is an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) or any ~~of the following~~ native species: ~~Walnut, Red Maple, Shagbark Hickory, Black Cherry, Black Locust, American Elm, Chinese Elm, Hackberry, Osage Orange, White/Red Mulberry, Chinkapin Oak, Bur Oak, White Oak, Black Oak, Honey Locust, Cottonwood, Sycamore, Red Cedar, Black Gum, or Yellow Poplar.~~ **A list of native species, including both indigenous and naturalized species, is available at the Planning Office.**

Some trees such as redbuds, crabapples, and wild plum do not live much beyond that size, if they even get to be that size.

Jurisdictional Wetland. **Jurisdictional wetlands are wetlands that are subject to Section 404 of the Clean Water Act. The Army Corps of Engineers (CE) and Environmental Protection Agency (EPA) are responsible for making jurisdictional determinations of wetlands regulated under Section 404 of the Clean Water Act. Under Section 404, the Secretary of the Army, acting through the Chief of Engineers, is authorized to issue permits for the discharge of dredged or fill materials into the waters of the United States, including wetlands, with program oversight by EPA.**

Open Space – An area of land or water, either landscaped or essentially unimproved, which is used to meet human recreational or spatial needs, or for resource protection. Open space areas may or may not be improved but can include playfields, trails, greenbelts/greenways, community gardens, farmed areas, buffers between land uses of differing intensities, areas within community or neighborhood parks and other environmentally sensitive areas.

Prairie Remnants – Prairie areas that have remained relatively untouched on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger: Prairie areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies)

Stream — ~~A stream is a natural body of flowing water, whether constant or intermittent, that begins at headwaters and gathers water from run-off, rain, snow melt, groundwater discharge or from underground springs. Streams hold great importance regardless of size or flow. Streams provide a variety of aesthetic and ecological values and are important wildlife habitats. All streams shown in blue dashed or solid lines on the USGS Quad maps are included in this listing.~~

League of Women Voters of Lawrence-Douglas County

P.O. Box 1072, Lawrence, Kansas 66044

May 18, 2008

Grant Eichhorn, Chairman
Members
Lawrence-Douglas County Planning Commission
City Hall
Lawrence, Kansas 66044

RECEIVED

MAY 19 2008

City County Planning Office
Lawrence, Kansas

Re: ITEM NO. 9: TEXT AMENDMENT TO CHAPTER 20, ARTICLE 11 DEVELOPMENT CODE

Dear Chairman Eichhorn and Planning Commissioners:

One of the important provisions of our new Land Development Code is **Section 20-1101(d), Implementation of Sensitive Lands Standards**. For various reasons, one of which we believe was its misinterpretation, it is proposed to be replaced by a totally new draft code, **Section 20-1109**. We acknowledge one improvement: the draft text amendment also includes all zoning districts rather than just residential land use. However, in reviewing the draft text amendment, TA-12-27-07, we found many problems with this proposed change. In this letter and attachments, we hope to illustrate some of the deficiencies of this draft text amendment that need correction. We ask that the current proposed draft be rewritten to correct the many inconsistencies, inapplicable and unreasonable definitions, insufficient protection standards, and inappropriate process.

Sensitive lands have been identified as such because of their vital environmental functions and in many cases because of the hazards to human life or property that occur when they are altered. Their use as an amenity or as a buffer between uses, although important, is incidental to these other functions. Therefore, any environmental code should be written to achieve all of these purposes, while also acknowledging the rights of property owners; however, as the General Goal of Horizon 2020 states, "the public welfare must prevail." The public has a right to protect itself from the loss of the irreplaceable and essential natural functions of sensitive lands. The following are some of our reasons for asking that you rewrite this proposed text amendment.

1. The purpose of the code has to be appropriate. The stated purpose here is much too limited.

The functions and reasons for preserving sensitive lands goes far beyond that of the statement, "to preserve environmentally sensitive areas as open space amenities" under **Section 1109(a) Purpose** and these functions and reasons must be written into the code. To give an example of what we recommend is a description of some of the crucial functions of woodlands, both young and mature: Woodlands absorb atmospheric CO₂, replenish atmospheric oxygen and absorb air pollution, maintain the hydrological cycle by adding moisture to the atmosphere and inducing rain, protect watersheds by preventing erosion, help soil to absorb rainwater and replenish ground water, reduce runoff, and protect groundwater from pollution, cool the atmosphere and reduce energy use, and provide habitat for wildlife. These, and more, are critical functions that go well beyond simply providing open space as amenities and buffers. The same type of functional description as illustrated for woodlands should be applied to all of the types of sensitive lands and included in this section of the Land Development Code (LDC).

2. The purpose has to be achievable by the other provisions of the code or text amendment.

(a) The types of sensitive land should be defined in a way that reflects the actual land forms and vegetation of sensitive lands in Douglas County and Lawrence. The attached material illustrates examples.

(b) The protection standards should be written to preserve the function of each type of sensitive land, and one of these standards is to define an appropriate amount of minimum area for each type to be included and protected. The text amendment defines a general minimum amount of protected land to be 18% for each tract. Compared to other communities having sensitive land protection standards this is grossly deficient. It also eliminates the environmental benefits.

(c) The enforcement and penalties should be expensive enough and/or severe enough to make it worthwhile to conform to the regulations. Where mitigation is allowed, this should reflect or exceed the actual loss of the sensitive land that has been altered or removed. The proposed language is unclear.

3. The available information and process has to allow the developer protection from investing in the planning of a development that would not be practically achievable, either economically or physically.

(a) The code should be fair to property owners and developers by allowing them to know from the very beginning of the development process what the limitations on the land are going to be and what will be the requirements in the process. Therefore, the Sensitive Lands Site Plan should be presented to the City Planning Department by the developer before any other investment or plan has been made by the property owner or developer.

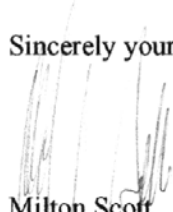
(b) The actual physical information needed for a Sensitive Lands Site Plan in graphic and technical description for any specific site should be available to the developer through the City Planning Department. As one example, the information on width of stream corridors to be preserved should be known initially and not determined after a developer presents a development plan.

A developer should design his development around protecting the sensitive land features rather than adapting the sensitive land to his development. If his expectations are too high, he should not be encouraged to proceed.

We again ask that you not accept this text amendment TA-12-27-07 as it is currently written, and correct its deficiencies before including it in the Land Development Code.

Thank you.

Sincerely yours,



Milton Scott,
Board Representative



Alan Black, Chairman
Land Use Committee

ATTACHMENTS

OUTLINE OF COMMENTS AND EXCERPTS FROM THE SENSITIVE LANDS DRAFT TEXT
AMENDMENT, SECTION 20-1109
May 19, 2008

[Please note that this outline is not yet complete. The excerpts and comments have been included in order as they appear in the text amendment and identified as they relate to our letter.]

1. The purpose of the code has to be appropriate.

"...in order to use land efficiently and to preserve environmentally sensitive areas as open space amenities."

COMMENT: The term "amenities" applies to human pleasure rather than to ecological or environmental necessity. See comment at bottom of page regarding woodlands:

The environmental value of woodlands, as a sensitive area needs to be expanded to include acknowledgment of essential environmental functions, such as being a CO2 sink, absorbing air pollution and replenishing atmospheric oxygen, maintaining the hydrological cycle (adding moisture to the atmosphere and inducing rain), protecting watersheds (preventing erosion, helping soil absorb rainwater and replenish ground water, reducing runoff, protecting groundwater from pollution), cooling the atmosphere and reducing energy use, providing habitat for other plants and animals. These, and more, are critical functions well beyond simply providing open space amenities and buffers.

2. The purpose has to be achievable by the other provisions of the code or text amendment.

"(c) Modifications to the Sensitive Area Design Standards and Guidelines"

[permitted are] "...a reduction in the area required to be preserved, or a change in the hierarchy ranking of protected features, if all the following criteria are met:

COMMENT: The standards already are so minimal that they should not be allowed to be modified (meaning reduced). The circumstances need to be explained more clearly in terms of standards. Sensitive areas have essential environmental functions and not preserving them may have very adverse effects on the community. Simply reducing the size could cause hazards. Some of these sensitive features should not be destroyed or built on at all. Most of the codes we have reviewed have given a list of features that must be preserved intact, and their standards for protection go well beyond what is listed here.

"(d) Applicability of Environmental Design Standards"

"Environmentally Sensitive Features include the following:

(1) Regulatory Floodplain:

(i) Regulatory Floodway, designated on the FEMA Flood Insurance Rate Map for Douglas County.

(ii) Regulatory Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County."

COMMENT: The city and county need the option to add floodplain designations to areas that obviously extend beyond the minimal delineations of the FEMA limits and potentially would cause significant hazard, and property damage if altered or encroached upon. This should also include important drainageways (streams) that aren't on the USGS maps (see next page). Please add before "Douglas County" the words "Lawrence and" and add before "Regulatory Floodway the words "100-year flood or..."

"(4) Woodland Areas: Any tract of land with a contiguous wooded area not less than two (2) acres, as measured by the tree canopy, and containing not less than one hundred (100) trees per acre that are two inches (2") in diameter or greater 36" above the ground.."

COMMENT: The density description of number of trees per acre must be modified because it would not apply to most woodlands in Douglas County and would completely exclude woodlands containing larger sizes of trees. As trees increase in size certain woodlands thin as normal selection excludes certain types of growth.

"(5) Individually Significant Trees: an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees."

COMMENT: Protecting individually significant trees should be given wider range in size. The significance should depend partly on the tree species.

"(7) Archaeological and Historic Sites listed on local, state, or federal registers."

COMMENT: This has been changed to exclude historic sites not registered. This should be changed back to also include other archeological and historic sites because many eligible for registration would otherwise be lost.

"(e) Determination of Development Land Area

In determining whether a proposed development contains sensitive lands, all contiguous lands under the same ownership or control shall be considered. Lands owned or controlled by a partnership, trust or corporation shall be considered along with lands owned directly by the applicant and lands under option to the applicant or a partnership, trust or corporation under the effective control of the applicant."

COMMENT: There should be some provision for protecting environmental features that extend over many ownerships. For example, if a woodland is owned by three people having one acre each, but together the tracts would qualify for woodland, would they all be able to obliterate the woods? A developer could bulldoze the tract and then consolidate the land as one ownership entity. This is partly accommodated in Section (k)(2) paragraph 2.

3. The available information and process has to allow the developer protection from investing in the planning of a development that would not be practically achievable, either economically or physically.

"(h) Sensitive Areas Site Plan

"Development on lands with environmentally sensitive areas as set forth in Section **XX(4)** shall require submission of a Sensitive Areas Site Plan. A Sensitive Areas Site Plan must be submitted to, and approved by the Planning Commission prior to woodland clearing, grading or any development activity on lands that contain environmentally sensitive features specified in **Section XX(4)**. The Sensitive Areas Site Plan can be submitted concurrent with the submittal of any other site plan or development plan. The Sensitive Areas Site Plan will be incorporated with other development or site plans for the property..."

COMMENT: PLEASE ADD: "the Planning Director prior to any development application including a concept plan, rezoning application, preliminary plat, or development plan... Cross out: ~~"The Sensitive Areas Site Plan can be submitted concurrent with the submittal of any other site plan or development plan. The Sensitive Areas Site Plan will be incorporated with other development or site plans for the property."~~ Please change the sentence to read: "The Sensitive Areas Site Plan will be incorporated with other approved development or site plans for the property."

EXPLANATION: The most critical issue in the procedure is the stage at which the Sensitive Areas Site Plan is submitted. It must be submitted prior to any investment in time or money by the developer so that the developer can plan his development in a way that allows protection of the sensitive lands; i.e., the available information and process must allow the developer to plan his development to protect the sensitive features rather than having to change the land to conform to his development.

2. The purpose has to be achievable by the other provisions of the code or text amendment.

(i) Development Activity Which Occurs Without Approval of a Sensitive Areas Site Plan

"If clearing, grading or other development activity occurs without approval of a Sensitive Areas Site Plan, the sensitive areas and features will be determined for the property using the best available data (aerials, surveys, etc.) and the property shall be made whole to the extent required in Section X(10) under the following guidelines prior to building permits being granted:"

"(1) Removal of trees from woodland areas: If woodland areas are altered by human activity such as clearcutting or removal of trees to the degree that the property no longer meets the definition of 'woodland', the property owner shall protect the area that would have been required to be protected and replace the trees at a ratio of 1 tree per every 200 sq. ft. of prior woodland area to the extent required in Section X(10). (This requirement is in addition to any street tree, buffering, or other landscaping that is required by the Development Code.)

COMMENT: Because the parameters of the definition of "woodlands" are so limited and do not apply to most of the woodlands in Douglas County, this restriction on tree removal is inapplicable. In addition, because the woodlands are only "protected" and not in the "preserved" category, if they qualify at all and they are eliminated completely, they would have to be replaced on only 20% of a tract over two acres. Any wooded tract, assuming its density is 100 trees per acre, but under two acres would not come under the Sensitive Lands section.

"(j) Sensitive Areas Site Plan Procedure

A Sensitive Areas Site Plan shall be submitted and approved prior to any development activity, including vegetation removal or grading. The Sensitive Areas Site Plan may be submitted prior to, or concurrent with, another development application, i.e. plat, site plan, rezoning, etc. The Sensitive Areas Site Plan shall delineate and note all sensitive areas and designate protected sensitive areas and associated buffers."

COMMENT: A development should be designed around protecting the sensitive areas rather than the reverse. The developer needs to know what areas he can develop before he designs his development. Therefore, the Sensitive Areas Site Plan should be submitted before any of the other requirements for an application are submitted including a concept plan. The second sentence should read, "The Sensitive Areas Site Plan ~~may~~ **shall** be submitted prior to, or concurrent with, another **any other** development application, i.e. plat, site plan, rezoning, etc.

"C. Streams and stream corridors. Streams that are shown in solid or dashed blue lines on the USGS Quad Map shall be included with corridors as established by the City Stormwater Engineer. *2"

COMMENT: There are substantial intermittent streams that are not identified on the USGS Quad map. These drainageways should also be preserved. They are major in terms of stormwater accommodation, should remain open, and their corridors should also be protected. An example are the streams that flow through the new wilderness park in Section 21 not shown on the USGA map.

Some communities measure stream corridors much wider than here in order not to constrain the natural meandering that occurs and protect the banks from eroding. In some communities the corridor with its buffer is defined as 100 feet from the bank on both sides and trees and natural vegetation cannot be removed except when it blocks the channel.

"(J) The amount of stream corridor required may be reduced by the City Stormwater Engineer if requiring the full stream corridor buffer would preclude reasonable use of the property, and enhanced vegetative cover will be provided in any remaining buffer area to the extent possible. A waiver request must be provided in writing to the City Stormwater Engineer which explains how the provision of the full required stream corridor precludes reasonable use of the property."

COMMENT: This is the reverse of what it should be. The emphasis should be on protection of the stream and justification that it will be properly stabilized. The stream should take precedence over development. This is contrary to the Comprehensive Plan. (This is why a developer should be made aware of the constraints of the land on his potential development before he invests in planning to develop it.)

"d) Woodland Areas. Any property containing a woodland area must submit a Sensitive Areas Site Plan prior to woodland clearing or any development activity. The following requirements apply to development on properties with woodland areas: The woodland area required to be retained shall be delineated to include a buffer area by measuring fifty feet (50') outward from the trunks of trees intended to be preserved."

COMMENT: Please note again that the way this code reads is that any woods less than two acres can be bulldozed. Given woods more than two acres, thus qualified for protection, any portion of that which is more than 18% of the development tract could also be bulldozed, actually leaving substantially less than the original two acres to be "preserved."

"To the extent possible, woodlands located on steep slopes and/or within 100 year floodplains should be given the highest retention priority."

COMMENT: This should read: ~~"To the extent possible, W~~woodlands located on steep slopes and/or within 100 year floodplains ~~should~~ **shall** be given the highest retention priority **preserved**.

"h) Steep slopes, slopes with grades of 15% or higher. Any property with slopes greater than 15% grade shall be required to submit a Sensitive Areas Site Plan..."

"Any property with slopes of 40% grade or more shall be required to submit a Sensitive Areas Site Plan. Slopes greater than 40% grade shall not be graded and must remain in the existing state, except that natural vegetation may be supplemented by other plant material. A buffer will be required around any slopes of 40% grade or more. Two feet (2') of buffer will be provided for each foot of vertical rise of the slope up to a maximum buffer of fifty feet (50'). No development activity, including removal of trees and other vegetation, shall be allowed within the buffer."

COMMENT: This standard is really too narrow. Some communities start protection from grading and the prohibition of defoliation at far lesser slopes.

"(k) Ranking and Required Protection of Environmentally Sensitive Features

Protection of certain environmentally sensitive features is more critical than others. The following priority scheme will assist in the determination of environmentally sensitive areas in which protection is 'critical', those in which protection is important and should be achieved to the greatest extent possible and those for which protection is desirable.

"All protected areas together shall not be required to exceed 20% of gross land area unless critical sensitive areas exist. Critical sensitive areas must be protected in their entirety. 10% of the protected area shall serve, and may be improved, as an open space amenity to the development as passive or active recreation."

COMMENT: This implies that only the critical areas will be protected if they exist in combination with protected areas. At the very least, it should be stated that at least 20% of protected areas shall be preserved over and above that preserved as critical areas. We believe these standards are far less than needed.

"When determining which features should be protected, protection will be required in the following ranking order:

COMMENT: Many sensitive lands are classified as such because they either are intrinsically valuable as historically natural areas such as Balwin Woods, have important environmental functions, or pose hazards as building sites such as floodplains and steep slopes. It doesn't make sense to designate a proportion of a sensitive land as buildable if it is equally sensitive when compared to what is required to be saved.

Some codes do not allow floodplains or hazardous areas to be disturbed and require 50% to 80% of the other sensitive environmental features to be left intact.

Please recognize that the critical areas listed as required to be 100% protected, by existing law must be protected, regardless.

PLEASE NOTE: This outline does not include a complete list of annotations. We will be submitting more information before Wednesday.

Woodland and its protective vegetation (on slopes and adjacent to streams as well as in general) has many more functions than mentioned here, such as erosion control, reduction of runoff, and recharging groundwater. See below.

The proposed text amendment is also consistent with the purpose of the Development Code which is listed in Section 20-104 as implementing the Comprehensive Plan in a manner which protects, enhances and promotes the health, safety, and general welfare of the citizens of Lawrence. The protection of environmentally sensitive areas will enhance and promote the health, safety, and general welfare of the citizens of Lawrence. Protection of environmentally sensitive areas serves to reduce hazards by limiting development in the regulatory floodplain, within stream corridors or on steep slopes; and enhances the general welfare by maintaining wooded areas which serve to moderate the micro-climate, provide windbreaks, and provide connected greenways for wildlife habitat and possible future pedestrian/bike pathways through the City.

The text amendment proposes deleting Section 20-1101(d) from the Development Code and replacing it with the language below as Section 20-1109:

Section 20-1109 Protection Standards for Environmentally Sensitive Areas

(a) Purpose

The Environmentally Sensitive Area Standards are intended to protect and, where possible, enhance the natural environment of the City of Lawrence while recognizing the need for urban development.

These standards are intended to provide flexibility in the design of developments on lands with environmentally sensitive areas in order to use land efficiently and to preserve environmentally sensitive areas as open space amenities. These standards are intended to allow modifications of the requirements of the base zoning district and subdivision regulations. During the review process, the specific circumstances surrounding each application, such as the types and amounts of sensitive features that are present; special constraints to the development such as being in an infill location; and the need for the extension of public utilities or infrastructure will be considered. The Environmentally Sensitive Area standards will be applied in an effort to achieve development solutions that best promote the spirit, intent and purpose of protecting environmentally sensitive lands.

The term "amenities" applies to human pleasure rather than to ecological or environmental necessity. See comment at bottom of page regarding woodlands.

(b) Objectives

The objectives of these standards are:

- (1) To identify and prioritize environmentally sensitive areas during the initial stages of the development review process.
- (2) To establish levels of protection for environmentally sensitive features which vary with the priority ranking of each feature or combination of features.
- (3) To aid developers in the creation of plans so that negative impacts to the environmentally sensitive areas are avoided or minimized to the greatest extent possible.
- (4) To coordinate sensitive areas protection with other City environmental programs such as the Floodplain Management Regulations, and the City Stormwater Ordinance.
- (5) To encourage the use of innovative and flexible development techniques and to provide flexibility in the planning process when needed to balance environmental and economic goals.

The environmental value of woodlands, as a sensitive area needs to be expanded to include acknowledgment of essential environmental functions, such as being a CO2 sink, absorbing air pollution and replenishing atmospheric oxygen; maintaining the hydrologic cycle (adding moisture to the atmosphere and inducing rain); protecting watersheds (preventing erosion, helping soil absorb rainwater and replenish ground water, reducing runoff, protecting groundwater from pollution); cooling the atmosphere and reducing energy use; providing habitat for other plants and animals. These, and more, are critical functions well beyond simply providing open space amenities and buffers.

have essential environmental functions and not preserving them may have very adverse effects on the community. Simply reducing the size could cause hazards. Some of these sensitive features should not be destroyed or built on at all. Most of the codes we have reviewed have given a list of features that must be preserved intact, and their standards for protection go well beyond what is listed here.

- (6) To establish levels of protection for existing sensitive lands and institute requirements for the reparation of lands found to be prematurely destroyed or altered.

(c) Modifications to the Sensitive Area Design Standards and Guidelines

The development standards and guidelines contained in this section are to be used as minimum requirements for evaluating development plans on lands containing environmentally sensitive areas. However, the standards and guidelines are not intended to restrict creativity or prohibit reasonable economic returns on developing property. An applicant may request modifications of the sensitive areas design standards and guidelines, such as, but not limited to, a reduction in the area required to be preserved, or a change in the hierarchy ranking of protected features, if all the following criteria are met:

- (1) The modification will be in harmony with the purpose and intent of this section.
- (2) The modification will generally enhance the sensitive areas site or development plan and will not have an adverse impact on its physical, visual or spatial characteristics.
- (3) The modification shall not result in a configuration of lots or a street system which is impractical.
- (4) The modification shall not threaten or diminish the public's health, safety or welfare.
- (5) The modification shall not include or alter environmentally sensitive features for which protection is required, such as 'floodway' or 'jurisdictional wetlands'.

Modification requests will be reviewed by Planning Staff and presented to the Planning Commission. The Planning Commission shall make the determination on the modification request. Appeals of the Planning Commission's decision shall be made to the City Commission.

The standards already are so minimal that they should not be allowed to be modified (meaning reduced).

(d) Applicability of Environmental Design Standards

The provisions of this Article regarding environmental protection for sensitive lands shall apply to all construction and development activity in all zoning districts except as expressly exempted in this section.

If a proposed development, as specified in this section, contains any of the environmentally sensitive features described below the environmentally sensitive design standards and guidelines shall apply. Where disagreements occur regarding the presence or amount of environmentally sensitive features contained on a property, the Planning Commission shall determine compliance with this Article based upon the submitted evidence of staff and/or the applicant.

Environmentally Sensitive Features include the following:

- (1) Regulatory Floodplain:
 - (i) Regulatory Floodway, designated on the FEMA Flood Insurance Rate Map for Douglas County.
 - (ii) Regulatory Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County.
- (2) Jurisdictional wetlands as determined and regulated by the U.S. Army Corps of Engineers.

The city and county need the option to add floodplain designations to areas that obviously extend beyond the minimal delineations of the FEMA limits and potentially would cause significant hazard, and property damage if altered or encroached upon. This should also include important drainageways (streams) that aren't on the USGS maps (see next page). Please add "100-year flood or..."

The density description must be modified because it would not apply to most woodlands in Douglas County and would completely exclude more mature forests.

Protecting individually significant trees should be given wider range in size. The significance should depend partly on the tree species.

- (3) Streams, shown on the United States Geological Survey Quadrangle (USGS Quad) Maps, and their corridors*² as defined by the City Stormwater Engineer.
- (4) **Woodland Areas:** Any tract of land with a contiguous wooded area not less than two (2) acres, as measured by the tree canopy, and containing not less than one hundred (100) trees per acre that are two inches (2") in diameter or greater 36" above the ground. Codes we have found for Midwest areas start with less acreage: from 1/2 acre minimally.
- (5) **Individually Significant Trees:** an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) or any of the following native species: walnut, red maple, shagbark hickory, black cherry, black locust, American elm, Chinese elm, hackberry, osage orange, white/red mulberry, chinkapin oak, bur oak, white oak, black oak, honeylocust, cottonwood, sycamore, red cedar, black gum, or yellow poplar.

- (6) **Prominent Geographic Features with Rocky Outcroppings:** A rocky protrusion of 50% or more exposed rock having greater than a 3:1 slope, a minimum height of 20' above the surrounding grade and covering an area of 1 or more acres.

- (7) **Archaeological and Historic Sites listed on local, state, or federal registers.**
- (8) *Prairie remnant of one (1) acre or larger: Prairie areas that have remained relatively untouched on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger. Prairie areas will be determined by the Kansas Biological Survey Prairie areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies) *¹*

- (9) Slopes:
- (i) Steep Slopes: A slope of fifteen percent (15%) but less than twenty five percent (25%).
- (ii) Critical Slopes: A slope of twenty five percent (25%) but less than forty percent (40%)
- (iii) Protected slopes: Any slope of forty percent (40%) or steeper.

(e) Determination of Development Land Area

In determining whether a proposed development contains sensitive lands, all contiguous lands under the same ownership or control shall be considered. Lands owned or controlled by a partnership, trust or corporation shall be considered along with lands owned directly by the applicant and lands under option to the applicant or a partnership, trust or corporation under the effective control of the applicant.

(f) Exemptions.

The following activities are exempt from the requirements of this section:

- (1) Extension of public utilities and infrastructure: A written request for exemption must be submitted to the Planning Director. Development activity may occur only after the Planning Director has determined that the amount of damage to the sensitive features is minimized either through construction methods or location and has provided written approval of the exemption request.
- (2) Existing Single-Dwelling and Duplex Residences: Normal maintenance/expansion of single-family or duplex residences, including exterior remodeling,

This has been changed to exclude historic sites not registered. This should be changed back to also include other archeological and historic sites because many eligible for registration would otherwise be lost.

There should be some provision for protecting environmental features that extend over many ownerships. For example, if a woodland is owned by three people having one acre each, but together the tracts would qualify for woodland, would they all be able to obliterate the woods? A developer could bulldoze the tract and then consolidate the land as one ownership entity. This is partly accommodated in Section (k)(2) paragraph 2.

reconstruction, construction, or replacement of single-family or duplex residences and accessory structures.

- (3) Existing Subdivisions for Single-Dwelling and Duplex Residences: Construction of new single-family or duplex residences in platted subdivisions that are in existence, or for which applications for plats have been submitted, prior to the effective **DATE OF THIS TEXT AMENDMENT**.

- (g) Woodland Management Activities. Practices associated with 'timber management standards' as defined by the International Society of Arboriculture, or its successor, or existing tree farming operations, such as Christmas tree farming, fruit, or nut production and tree nurseries, during such time as the land is used for tree farming operations are exempt.

PLEASE ADD:

"the Planning Director prior to any development application including a concept plan, rezoning application, preliminary plat or development plan..."

(h) Sensitive Areas Site Plan

Development on lands with environmentally sensitive areas as set forth in Section ~~XX~~(4) shall require submission of a Sensitive Areas Site Plan.

A Sensitive Areas Site Plan must be submitted to and approved by the Planning Commission prior to woodland clearing, grading or any development activity on lands that contain environmentally sensitive features specified in **Section XX(4)**. ~~The Sensitive Areas Site Plan can be submitted concurrent with the submittal of any other site plan or development plan.~~ ^{approved} The Sensitive Areas Site Plan will be incorporated with other development or site plans for the property.

(i) Development Activity Which Occurs Without Approval of a Sensitive Areas Site Plan

If clearing, grading or other development activity occurs without approval of a Sensitive Areas Site Plan, the sensitive areas and features will be determined for the property using the best available data (aerials, surveys, etc.) and the property shall be made whole to the extent required in Section X(10) under the following guidelines prior to building permits being granted:

- (1) Removal of trees from woodland areas: If woodland areas are altered by human activity such as clearcutting or removal of trees to the degree that the property no longer meets the definition of 'woodland', the property owner shall protect the area that would have been required to be protected and replace the trees at a ratio of 1 tree per every 200 sq. ft. of prior woodland area to the extent required in Section X(10). (This requirement is in addition to any street tree, buffering, or other landscaping that is required by the Development Code.)
- (2) Damage to Stream Corridor: If the stream or the stream corridor, as required by the City Stormwater Engineer*², is altered by human activity, such as the removal of trees or vegetation or in anyway altering the channel, the property owner shall reestablish the channel and replace the trees at a ratio of 1 tree per every 200 sq. ft. of area of stream corridor as determined by the City Stormwater Engineer and shall reestablish ground cover per the approval of the City Stormwater Engineer.
- (3) Destruction of remnant prairie. If an area that has been determined by the KS Biological Survey as having remnant prairies is plowed or otherwise destroyed, the

If only 20% of an area is required to be preserved, does this mean that the remainder can be destroyed in all cases of sensitive lands except those listed as critical?

Depending on the size of the tract, the way this could be interpreted is that the entire amount of the two-acre woods could be eliminated except for a tiny stand of trees.

Streams are where the young growth is useful because of their erosion control. The trees should be close together here.

area of the former remnant prairie, as defined by the KS Biological Survey must be preserved as open space and replanted with prairie vegetation to the extent required in Section X(10) . *¹

(j) Sensitive Areas Site Plan Procedure

A Sensitive Areas Site Plan shall be submitted and approved prior to any development activity, including vegetation removal or grading. The Sensitive Areas Site Plan ~~may be submitted prior to, or concurrent with,~~ another development application, i.e. plat, site plan, rezoning, etc. The Sensitive Areas Site Plan shall delineate and note all sensitive areas and designate protected sensitive areas and associated buffers.

shall

A Sensitive Areas Site Plan shall be reviewed by the Planning Director in accordance with the Site Plan review procedure listed in Section 20-1305.

A Sensitive Areas Site Plan is normally submitted in preparation for another development proposal, such as a plat, development plan or site plan. There is no review fee for a Sensitive Areas Site Plan.

(1) Site Plan Contents:

(i) The site plan should be arranged so the top of the plan represents north or, if otherwise oriented, is clearly and distinctly marked.

(ii) The site plan should clearly delineate the property boundaries and all of the sensitive areas located on the property and shall designate protection zones for sensitive areas as prescribed below.

a. Regulatory Floodplain, including Floodway and Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County.

b. Wetlands. The site plan shall show the delineation of a jurisdictional wetland area that is accepted by the US Army Corps of Engineers prior to submittal of the Sensitive Areas Site Plan; and the site plan shall show any area that is included on the U.S. Fish and Wildlife Service Wetland Mapper as a suspected or potential wetland area, along with a 100' buffer area unless a certified wetland specialist, the Kansas Biological Survey, or the Army Corps of Engineers, determine that the area is not a wetland.

c. Streams and stream corridors. Streams that are shown in solid or dashed blue lines on the USGS Quad Map shall be included with corridors as established by the City Stormwater Engineer.*² When other sensitive features are located within a stream corridor, the most stringent required protective buffer shall apply. Unless exempt under the provisions of this Section, the following buffer requirements shall be maintained:

The City Stormwater Engineer will rank the streams and will provide the required width of each stream corridor based on the size of the stream, and frequency and amount of seasonal flow. *²

A development should be designed around protecting the sensitive areas rather than the reverse. The developer needs to know what areas he can develop before he designs his development. Therefore, the Sensitive Areas Site Plan should be submitted before any of the other requirements for an application are submitted.

There are substantial intermittent streams that are not identified on the USGS Quad map. These drainageways should also be preserved. They are major in terms of stormwater accommodation, should remain open, and their corridors should also be protected. An example are the streams that flow through the new wilderness park in Section 21 not shown on the USGA map.

This is the reverse of what it should be. The emphasis should be on protection of the stream and justification that it will be properly stabilized. The stream should take precedence over development. This is contrary to the Comprehensive Plan.

The amount of stream corridor required may be reduced by the City Stormwater Engineer if requiring the full stream corridor buffer would preclude reasonable use of the property, and enhanced vegetative cover will be provided in any remaining buffer area to the extent possible. A waiver request must be provided in writing to the City Stormwater Engineer which explains how the provision of the full required stream corridor precludes reasonable use of the property.

Please note again that the way this code reads is that any woods less than two acres can be bulldozed. Given woods more than two acres, thus qualified for protection, any portion of that which is more than 18% of the development tract could also be bulldozed, actually leaving less than the original two acres to be "preserved."

- d) Woodland Areas. Any property containing a woodland area must submit a Sensitive Areas Site Plan prior to woodland clearing or any development activity. The following requirements apply to development on properties with woodland areas:

The woodland area required to be retained shall be delineated to include a buffer area by measuring fifty feet (50') outward from the trunks of trees intended to be preserved.

What is meant here by "site constraints?" Terrain? Or development constraints? Please specify.

If the Planning Commission determines that the required woodland area cannot be retained due to site constraints or infrastructure requirements, replacement trees will be required. One tree shall be planted for every two hundred (200) square feet of woodland removed from the otherwise required retention area and shall be of the same or equivalent species as those being removed.

The replacement of trees may be waived if it is determined by the Parks and Recreation Director that site constraints prohibit the replacement of trees on site.

These should be preserved completely.

~~To the extent possible,~~ ^W woodlands located on steep slopes and/or within 100 year floodplains ^{shall} be ~~given the highest retention priority.~~ ^{retained.}

- e) Individually significant trees. The species and size of the tree(s) shall be noted on the plan.
- f) Archaeological and Historic Sites.
- g) *Prairie remnants one acre in area or larger*
If development is proposed on a property which is shown on the Douglas County Natural Areas Inventory Map as containing remnant prairies these areas must be delineated and noted on the Sensitive Areas Site Plan, if confirmed by the Kansas Biological Survey.

All of the "shoulds" must be replaced with "shall."

*Prairie remnants associated with other sensitive features should be treated as environmental assets, and should be considered no-build areas to the extent possible, and used for buffers, filter strips along waterways and/or neighborhood open space. **¹

- h) Steep slopes, slopes with grades of 15% or higher
Any property with slopes greater than 15% grade shall be required to submit a Sensitive Areas Site Plan.

Any property with slopes between 25% and 40% grade shall be required to submit a Sensitive Areas Site Plan and a grading plan. Disturbance of slopes with 25% to 40% grades requires approval of the City Stormwater Engineer.

This standard is really too high. Some communities start protection from grading and defoliation at far lesser slopes.

What do you mean by "supplemented?"

Any property with slopes of 40% grade or more shall be required to submit a Sensitive Areas Site Plan. Slopes greater than 40% grade shall not be graded and must remain in the existing state, except that natural vegetation may be supplemented by other plant material. A buffer will be required around any slopes of 40% grade or more. Two feet (2') of buffer will be provided for each foot of vertical rise of the slope up to a maximum buffer of fifty feet (50'). No development activity, including removal of trees and other vegetation, shall be allowed within the buffer.

Does the buffer also include the slope? What this is saying is that the vegetation on the slope can be "supplemented" but the buffer shall be preserved. You don't mean that, do you?

- i) A site summary table must be provided which includes the total site area, the area of each environmentally sensitive area delineated on the site plan, and the percentage of the total site which is included in each area. Areas with overlapping environmentally sensitive features must be listed along with the percentage of the total.

Many sensitive lands are classified as such because they either are intrinsically valuable as historically natural areas such as Balwin Woods, have important environmental functions, or pose hazards as building sites such as floodplains and steep slopes. It doesn't make sense to designate a proportion of a sensitive land as buildable if it is equally sensitive when compared to what is required to be saved.

Some codes do not allow floodplains or hazardous areas to be disturbed and require 50% to 80% of the other sensitive environmental features to be left intact.

(k) Ranking and Required Protection of Environmentally Sensitive Features

Protection of certain environmentally sensitive features is more critical than others. The following priority scheme will assist in the determination of environmentally sensitive areas in which protection is 'critical', those in which protection is important and should be achieved to the greatest extent possible and those for which protection is desirable.

All protected areas together shall not be required to exceed 20% of gross land area unless critical sensitive areas exist. Critical sensitive areas must be protected in their entirety. 10% of the protected area shall serve, and may be improved, as an open space amenity to the development as passive or active recreation.

When determining which features should be protected, protection will be required in the following ranking order:

- (1) Critical Sensitive Areas. Areas containing the following critical sensitive features: floodway, stream corridors, jurisdictional wetlands, slopes with greater than 40% grade, or archaeological and historic sites. Protection of 100% of these sensitive features is required.
- (2) Protected Sensitive Areas. Slopes between 25% and 40% grade, floodplain and areas with two or more environmentally sensitive features, other than those listed as 'critical sensitive features', occurring together. Environmentally Sensitive Features or Areas that occur together are of higher priority than any one feature occurring singularly. The priority increases with the number of

This implies that only the critical areas will be protected if they exist in combination with protected areas. It should be stated that at least 20% of protected areas shall be preserved over and above that preserved as critical areas. We believe these standards are far less than needed.

We're back to where we started. The "maximum extent noted above" is 18% protection of a total tract of non-critical areas. That is, 20% saved, with 10% of that allowable to be modified for recreation.

After all this, a developer, when starting with a completely wooded area or wide floodplain or other only protected feature(s) encompassing his entire tract doesn't have to save more than 18% of these environmentally sensitive features. Apparently some can be obliterated if they occur outside of where others with higher ranking occur, or is that the case? The smaller his tract, the less is saved of a non-critical sensitive area.

This contradicts the above statement under K paragraph 2, because the minimum is also the maximum required. Question again: would the protected amount be over and above the critical amount required to be saved, or would it be absorbed in the amount of critical land required to be preserved, thereby leaving only the critical areas to be saved?

Using building envelopes hasn't been mentioned elsewhere.

environmentally sensitive features occurring together. Protection of areas containing these features is required to the maximum extent noted above.

Desirable Sensitive Areas. Areas with environmentally sensitive features, other than those listed as critical or protected sensitive areas, occurring singularly. In addition, woodland areas that are part of a larger continuous wooded area that may extend off site are of higher priority than woodland areas that are isolated. Protection of areas containing these features is required to the maximum amount noted above.

This highlights the problem of multiple ownerships of only "protected" features. Calculating how much to save on individual tracts can't be done with these standards.

Environmentally Sensitive Features shown on the site plan are prioritized for protection by the ranking scheme above in combination with an evaluation of the development proposal, the surrounding area (to determine connectivity) and the mix of sensitive features present on the site.

DEVELOPMENT OPTIONS

The following development options are available for properties containing environmentally sensitive lands:

- (1) May develop as a Planned Development, per standards in Section 20-701, to protect the greatest amount of environmentally sensitive features possible while accommodating development. The minimum amount of natural open space to be preserved will be determined after a review of the Sensitive Areas Site Plan. Planned Developments provide the following additional flexibility: reduced lot sizes, increase in maximum net residential density by up to 25%, reduction in minimum setback standards of the base district with some restrictions, increase in the height of the buildings, and reduction in the number of off-street parking spaces required.
- (2) May develop as a Cluster Development per standards listed in Section 20-702. If environmentally sensitive features are present, a Cluster Development may exceed the 35 lots permitted in Section 20-702(c)(1). Cluster Development allows the property to develop at the same maximum density as the base zoning district permits, but with no minimum lot area or lot width requirements. Special setbacks for the perimeter apply and 10' separation is required between all detached dwellings.
- (3) May develop with a site plan, or single-dwelling or duplex residential development may occur through a traditional subdivision, when a review of the Sensitive Areas Site Plan indicates that it is possible to develop the property according to the regulations of the base zoning district while protecting the sensitive areas through easements, building envelopes, common-ownership tracts, or other means. The development proposal shall be reviewed with the approved Sensitive Areas Site Plan to insure that the proposed development will preserve the amount of sensitive area necessary. The Sensitive Areas Site Plan shall be incorporated with any submitted development proposal, i.e. plat, site plan, development plan, etc. The protected sensitive areas and building envelopes must be shown on the preliminary and final plat to insure that buildings and construction activity do not encroach into the sensitive areas. A note must be included on the plat or site plan noting the party responsible for

the maintenance of the protected environmentally sensitive areas and stating that all development activity, including grading and construction, is prohibited within the protected sensitive areas.

(m) Sensitive Areas Development Design Guidelines:

- (1) Street rights-of-way, public utility corridors and building sites should be located so as to minimize their impact on environmentally sensitive areas.
- (2) Where possible, environmentally sensitive areas to be protected should be located within designated public or private open space, either through dedication, a conservation easement, or control by a homeowner's association.
- (3) If a review of the Sensitive Areas Site Plan and proposed development indicates that it is not possible or reasonable to protect the required amount of sensitive features, mitigation may be possible. A mitigation plan shall be submitted to the Planning Commission for review. Any appeals from the Planning Commission's determination on the mitigation plan would be heard by the City Commission.

Notes. The text amendment is a draft document. Changes may be required as a result of the input received at the Planning Commission meeting. Changes to definitions of the following environmentally sensitive features are anticipated by Staff as more information is obtained:

**¹ --Prairie Remnants will be included in this text amendment if a map is available which shows where prairie remnants are located or if criteria is established which will allow for the identification of prairie remnants by Planning Staff and property owners.. It is Planning Staff's intent that the criteria for determining if environmentally sensitive features are present should be objective and easy for Staff, developers and property owners to apply.*

**² --Stream Corridor widths vary based on the size of the stream and the amount of seasonal flow. Staff is working with the City Stormwater Engineer to establish corridor widths for different types of streams rather than requiring a 100' wide corridor for all streams.*

Some communities measure stream corridors much wider than here in order not to constrain the natural meandering that occurs and protect the banks from eroding. In some communities the corridor with its buffer is defined as 100 feet from the bank on both sides and trees and natural vegetation cannot be removed except when it blocks the channel.

The following are definitions to be added to general glossary

Clearcutting. The removal of most or all trees on a site, or the removal of more than one-half (0.5) acre of trees in an area determined to be sensitive by this section, during a single timber harvesting operation or within a three (3) year period.

Environmentally Sensitive Areas – Areas containing natural features and/or natural resources which include regulatory floodplain, jurisdictional wetlands, streams and their corridors, woodland areas, individually significant trees, prominent geographic features with rocky outcroppings, archaeological and historic sites, prairie remnants and steep slopes.

Individually Significant Tree – A significant tree is an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) or any of the following native species: Walnut, Red Maple, Shagbark Hickory, Black Cherry, Black Locust, American Elm, Chinese Elm, Hackberry, Osage Orange, White/Red Mulberry, Chinkapin Oak, Bur Oak, White Oak, Black Oak, Honey Locust, Cottonwood, Sycamore, Red Cedar, Black Gum, or Yellow Poplar.

Open Space – An area of land or water, either landscaped or essentially unimproved, which is used to meet human recreational or spatial needs, or for resource protection. Open space areas may or may not be improved but can include playfields, trails, greenbelts/greenways, community gardens, farmed areas, buffers between land uses of differing intensities, areas within community or neighborhood parks and other environmentally sensitive areas.

*Prairie Remnants – Prairie areas that have remained relatively untouched on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger: Prairie areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies) *¹*

Stream – A stream is a natural body of flowing water, whether constant or intermittent, that begins at headwaters and gathers water from run-off, rain, snow melt, or from underground springs. Streams hold great importance regardless of size or flow. Streams provide water, a variety of aesthetic values and are important wildlife habitats. All streams shown in blue dashed or solid lines on the USGS Quad maps are included in this listing.

The following term will be replaced:

~~Stand of Mature Trees: An area of ½ acre or more covered by densely wooded growth of mature trees having a minimum height of 25 feet.~~

Woodland Area – Any tract of land with a contiguous wooded area not less than two (2) acres and containing not less than one hundred (100) trees per acre that are two inches (2") in diameter or greater measured 36" above the ground. The extent of any woodland plant community or any part thereof shall be measured from the outermost drip line of all the trees in such plant community. Woodland shall include any area where clearcutting has occurred within the previous three years.

This definition is much too limited and would not apply to much of the woodlands in and around Lawrence because of the age of these forests. When the forests are older the trees are larger and farther apart and therefore the density of trees is less than in younger forests. Also, to limit the consideration to two acres of contiguous trees would not take into consideration the fact that in normal woods, there would be clearings within the woods around certain other land features, such as rocky outcroppings that are at ground level or drainage channels, and the trees would not be contiguous. The definition would not accommodate areas like Baldwin Woods.

The following term will be revised:

Stream Corridor – ~~A strip of land 100 feet wide, of which the centerline shall be the centerline of a stream that is not an intermittent stream or an intermittent stream specifically identified in the comprehensive plan as a significant intermittent stream subject to protection.~~

A stream corridor is a stream and its buffer area, the width of which varies according to the size of the stream, the amount of flow, and topography of the site. The City Stormwater Engineer will determine the required buffer area for streams. *²

In reviewing codes from other communities, we found that the percentage of sensitive lands required to be preserved also depends on what it is. Woodlands are considered fundamental environmental needs and are preserved 100 per cent in stream corridors and on steep slopes, (which are much more protected than in this draft, often starting at 15%). Woodlands in some codes are preserved up to 80% in residential developments, less in commercial developments.

QUESTION: In mitigation requirements, if a developer bulldozes an entire woodland, would he be required to replace only 18% of the trees?

STEVENS & BRAND_{LLP}

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MEMORANDUM

TO: Members of the Lawrence, Kansas Planning Commission
FROM: Burke Griggs, attorney for the Lichtwardts
SUBJECT: Planned revisions to the sensitive lands code
DATE: May 19, 2008
CC:

Dear Members of the Planning Commission:

Our office represents Robert and Betty Lichtwardt, who have asked me to provide written comments upon the Commission's planned revisions to the sensitive lands building code.

In March the Commission decided to revisit this area of the code to make it less vague; apparently members of the "development community" (presumably developers) were concerned about its vagueness. Based upon a review of these planned revisions, it appears that the Commission has decided to clarify the code, but at the cost of the sensitive lands the Code is supposed to protect. Please allow me to provide three examples of how these planned revisions eliminate whatever protections existed under the original language in Section 11.

First, it appears that the former floor for protecting sensitive lands has been lowered, and then changed to a ceiling. Whereas the existing Code section requires a minimum of 20% of the sensitive lands to be preserved, the planned revisions require only 18% to be preserved, *at maximum*. Planned revisions, §1101(k). If that is indeed the case, then Section 7 imposes stiffer restrictions on sensitive lands than the sensitive lands section, since the more restrictive land regulation shall apply. §20-109(b). Reducing protection in order to clarify what protection is seems perverse.

Secondly, the planned revisions give full license for a developer (or a member of his community) to destroy the sensitive lands in question, as long as he takes subsequent steps to mitigate the destruction. § 1101(i). This presumption violates every principle of environmental preservation. Needless to say, this presumption must be eliminated from the planned revisions: any site work must not take place until the City has approved the sensitive lands site plan, which requires revision of § 1101(j) as well. Destroying sensitive lands in order to save them is perverse.

Finally, the definitions provided in § 1101(d) sacrifice protection for specificity. Although they do achieve a higher level of specific detail than the current regulations, these details eviscerate whatever protections Section 11 is intended to provide. Woodland areas are defined according to the logic of a nursery, rather than a mature second-growth forest. Rocky outcroppings are defined as if this were Douglas County, Colorado, with its massive sandstone uplift formations, rather than Douglas County, Kansas, with its geology of deposition and erosion, which creates smaller outcroppings that still merit protection. Historic sites must now be listed in order to be protected, which puts many valuable historic sites at risk. In each of these cases, the planned revisions provide more specific definitions which ignore the ecological, geological, and historic realities of eastern Kansas. Defining the things presumably protected in order to render them irrelevant is perverse.

Under the planned revisions to the sensitive lands code, it is now possible for a member of the development community to clear sensitive lands, tear down historic structures, and fundamentally alter the site, as long as said member of the development community landscapes the site afterward to meet the minimums. If this is the intent of the Planning Commission, then it should be candid. But if the Commission intends to protect sensitive lands, it should revise Section 11 to provide that protection, rather than to eliminate it. Napalming a village in order to save it is not effective policy. Both the substance and the procedure of these revisions need to be fundamentally improved. Thank you for reviewing these comments.

May 19, 2008

To: Grant Eichhorn, Chair

Members of the Lawrence/Douglas County Planning Commission

Re: Text amendment proposal for Section 10-1101(d) from the Development Code and replacing it with the language in Section 20-1109.

I would like to offer the following comments regarding the staff report for the Protection Standards for Environmentally Sensitive Areas.

While the intentions of the section's purpose and objectives are laudable, they fall far short of a "protection" standard from an ecological perspective.

Specifically let me begin with the **ranking system**:

Under the Critical Sensitive Areas section (k), no mention is given to native prairies. Douglas County has already lost nearly 98% of its original prairies. If I interpret this section correctly, only 20% of any remaining prairie parcel would have to be left intact in a proposed development – that is, 80% could be obliterated and still meet the "protection standard." Furthermore, a portion (10%) of what remains could be "improved". Remaining Douglas County prairies represent a culmination of millennia of ecological evolution and nothing that humans can do would "improve" them. In addition to protecting the entire prairie parcel, there should be a pesticide-free buffer zone to ensure destruction of native prairie species. Any remaining prairie in this county should receive a Critical Sensitive Area designation ensuring protection in its entirety.

Similarly for wooded areas, they provide additional benefits other than those enumerated in the preamble stated in the staff report. They are carbon sinks and replenish atmospheric oxygen, provide erosion control, trap sediment and other pollutants before they reach receiving streams, provide for water temperature stabilization thereby enhancing aquatic life, and act as habitat for a host of other plant and animal species. As such, it seems to me that requiring a mere 20% protection of these incredible assets offers very little safeguard for areas that provide incredible value beyond their aesthetic "amenities". I believe a far greater percentage of woodlands needs to be offered protection; ideally 100% should be protected, with a minimum of 75% of the wooded area protected.

Although there are many more comments I would like to offer, time constraints do not allow them. I will, however, address a primary concern regarding the definition of "woodland area" in the document. In discussion with others, there have been many concerns raised whether or not this

definition would protect some of our county's most important wooded areas: the Boyd Woodlands, Rice Woodlands, and Brydenthall Woodlands. All of these areas are mature wooded areas with many large trees. They all have ***an uninterrupted and contiguous tree canopy***. Many people I have spoken with doubt that these areas would meet the definition of "wooded area" because as forests mature, trees grow larger and the forest becomes less dense.

It seems to me that using aerial or satellite photographs (easily obtained using Google maps), a determination of a proposed development tract's wooded nature can be determined without sending someone out to do an actual count of the number of trees that are or exceed 2" in diameter in an acre. Using the definition of a "wooded area" as ***an uninterrupted and contiguous tree canopy*** is not only readably obtainable; it is also very objective in nature.

Thank you for considering these remarks.

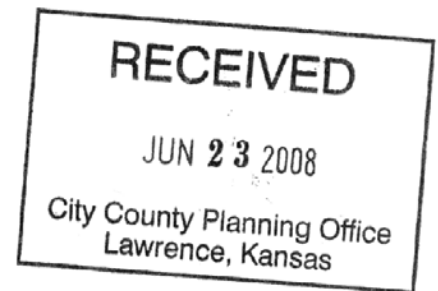
Sincerely,

Joyce Wolf
1605 East 318 Road
Lecompton, KS 66050-4034
785-887-6019

June 19, 2008

To: Grant Eichhorn, Chair

Members of the Lawrence/Douglas County Planning Commission



Re: TA 12-07-07: Amendments for Section 20-1101 of the Development Code, which will be replaced by Section 20-1109.

I am a member of the Stakeholder Leadership Team of the Lower Kansas Watershed Restoration and Protection Strategy (WRAPS) group whose area includes Lawrence, most of Douglas County and parts of eight other counties. As you may know, the WRAPS process was set up by the Governor's Natural Resources Sub-cabinet in 2004 to protect watersheds throughout the state through collaboration among watershed stakeholders including cities, landowners, agencies, conservation groups, citizens, water districts, etc. (WRAPS funding comes from the Kansas Water Plan and EPA 319 Nonpoint Source Pollution Grants through KDHE.)

There are currently 25 WRAPS projects in Kansas including the Delaware River WRAPS, Upper Wakarusa WRAPS, Middle Kansas and Lower Kansas WRAPS in our area. Watershed concerns are, of course, such things as water quality, public water supply protection, flooding issues and riparian and wetland habitat protection/restoration. Thus the proposed text amendment is of great interest to Lower Kansas WRAPS stakeholders.

First, *thank you* to city and county planning staff and the Planning Commission for working to improve protection of environmentally sensitive areas. This is a great public service which will help protect water supplies. The June 6, 2008 Planning Staff memorandum and its attached revised text amendment setting forth changes made in response to public comment has improved problems that made the original unacceptable.

Nevertheless, I offer the following comments for ways the amendment could be even stronger:

1. The philosophy of the amendment that environmentally sensitive areas are "open space amenities" does not sufficiently acknowledge the importance of riparian or "stream corridor" buffers, woodlands and grasslands in protecting the quality and quantity of our water supply.

The EPA's model aquatic buffer ordinance (*available at <http://www.epa.gov/owow/nps/ordinance/mol1.htm>*) lists 10 benefits of stream buffers, the first 6 of which are directly related to the quality and quantity of the water we need for life:

- Restoring and maintaining the chemical, physical and biological integrity of the water resources;
- Removing pollutants delivered from urban stormwater;
- Reducing erosion and sediment entering the stream. (Excess sediment is heavily impacting our local reservoirs, shortening their useful life.)
- Stabilizing stream banks;
- Providing infiltration of stormwater runoff;
- Maintaining base flow of streams;

Thus it is clear that this is not just an issue of "amenities", but the crucial issue of our community's

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water quality and supply. The natural hydrological process of rainfall recharging groundwater and eventually rivers, lakes and reservoirs in a *gradual non-flooding* manner is dependent on the ability of land surfaces to absorb that rainfall. Adequately sized and vegetated stream corridors/buffers are crucial in this regard and development standards should support water quality with the strongest protection of these features. To reflect this the language of the amendment should give more emphasis to water quality and safety from flooding as goals of preservation of environmentally sensitive areas.

2. The forested areas, prairies and slopes covered in the ordinance are also important for water quality and supply: forests and prairies because of their inherent ability to absorb and hold water; and slopes because their erosion is a significant contributor of sediment run-off, a major factor in degrading the functionality of streams and reservoirs. Such areas are not worthy of protection just because it's nice to have some trees or wildflowers around, but rather because we need them for the long-term, basic requirements of the public welfare. The amendment only requires very small remnants of such areas be preserved. The revision increases this amount but the watershed would benefit if larger portions of such areas are protected when possible.

Further, ephemeral waterways and drainage ways are important to the total functioning of a watershed and should not be filled in or otherwise spoiled unless there is an overwhelming and unavoidable need. The revision adding more resources for determining the presence of environmentally sensitive areas is a positive change and should be adopted. Some communities such as Lenexa and KC, Mo have done specific surveys to determine all the waterways in their jurisdiction that should be protected and Douglas County should consider this in future.

3. The EPA and other model plans also specify acceptable uses of different zones of the riparian buffer/ stream corridor. For example, the streamside zone may only be used for flood control structures, utility right-of-ways, foot paths and road crossings; the middle zone for certain types of recreation, stormwater management, etc.; the outer zone serves to limit encroachment on the other zones but could include residential backyards or common green space while restricting septic systems, permanent structures and impervious pavement. (See the stream buffer ordinances of Lenexa, KS or Independence, MO which are specifically directed to issues of water quality and supply. These are easily found at the Kansas Alliance for Wetlands and Streams website: <http://www.kaws.org/chapters/eastern-i-70-chapter> under the Chapter Documents section. Also see the Lenexa website detailing their local watershed emphasis on water quality: <http://www.raintorecreation.org>. I have also attached recommendations for the KC, MO stream setback ordinance from the firm Patti Banks Associates.)

By specifying acceptable uses, these clauses help protect jurisdictions from accusations by land owners that their land will be useless if they have to meet the standards thus increasing pressure to grant variances. Many plans exempt agricultural operations as long as they are following a Natural Resources Conservation Service approved plan; this way farmers are not unfairly impacted. The amendment already allows developers to have denser than usual development in some other part of the site to make up for the amount of land preserved in the riparian buffer and this is a good compromise. (See Casey Schach. "Stream Buffer Ordinances - Are Municipalities on the Brink of Protecting the Health of Streams or Opening the Floodgates of Takings Litigation?" *The Urban Lawyer*, Vol. 40, No 1, Winter, 2008.)

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The WRAPS process supports the idea that development is important for the economic health of the community, but also stresses that it is better to be proactive in protecting stream corridors and other areas that absorb rainfall and run-off rather than attempt mitigation after bad consequences are suffered by the community. Lawrence and Douglas County are very fortunate to be situated in a well-watered area but it only takes a cursory glance around the world to be reminded that human activity has destroyed much mightier rivers than the Kaw. I applaud the Planning Staff for proposing to develop an actual Stream Ordinance to address these watershed issues in more detail. The Stakeholder Leadership Team of the Lower Kansas WRAPS looks forward to having input in crafting this Ordinance to protect stream corridors for the preservation of the natural world and the safety and health of the human community.

Sincerely,



Susan Iversen

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Riparian Buffer Benefits and Kansas City, Missouri's Stream Setback Ordinance

Scott A. Schulte, Patti Banks Associates, Kansas City, Missouri

Patricia A. Elbert Noll, City of Kansas City, Missouri

Jeffrey Henson, P.E., Black & Veatch Corporation, Kansas City, Missouri

INTRODUCTION

The City of Kansas City, Missouri (City) is conducting a comprehensive overhaul of its wet weather programs, development code, and environmental practices. The City's stream setback ordinance is a key component of all three efforts. Over the past 5 years the City systematically evaluated stream quality throughout the city and quantified the relationship between riparian buffers and stream quality. The City used this tremendous base of information to develop low-impact development policies, including a groundbreaking stream setback ordinance provision that maximizes riparian buffer protection while encouraging conservation development. The stream setback is the centerpiece of the City's stormwater management plan, development code, and climate protection strategy.

Riparian buffers provide direct public and environmental benefits by stabilizing streams, separating people and structures from flood hazards, protecting public infrastructure from damage, and improving water quality. They also provide indirect benefits such as habitat preservation, recreational opportunities, public amenities and increased property values. The question inevitably arises: "How much riparian buffer is enough and how does a setback ordinance respect property rights"?

To answer these questions, the City conducted a comprehensive Stream Asset Inventory (SAI), a quantitative assessment of the city's entire stream network. The findings had broad implications for the City's policies and practices. The City also compared the results to other local watershed studies and national stream buffer research. Finally, the City developed its own stream setback ordinance that is unique compared to other examples in the country. The following sections discuss the SAI findings, related research, relationship with the EPA model ordinance, and concludes with lessons learned and recommendations for developing and adopting stream setback ordinances.

STREAM ASSET INVENTORY

At the request of Black & Veatch Corporation (Black & Veatch) and the City, Patti Banks Associates (PBA) completed an SAI of Kansas City, Missouri watersheds. The SAI was conducted during the spring, summer, and fall 2005 as part of the Kansas City One Citywide Stormwater Master Plan project (KC-One). The objective of the SAI was to assess and classify the relative condition of all streams within the city, and provide baseline natural resource conditions for sustainable stormwater management and land use planning recommendations.

The consultant team conducted the assessment using the SAI procedure originally developed for Lenexa, Kansas. The procedure incorporates the best elements of a number of accepted stream and habitat assessments and local research. The SAI methodology provides rapid and scientifically defensible indicators of water quality, stream stability, and habitat conditions at a given location that is selected to be representative of a larger stream reach. Assessment criteria include erosion indicators; bed and bank composition; aquatic habitat features; tree canopy and understory coverage and composition; and indirect water quality indicators. These criteria are assigned individual weighted scores to create a composite score of stream quality at each location and a relative ranking of stream quality throughout the watershed.

Seven Kansas City watersheds were assessed during 2002 for a previous project using a second generation SAI procedure (Patti Banks Associates 2005a). The 2005 fieldwork assessed the city's remaining 28 watersheds using a third generation SAI procedure that was refined in Johnson County, Kansas, to make it as accurate and useful as possible (Tetra Tech EMI, Patti Banks Associates, and Applied Ecological Services 2004). For the 2004-2005 Johnson County SAI project, the consultant team and county staff further improved the procedure based on the latest research in the field, introducing new elements and weighted scores to help end users better assess causes of stream impacts. The results from the two iterations of the SAI procedure are generally comparable.

Data Collection

Survey locations were identified using a combination of geographic information system (GIS) mapping and professional analysis. To ensure that the selected survey sites provided an accurate baseline condition of the watersheds, the consultant team reviewed and adjusted the stream reach delineation by stream size and by changes in stream condition or significant natural or man-made impacts, at an average density of about 0.75 mile between sample locations. A reach was judged to begin when stream corridor conditions changed from the previous condition (for example: riparian cover changes, the adjacent land use differs, a tributary enters the stream, or a major road crosses it). The objective was to provide a general overview of the stream system as a continuum from headwater to confluence, while minimizing the influence of localized conditions.

Two-person teams visited 289 pre-selected survey reaches and completed a survey checklist at each location. The SAI procedure has four major categories with each having five scoring components. Each component has a maximum potential score of 10 for a possible total score of 200. By dividing the total score by 20 (or by the number of measured components), the assessment produces a numerical score ranging from 0.0 to 10.0. A score of 10.0 would be considered optimal stream conditions while 0.0 would indicate poor stream conditions. Some components were not applicable or observable in certain situations, and if so, the evaluation team did not assess that component. The final quality value was calculated by dividing the total site score by the number of components scored. For example, where bed composition could not be observed due to high flows or turbid conditions, no points are assigned for the bed composition component and the total site score was divided by 19 rather than 20.

Stream Classification

Stream reaches were categorized Type I (highest quality) through V (lowest quality) based on the statistical distribution of all study data. The surveyed stream segments were classified relative to the sample population of surveyed streams, rather than applying an absolute score. The relative ranking is used for several reasons: (1) scoring streams on an absolute scale may imply that the break points between classes are based on some quantitative linkage between the score and stream function, which is not the case; (2) streams should be classified in comparison to general, regional conditions so that streams are assigned scores reasonable for their physiographic and development settings; and (3) relative distribution identifies the truly high-quality and low-quality streams within the study area.

Type III stream scores fell one standard deviation above or below the mean score, a Type II stream scores more than one standard deviation above the mean, etc. Stream reaches fell into one of five types:

Type I - Highest Quality: Generally naturally occurring streams with little negative impact.

Type II - High Quality: May have some erosion; water quality is generally good and the riparian zone is largely intact, although vegetation may differ from a typical native plant association.

Type III - Restorable: The channel and riparian corridor are noticeably deteriorated. The canopy cover is immature, and water quality fair to marginal. The potential for restoration exists, however.

Type IV - Low Quality: Bank erosion and channel instability are significant, and the riparian corridor may be intact but not representative of a native plant association. Water quality is poor.

Type V - Lowest Quality: The channel in this type is the most changed. The riparian corridor provides little protection or benefit, erosion and sedimentation are significant, and water quality is poor. Macroinvertebrates, fish, mollusks, and amphibians are absent.

Results

The consultant team categorized all of the natural, perennial stream reaches within Kansas City and some larger intermittent and ephemeral tributaries as described above. The breakdown of stream types by scores for the 2005 data and previous KC SAI are shown below.

Summary Distribution						
	KC-One Data (2005)		KC SAI Data (2002-03)		Overall	
Stream Type	Count	% Total	Count	% Total	Count	% Total
Type I	3	1.0%	0	0.0%	3	0.6%
Type II	39	13.5%	18	9.5%	57	11.9%
Type III	196	67.8%	141	74.2%	337	70.4%
Type IV	42	14.5%	28	14.7%	70	14.6%
Type V	9	3.1%	3	1.6%	12	2.5%
Total:	289	100.0%	190	100.0%	479	100.0%

ANALYSIS AND CONCLUSIONS

PBA reviewed the SAI results to determine what conclusions could be drawn. PBA also aggregated SAI results from unincorporated Johnson County, Kansas and analyzed the combined data for trends and correlations (PBA 2005b). PBA reviewed results from the Upper Blue River Watershed Initiative, which provided a more detailed look at the Upper Blue River watershed from Bannister Road in Kansas City to its headwaters in Johnson County, Kansas and Cass County, Missouri.

First, PBA analyzed the SAI data to identify obvious trends. The presence or absence of quality riparian vegetation appears to have a moderate influence on overall stream quality. PBA analyzed the Kansas City SAI data by itself, and then aggregated the Kansas City and Johnson County SAI scores, correlating the component scores with the overall SAI result. The results were similar in both cases, so PBA used the aggregated data to complete its analysis. Terrestrial habitat scores showed the greatest correlation with overall stream quality ($R = 0.65$, $n = 412$). The other three general assessment factors (stream stability, aquatic habitat quality, and indirect water quality indicators) did not strongly correlate with overall stream quality. However, when PBA narrowed the analysis to sample locations where all 20 components were scored (i.e. where all of the conditions were present and could be observed), the water quality component correlated strongly with the overall stream condition ($R = 0.69$, $n = 329$). This result indicates that water quality is better in streams that are in better overall condition.

Next, PBA reviewed information from the more detailed Upper Blue River Watershed Initiative analysis (PBA 2007). The consultant team mapped both Kansas City and Johnson County SAI results, as well as natural resources, current and future land use, and imperviousness by sub-watershed. The lowest quality

stream reaches were identified in agricultural areas, while some high-quality streams were noted in more urbanized areas. Type IV streams were found in the upper reaches of the Wolf Creek watershed, while Type II streams were identified in the Blue River main stem and Camp Branch sub-watersheds.

These observations are contrary to the "Impervious Cover Model" which predicts that streams will begin degrading with increasing imperviousness (Center for Watershed Protection [CWP] 2003). The Wolf Creek and Camp Branch watersheds are 2- to 3-percent impervious, while the Blue River main stem watershed is about 8-percent impervious. Camp Branch and Wolf Creek watersheds include a combination of agricultural and developed land. In these instances, the Type II streams were buffered by extensive, high-quality vegetation, while the Type IV stream reach buffers were either nonexistent or narrow and of poor quality. CWP notes that an intact riparian buffer can extend the impervious cover model to a modest degree, and that impacted pervious cover (such as agricultural land) may contribute to stream degradation as well (CWP 2003). Field observations and SAI scores support that urbanization, agricultural practices, and loss of stream buffers are negatively impacting the overall stability and quality of streams throughout the city. These findings further support the importance of riparian buffers for protecting stream quality.

POLICY IMPLICATIONS

Based on these findings, City staff and consultants reached a consensus that Kansas City's greatest needs are riparian buffer protection and enhancement, and measures to counteract increased runoff and pollutant loads from development. Specifically:

1. The City needs a stream setback ordinance that preserves the maximum amount of existing, high-quality riparian vegetation within the city's stream corridors, without increasing urban sprawl and overall imperviousness or inhibiting quality economic development.
2. The City should strictly enforce its stormwater design requirements that control runoff volume, peak velocity, and discharge energy to prevent downcutting and bank instability, particularly for the frequent channel-forming flows.
3. The City should aggressively implement required water quality best management practices (BMP) that reduce pollutant loads from new development and redevelopment projects.
4. The City should enable and promote conservation development, open space development, and other low-impact development approaches that increase development density while reducing overall imperviousness and protecting natural resources.

Stream Setback Ordinance

More than half of Kansas City, Missouri is undeveloped. The purpose of the stream setback ordinance is to avoid future liabilities by protecting new development and infrastructure from flood damage, while saving natural resources that provide multiple benefits. The stream setback provisions are included in the City's updated Development Code. The stream setback provisions are intended to protect life and property by separating people and structures from flood hazards; improve Kansas City's water quality; reduce erosion and sedimentation; prevent infrastructure damage; and protect riparian corridor habitat and recreational greenways.

To be effective, a setback ordinance must: (1) clearly define regulated streams; (2) be easy to understand and administer; (3) be uniform and apply equally and to all streams; and (4) be streamlined to use common information. The ordinance should incorporate the latest scientific research and stream buffer recommendations. The Kansas City stream setback provisions satisfy these requirements. Streams to be

regulated were initially identified using the U.S. Geological Survey National Hydrography Dataset, a widely accepted federal stream data set. The streams were updated to reflect current conditions.

Arbitrary set buffer widths were eliminated in favor of buffers based on actual stream and riparian corridor characteristics and vegetation, reflecting the SAI results and related research. The result was a three-zone stream setback where regulations are stricter closer to the stream as follows:

1. Streamside Zone

- a. 25 feet wide, from the edge of the active channel on each side of the stream.
- b. Utility, road, and trail crossings are allowed, as well as properly designed stormwater outfalls, access for fishing and wildlife viewing and trail overlook areas.

2. Middle Zone

- a. Includes 100-year floodplain or 100-year (i.e. 1-percent) conveyance determined by an engineer, and wetlands.
- b. All uses in the Streamside Zone are allowed, plus utility corridors and recreational trails.

3. Outer Zone

- a. Extends 25 feet from the edge of the Middle Zone, to a maximum of 300 or 500 feet.
- b. Includes adjacent steep slopes (greater than 15 percent) or mature, riparian vegetation if present.
- c. All uses in the Streamside and Middle Zones are allowed, plus stormwater BMPs.
 - i. If the maximum is 300 feet, the Outer Zone must be protected as permanent open space.
 - ii. If extended to a maximum of 500 feet, conservation development and additional flexibility for non-residential development are allowed as described below.

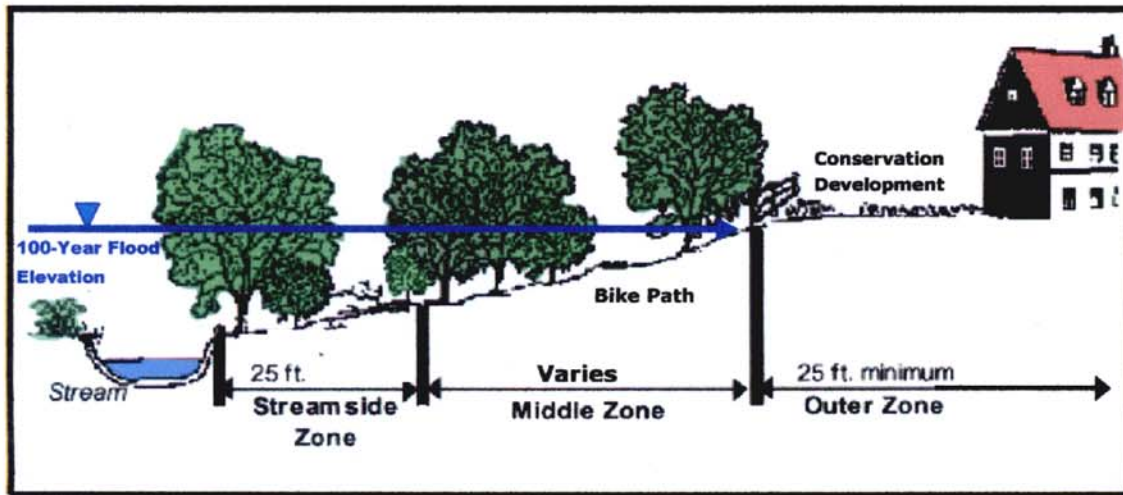


Figure 1 Stream Setback Zones

The floodplain (Streamside and Middle Zones) is the core of the proposed “stream setback zone” and is a no-build area. The Outer Zone includes vegetation that protects the stream and provides habitat, if any exists. The Outer Zone ends at the riparian boundary, which is assumed to occur where less than 50% of the mature trees (10-inch diameter or greater) are of riparian or bottomland species as defined by The Terrestrial Natural Communities of Missouri (Nelson 2006) and approved by the City. A qualified surveyor must delineate the canopy cover boundary of the mature riparian tree specimens.

To promote sustainable economic development and reduce urban sprawl, conservation residential and non-residential development is guaranteed in the Outer Zone. Developers can clear and build on up to 40 percent of the Outer Zone area (or 50 percent with mitigation); with the remainder of the mature riparian vegetation or steep slope areas protected as permanent open space. Minimum lot sizes are

reduced, allowing for a 20-percent net increase in total lots over what could be built across the entire site with traditional development. Non-residential developments will be allowed a 20-percent increase in building heights and a 20-percent reduction in parking requirements.

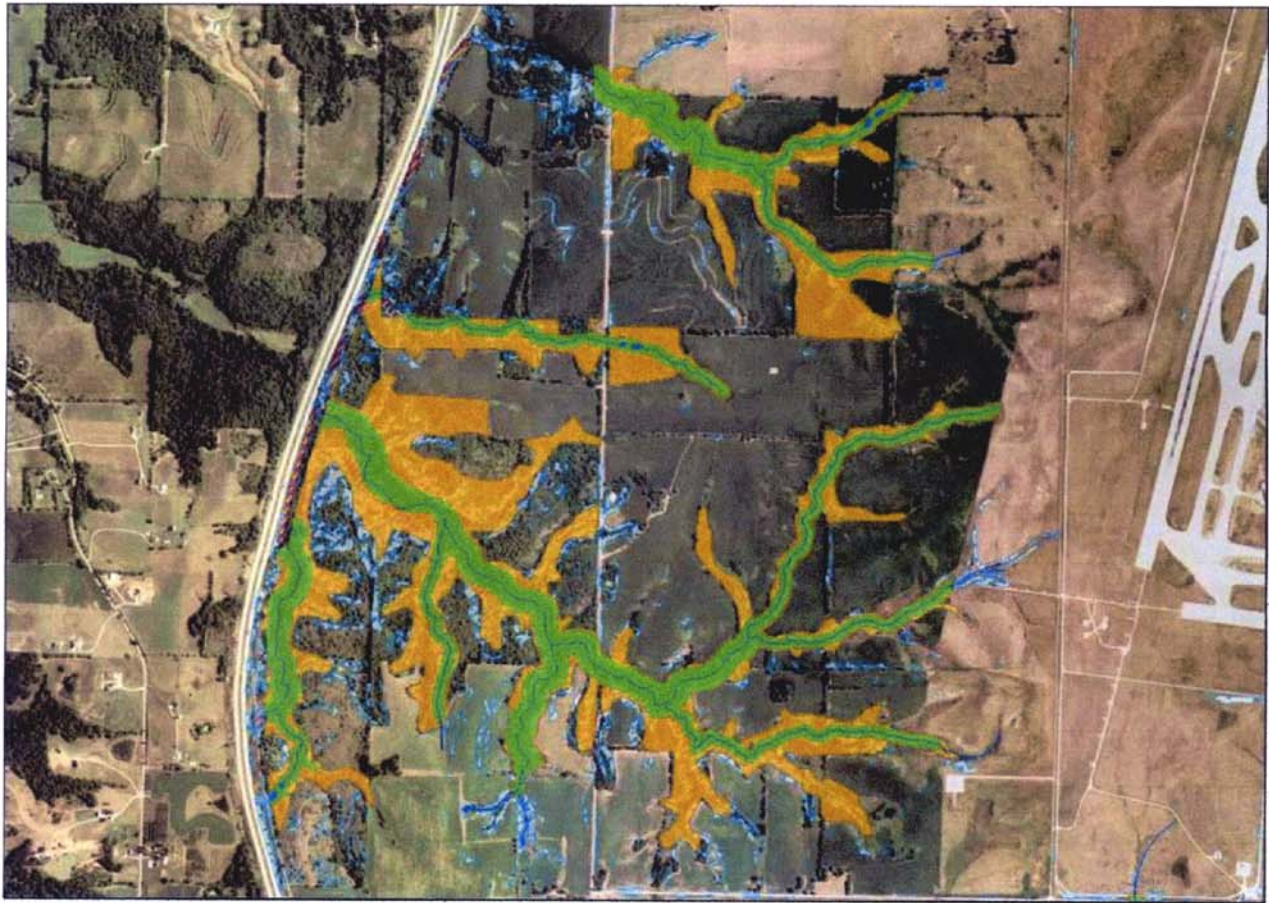


Figure 2 Map Showing the Middle Zone (Green) and Outer Zone (Orange)

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- Tetra Tech EMI, PBA, Applied Ecological Services. 2004. Stream Asset Inventory Field Sampling Procedure. Prepared for Johnson County, Kansas Public Works Department. August.

League of Women Voters of Lawrence-Douglas County

P.O. Box 1072, Lawrence, Kansas 66044

June 22, 2008

RECEIVED

JUN 23 2008

City County Planning Office
Lawrence, Kansas

Grant Eichhorn, Chairman
Members
Lawrence-Douglas County Planning Commission
City Hall
Lawrence, Kansas 66044

RE: ITEM NO. 3: AMENDMENTS TO SECTIONS 20-1101 & 20-1701, DEVELOPMENT CODE

Dear Chairman Eichhorn and Planning Commissioners:

Based on our review of this draft of the new Section 20-1109 to be incorporated into the Lawrence Land Development Code, we request that you not adopt this until it has been corrected for what we believe are critical deficiencies. In its current form we do not believe that it would be enforceable or effective. Below are some of the deficiencies that we have noted. Attached to this letter is our annotated copy of the new draft.

1. Until this text amendment is finally adopted, we strongly urge that measures be taken to protect existing sensitive environmental features from being destroyed. We suggest two approaches: a temporary moratorium (prohibition) on grading and land disturbance including removal of vegetation; or adoption of a permanent Land Development Permit requirement including these same restrictions similar to that required by the Floodplain Regulations.

2. The purpose of the new Section 20-1109 should be justified based on the essential functions of the sensitive land features that are being protected. We believe that this code can be supported on the basis of public welfare, and will withstand legal challenge better on this justification than on only its provision of amenities and buffering. Below are examples of some of these functions.

- a. The environmental functions of woodlands, for example, are both local and global and give climate and atmospheric benefits, watershed protections, erosion control, groundwater pollution control, protection of wildlife habitat, etc.
- b. Protection of floodplains, stream corridors and steep slopes saves humans from building on hazardous sites and preventable exposure to inevitable extreme natural events.
- c. Provision of amenities and buffering by preserving these areas increases human enjoyment and economic value.

3. Protection categories should be a reflection of environmental importance in terms of their function and potential hazard resulting from their disturbance.

- a. Natural areas as defined in the Background Studies of Horizon 2020 should be protected 100%, including prairies. These are irreplaceable and needed for wildlife habitat and possible protection of endangered species.
- b. Slopes should be protected based on their hazards as building sites and erosion susceptibility. "Steep slopes" are classified as starting at 15% slope. Many Midwest communities protect 15% slopes from deforestation and grading. The slope disturbance limitations in this ordinance are unclear. The protections should start with complete protection of slopes of at least 20%. Woodlands located on any steep slopes should be completely preserved. Please note that standards for street maximum grades are 10%!
- c. Significant streams, including intermittent streams, beyond those listed in the USGS Quad maps should be given the same protections as those listed in this draft amendment which are categorized as critical.
- d. Definition of prominent geologic features with "Rocky Outcroppings" needs expanding. We suggest consulting expert advice on this. For example, these are areas that would be extremely difficult to build on and costly to destroy but in order to protect need a forested or vegetated buffer at the top.

4. Areas that are required to be left intact and undisturbed such as wetlands, floodways, and those with legal restrictions on being changed such as floodplains, are already controlled by Federal and State law. These and the other land forms classified here as "critical" and which must be protected by other laws in their entirety should not be

a part of the 30% of a site given to environmentally sensitive land protection, but should be separate. This should include the forested area of a floodplain. The other types should then be considered based on the 30% allotment. In fact, we object to any ceiling for protection of the less critical areas. We believe all environmentally sensitive areas should be reviewed for preservation beyond the arbitrary 30% based on their quality, type, function, and importance to the area.

5. Some provisions in this draft amendment should be made more clear: for example, how much sensitive land is required to be preserved and how this could be uniformly applied. It is very difficult to set an arbitrary limit on how much of an area should be preserved based on ownership tract size [(20-1109(j))]. Percentage of ownership tracts as a basis of how much sensitive lands must be preserved would be ineffective where lot sizes are small and the sensitive lands extend over a large area. Certain areas of Douglas County in the UGA have much environmentally sensitive land because of the number of streams and heavily forested steep slopes. Often these characteristics occur in combination, such as in certain Northwest Plan areas.

We urge you to follow the recommendations and example of the Northwest Plan and permit only very low density in such areas where multiple sensitive land types occur in combination, so that the Cluster Development Section 20-702 of the Code can be used. This would allow a gross density of one dwelling unit an acre or less, single family detached dwellings on any lot size, and would enable clusters of lots to be localized in relatively less sensitive areas, thereby creating the least disturbance, with the remainder of the sensitive land remaining intact. This type of development at this density would allow more economical installation of utilities and streets with less disturbance of the sensitive environment and would allow more protection than the 30% arbitrary minimum percentage to be preserved per ownership tract. We suggest utilizing Transferable Development Rights or Credits to provide equity where subject tracts are otherwise too small to avoid destruction of environmentally sensitive land.

6. Preserving historic sites that are registered is almost a given because they are also protected somewhat by law. However, we have heard that there are sites that have not been registered but should be, or should be given some protection. An example mentioned to us was Indian archeological sites and other historic Indian sites not registered. We ask that you change the language to include the terms "and other potentially important archeological and historic sites, subject to review."

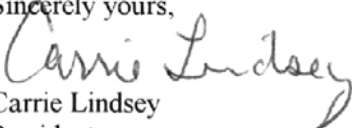
7. We found that the three "Woodland Baseline" sample maps are incomplete and somewhat inaccurate (the General Overview Map), confusing and difficult to decipher (the dotted line map), and too light to read (the yellow and green map). The enclosed example of an aerial photograph available to the city for Douglas County indicates to us that this should be easily available also and that any overall maps should be more clear and more accurate. (Example enclosed).


8. Several people have suggested that expert advice is needed beyond the current staff for writing and administering the environmental sections of the city code.

9. The approval by staff of requests for modification of stream corridors [20-1109(i)(1)(ii)c.] should have some standards beyond the developer's need for "reasonable use" of property. This is a judgment call and once granted, jeopardizes the stream corridor regulations.

For our other comments, please see our annotations on the draft text of Section 20-1109. We hope you will seriously consider our concerns and suggestions during your review of this document.

Sincerely yours,


Carrie Lindsey
President


Alan Black, Chairman
Land Use Committee

Attachments



Section 20-1109 Protection Standards for Environmentally Sensitive Areas

(a) Purpose

The Environmentally Sensitive Area Standards are intended to protect and, where possible, enhance the natural environment of the City of Lawrence while recognizing the need for urban development.

These standards are intended to provide flexibility in the design of developments on lands with environmentally sensitive areas in order to use land efficiently and to preserve environmentally sensitive areas as open space amenities. These standards are intended to allow modifications of the requirements of the base zoning district and subdivision regulations. During the review process, the specific circumstances surrounding each application, such as the types and amounts of sensitive features that are present; special constraints to the development such as being in an infill location; and the need for the extension of public utilities or infrastructure will be considered. The Environmentally Sensitive Area standards will be applied in an effort to achieve development solutions that best promote the spirit, intent and purpose of protecting environmentally sensitive lands.

The term "amenities" applies to human pleasure rather than to ecological or environmental necessity. See comment regarding woodlands at left in box.

(b) Objectives

The objectives of these standards are:

- (1) To identify and prioritize environmentally sensitive areas during the initial stages of the development review process.
- (2) To establish levels of protection for environmentally sensitive features which vary with the priority ranking of each feature or combination of features.
- (3) To aid developers in the creation of plans so that negative impacts to the environmentally sensitive areas are avoided or minimized to the greatest extent possible.
- (4) To coordinate sensitive areas protection with other City environmental programs such as the Floodplain Management Regulations, and the City Stormwater Ordinance.
- (5) To encourage the use of innovative and flexible development techniques and to provide flexibility in the planning process when needed to balance environmental and economic goals.
- (6) To establish levels of protection for existing sensitive areas lands and institute requirements for the ~~reparation of lands~~ restoration of sensitive areas found to be prematurely destroyed or altered.

~~(c) Modifications~~—moved to end of Section

(c) Applicability of Environmental Design Standards

The provisions of this Article regarding environmental protection for sensitive lands shall apply to all construction and development activity in all zoning districts except as expressly exempted in this section.

If a proposed development, as specified in this section, contains any of the environmentally sensitive features described below the environmentally sensitive design standards and guidelines shall apply. Where disagreements occur regarding the presence or amount of environmentally sensitive features contained on a property, the Planning Commission shall determine compliance with this Article based upon the

Woodland and its protective vegetation (on slopes and adjacent to streams as well as in general) has many more functions than mentioned here, such as erosion control, reduction of runoff, and recharging groundwater. See below.

The environmental value of woodlands, as a sensitive area

needs to be expanded to include acknowledgment of essential

environmental functions, such as being a CO2 sink, absorbing air pollution and replenishing atmospheric oxygen;

maintaining the hydrologic cycle (adding moisture to the atmosphere and inducing rain);

protecting watersheds (preventing erosion, helping soil absorb rainwater and replenish ground

water, reducing runoff, protecting groundwater from pollution); cooling the atmosphere and reducing energy

use; providing habitat for other plants and animals. These, and more,

are critical functions well beyond simply providing open

space amenities and buffers.

The city and county need the option to add floodplain designations to areas that obviously extend beyond the minimal delineations of the FEMA limits and potentially would cause significant hazard, and property damage if altered or encroached upon. This should also include important drainage ways (streams) that aren't on the USGS maps (see next page). Please add "100-year flood or..." at the beginning of the sentence under (c)(i)(ii).

The larger trees are older and have less future longevity in Kansas. We suggest that you seek expert advice on this rather than choosing an arbitrary tree size to save, because some types of smaller trees are equally valuable to save.

There seem to be few rocky outcroppings that are as high as 20 feet above grade, but there are many that should be preserved. This standard is too exclusive. Please seek expert advice here.

This needs modification to include obviously important historical sites that haven't been registered.

submitted evidence of staff and/or the applicant. **Appeals from the Planning Commission determination shall be made to the City Commission.**

Environmentally Sensitive Features include the following:

- (1) Regulatory Floodplain:
 - (i) Regulatory Floodway, designated on the FEMA Flood Insurance Rate Map for Douglas County.
 - (ii) Regulatory Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County.
- (2) Jurisdictional wetlands as determined and regulated by the U.S. Army Corps of Engineers.
- (3) Streams, shown on the United States Geological Survey Quadrangle (USGS Quad) Maps **as blue solid or dashed lines**, and their corridors² ~~as defined by the City Stormwater Engineer.~~
- (4) Woodland Areas: Any tract of land **containing one (1) acre or more which is shown as 'woodland' or 'forest' on the City GIS Woodland Baseline Map.** ~~with a contiguous wooded area not less than two (2) acres, as measured by the tree canopy, and containing not less than one hundred (100) trees per acre that are two inches (2") in diameter or greater 36" above the ground.~~
- (5) Individually Significant Trees: an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) or any of the following native species: walnut, red maple, shagbark hickory, black cherry, black locust, American elm, ~~Chinese elm~~, hackberry, osage orange, white/red mulberry, chinkapin oak, bur oak, white oak, black oak, honeylocust, cottonwood, sycamore, red cedar, black gum, or yellow poplar.
- (6) ~~Prominent Geographic~~ **Geologic** Features with Rocky Outcroppings: A rocky protrusion of 50% or more exposed rock having greater than a 3:1 slope, a minimum height of 20' above the surrounding grade and covering an area of 1 or more acres.
- (7) Archaeological and Historic Sites ~~listed on local, state, or federal registers.~~
- (8) Prairie remnant of one (1) acre or larger: Prairie areas that have remained relatively untouched on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger. Prairie areas will be determined by the Kansas Biological Survey as areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies) ~~4~~
- (9) Slopes:
 - (i) Steep Slopes: A slope of fifteen percent (15%) but less than twenty five percent (25%).
 - (ii) Critical Slopes: A slope of twenty five percent (25%) but less than forty percent (40%)
 - (iii) Protected slopes: Any slope of forty percent (40%) or steeper.

Do you mean "maps?" There seem to be more than one.

This needs to be expanded.

The presence of environmentally sensitive features shall be determined from an examination of the site and the following resources:

- (1) FEMA Flood Insurance Rate Map for Douglas County
- (2) USGS Quad Maps

- (3) **City GIS Woodland Baseline Map**
- (4) **US Fish and Wildlife Service Wetland Maps**
- (5) **Douglas County Natural Areas Inventory Map**
- (6) **City GIS Map**

(d) Determination of Development Land Area

In determining whether a proposed development contains sensitive lands, all contiguous lands under the same ownership or control shall be considered. Lands owned or controlled by a partnership, trust or corporation shall be considered along with lands owned directly by the applicant and lands under option to the applicant or a partnership, trust or corporation under the effective control of the applicant.

(e) Exemptions.

The following activities are exempt from the requirements of this section:

- (1) Extension of public utilities and infrastructure: A written request for exemption must be submitted to the Planning Director. Development activity may occur only after the Planning Director has determined that the amount of damage to the sensitive features is minimized either through construction methods or location and has provided written approval of the exemption request.
- (2) Existing Single-Dwelling and Duplex Residences: Normal maintenance/expansion of single-family or duplex residences, including exterior remodeling, reconstruction, construction, or replacement of single-family or duplex residences and accessory structures.
- (3) Existing Subdivisions for Single-Dwelling and Duplex Residences: Construction of new single-family or duplex residences in platted subdivisions that are in existence, or for which applications for plats have been submitted, prior to the effective **DATE OF THIS TEXT AMENDMENT**.

- (f) Woodland Management Activities.** Practices associated with ‘timber management standards’ as defined by the International Society of Arboriculture, or its successor, or existing tree farming operations, such as Christmas tree farming, fruit, or nut production and tree nurseries, during such time as the land is used for tree farming operations are exempt.

(g) Sensitive Areas Site Plan

Development **activity** on lands with environmentally sensitive areas as set forth in Section **XX(4)** shall require submission **and approval** of a Sensitive Areas Site Plan.

A Sensitive Areas Site Plan must be ~~submitted to, and approved by the Planning Commission~~ **Director** prior to woodland clearing, grading or any development activity on lands that contain environmentally sensitive features specified in **Section XX(4)**. **Appeals from the Planning Director’s determination on the Sensitive Areas Site Plan shall be made to the City Commission. An appeal must be filed within 30 days of the Planning Commission’s determination.** The Sensitive Areas Site Plan ~~can~~ may be submitted concurrent with the submittal of any other site plan or development plan; **however, revisions to the development plans may be necessary in order to comply with the approved Sensitive Areas Site Plan. To avoid revisions, prior submittal of the Sensitive Areas Site Plan is**

There should be some provision for protecting environmental features that extend over many ownerships. For example, if a woodland is owned by three people having less than one acre each, but together the tracts would qualify for woodland, would they all be able to obliterate the woods? A developer could bulldoze the tract and then consolidate the land as one ownership entity.

recommended with a concept development plan. The Sensitive Areas Site Plan will be incorporated with other development or site plans for the property. The designated protected areas must be clearly shown on all associated development plans, including public improvement plans.

(h) Development Activity Which Occurs Without Approval of a Sensitive Areas Site Plan

If clearing, grading or other development activity occurs **on lands determined to contain environmentally sensitive features** without **prior** approval of a Sensitive Areas Site Plan, the sensitive areas and features will be determined for the property using the best available data (aerials, surveys, **baseline maps**, etc.) and the property shall be made whole to the extent required in Section **X(10)** under the following guidelines prior to building permits being granted:

In the case of stream corridors, smaller trees, close together are functionally possibly better than large trees. Some of these standards seem arbitrary and suggest the need for expert advice.

Removal of trees from woodland areas: If woodland areas are altered by human activity such as clearcutting or removal of trees to the degree that the property no longer meets the definition of 'woodland', the property owner shall protect the area that would have been required to be protected **with a Sensitive Areas Site Plan.** ~~and The property owner shall~~ replace the trees at a ratio of 1 tree per every 200 sq. ft. of prior woodland area to the extent required in Section X(10). **Replacement trees shall consist of a minimum of 6 species which may be native or selected from the Northeast Kansas Preferred Species Tree List.** (This requirement is in addition to any street tree, buffering, or other landscaping that is required by the Development Code.)

Streams are where the young growth is useful because of their erosion control. The trees should be close together here.

- (2) Damage to Stream Corridor: If the stream or the stream corridor, ~~as required by the City Stormwater Engineer²~~, is altered by human activity, such as the removal of trees or vegetation or in anyway altering the channel, the property owner shall reestablish the channel **per the approval of the City Stormwater Engineer** and replace the trees at a ratio of 1 tree per every 200 sq. ft. of area of stream corridor ~~as determined by the City Stormwater Engineer~~ and shall reestablish ground cover per the approval of the City Stormwater Engineer.

- (3) Destruction of remnant prairie. If an area that has been determined by the KS Biological Survey as having remnant prairies is plowed or otherwise destroyed, the area of the former remnant prairie, as defined by the KS Biological Survey must be preserved as open space and replanted with prairie vegetation to the extent required in Section X(10).

(i) Sensitive Areas Site Plan Procedure

The sensitive areas site plan should be required to be submitted first, with a concept plan, if need be. This is for protection of the developer if the City really means to enforce this code.

A Sensitive Areas Site Plan shall be submitted and approved prior to any development activity, including vegetation removal or grading. The Sensitive Areas Site Plan may be submitted prior to, or concurrent with, another development application, i.e. plat, site plan, rezoning, etc. The Sensitive Areas Site Plan shall delineate and note all sensitive areas and designate protected sensitive areas and associated buffers.

A Sensitive Areas Site Plan shall be reviewed by the Planning Director in accordance with the Site Plan review procedure listed in Section 20-1305.

A development should be designed around protecting the sensitive areas rather than the reverse. The developer needs to know what areas he can develop before he designs his development. Therefore, the Sensitive Areas Site Plan should be submitted before any of the other requirements for an application are submitted.

A Sensitive Areas Site Plan is normally submitted in preparation for another development proposal, such as a plat, development plan or site plan; **therefore**, there is no review fee for a Sensitive Areas Site Plan.

(1) Site Plan Contents:

- (i) The site plan ~~should~~ **shall** be arranged so the top of the plan represents north or, if otherwise oriented, is clearly and distinctly marked.
- (ii) The site plan ~~should~~ **shall** clearly delineate the property boundaries and all of the sensitive areas located on the property and shall designate protection zones for sensitive areas as prescribed below.
 - a. Regulatory Floodplain, including Floodway and Floodway Fringe, designated on the FEMA Flood Insurance Rate Map for Douglas County.
 - b. Wetlands. The site plan shall show the delineation of a jurisdictional wetland area that is accepted by the US Army Corps of Engineers prior to submittal of the Sensitive Areas Site Plan; and the site plan shall show any area that is included on the U.S. Fish and Wildlife Service Wetland Mapper, as a suspected or potential wetland area, along with a 100' buffer area unless a certified wetland specialist, the Kansas Biological Survey, or the Army Corps of Engineers, determine that the area is not a wetland.
 - c. Streams and stream corridors. Streams that are shown in solid or dashed blue lines on the USGS Quad Map shall be included with **their** corridors. ~~as established by the City Stormwater Engineer.*²~~ When other sensitive features are located within a stream corridor, the most stringent required protective buffer shall apply. Unless exempt under the provisions of this Section, the following buffer requirements shall be maintained:

The stream corridor shall be a 200 ft. wide area, centered on the stream. If an ordinance establishing stream corridor widths for individual streams is adopted by the City, the stream corridor width in the ordinance will apply. ~~The City Stormwater Engineer will rank the streams and will provide the required width of each stream corridor based on the size of the stream, and frequency and amount of seasonal flow.*²~~

→ The amount of stream corridor required may be reduced by the City Stormwater Engineer if requiring the full stream corridor buffer would preclude reasonable use of the property, and enhanced vegetative cover will be provided in any remaining buffer area to the extent possible. A waiver request must be provided in writing to the City Stormwater Engineer which explains how the provision of the full required stream corridor precludes reasonable use of the property.

- d) Woodland Areas. ~~Any property containing a woodland area must submit a Sensitive Areas Site Plan~~ **A sensitive Areas Site Plan shall be approved for any property containing a woodland area** prior to woodland clearing or any development activity. The City Woodland Baseline

There are substantial intermittent streams that are not identified on the USGS Quad map. These drainageways should also be preserved. They are major in terms of stormwater accommodation, should remain open, and their corridors should also be protected. An example are the streams that flow through the new wilderness park in Section 21 not shown on the USGA map.

This is too subjective a standard. What is "reasonable use" differs according to the expected profit by the developer.

This is the reverse of what it should be. The emphasis should be on protection of the stream and justification that it will be properly stabilized. The stream should take precedence over development. This is contrary to the Comprehensive Plan.

Map shall be used to determine the amount of wooded areas on site. The following requirements apply to development on properties with woodland areas:

"Required to be retained" still means that if an entire tract of land is wooded, only 30% of it would be required to be retained. This doesn't make sense.

The woodland area required to be retained shall be delineated to include a buffer area by measuring fifty feet (50') outward from the trunks of trees intended to be preserved.

If a modification request is submitted to the Planning Commission and the Planning Commission determines that the required woodland area cannot be retained due to site constraints or infrastructure requirements, replacement trees will be required. One tree shall be planted for every two hundred (200) square feet of woodland removed from the otherwise required retention area and shall be ~~of the same or equivalent species as those being removed.~~ **a mixture of 6 species. Species which are either native to Kansas or are included in the Northeast Kansas Preferred Species List shall be used for replacement trees.**

What is meant here by "site constraints?" Terrain? Or development constraints? Please specify.

The replacement of trees may be waived if it is determined ~~by the Parks and Recreation Director~~ that site constraints prohibit the replacement of trees on site.

To the extent possible, woodlands located on steep slopes and/or within 100 year floodplains ~~should~~ **shall** be given the highest retention priority.

- e) Individually significant trees. The species and size of the tree(s) shall be noted on the plan.
- f) Archaeological and Historic Sites.
- g) Prairie remnants one acre in area or larger. If development is proposed on a property which is shown on the Douglas County Natural Areas Inventory Map as containing remnant prairies these areas must be delineated and noted on the Sensitive Areas Site Plan, if confirmed by the Kansas Biological Survey.

Prairie remnants associated with other sensitive features ~~should~~ **shall** be treated as environmental assets, and ~~should~~ **shall** be considered no-build areas to the extent possible, and used for buffers, filter strips along waterways and/or neighborhood open space. ⁺

- h) Steep slopes, slopes with grades of 15% or higher
~~Any property with slopes greater than 15% grade shall be required to submit a Sensitive Areas Site Plan. A Sensitive Areas Site Plan is required prior to any development activity on property containing slopes with grades greater than 15%.~~

~~Any property with slopes between 25% and 40% grade shall be required to submit a Sensitive Areas Site Plan and a grading plan. A grading plan is~~

This standard is really too minimal. Some communities start protection from grading and defoliation at far lesser slopes. Of all areas requiring cover, slopes greater than 15% need it the most.

What do you mean by "supplemented?"

The way this is worded sounds as though the slope can be disturbed, but not the buffer.

required in addition to a Sensitive Areas Site Plan prior to any development activity on property containing slopes with grades between 25% and 40%. Disturbance of slopes with 25% to 40% grades requires approval of the City Stormwater Engineer.

Any property with slopes of 40% grade or more shall be required to submit a Sensitive Areas Site Plan. Slopes greater than 40% grade shall not be graded and shall remain in the existing state, except that natural vegetation may be supplemented by other plant material. A buffer will be required around any slopes of 40% grade or more. Two feet (2') of buffer will be provided for each foot of vertical rise of the slope up to a maximum buffer of fifty feet (50'). No development activity, including removal of trees and other vegetation, shall be allowed within the buffer.

- i) A site summary table shall be provided which includes the total site area, the area of each environmentally sensitive area delineated on the site plan, and the percentage of the total site which is included in each area. Areas with overlapping environmentally sensitive features shall be listed along with the percentage of the total.

(j) Ranking and Required Protection of Environmentally Sensitive Features

Protection of certain environmentally sensitive features in their natural state is more critical than others. The following priority scheme will assist in the determination of environmentally sensitive areas in which protection is 'critical', those in which protection is important and should be achieved to the greatest extent possible and those for which protection is desirable.

Many sensitive lands are classified as such because they either are intrinsically valuable as historically natural areas such as Balwin Woods, have important environmental functions, or pose hazards as building sites such as floodplains and steep slopes. It doesn't make sense to designate a proportion of a sensitive land as buildable if it is equally sensitive when compared to what is required to be saved.

Some codes do not allow floodplains or hazardous areas to be disturbed and require 50% to 80% of the other sensitive environmental features to be left intact.

The total amount of the site which shall be required to be protected depends on the type and amount of features present.

All protected areas together shall not be required to exceed ~~20%~~ **30%** of gross land area unless critical sensitive areas exist. Critical sensitive areas must be protected in their entirety. 10% of the ~~protected~~ **designated sensitive** area shall serve, and may be improved, as an open space amenity to the development as passive or active recreation.

This implies that only the critical areas will be protected if they exist in combination with protected areas. It should be stated that at least 30% of protected areas shall be preserved over and above that preserved as critical areas, which by law can't be built on anyway. We believe these standards are far less than needed.

When determining which features should be protected, protection will be required in the following ranking order:

- (1) **Critical Sensitive Areas.** Areas containing the following critical sensitive features: **regulatory** floodway, stream corridors, jurisdictional wetlands, slopes with greater than 40% grade, or archaeological and historic sites. Protection of 100% of these sensitive features is required **regardless of the percentage of the total site area which is included.**
- (2) **Important Sensitive Areas.** **Areas containing the following critical sensitive features:** slopes between 25% and 40% grade, floodplain **regulatory floodway fringe, native prairie remnants** and areas with two or more environmentally sensitive features, other than those listed as 'critical sensitive features', occurring together. Environmentally Sensitive Features or Areas that occur together are of

higher priority than any one feature occurring singularly. The priority increases with the number of environmentally sensitive features occurring together. Protection of areas containing these features is required to the maximum extent noted above.

This highlights the problem of multiple ownerships of only "protected" features. Calculating how much to save on individual tracts can't be done with these standards.

- (3) Desirable Sensitive Areas. Areas with environmentally sensitive features, other than those listed as critical or important sensitive areas, occurring singularly. In addition, woodland areas that are part of a larger continuous wooded area that may extend off site are of higher priority than woodland areas that are isolated. Protection of areas containing these features is required to the maximum extent noted above.

What is the maximum extent, 100% or 30%? This is not at all clear.

Environmentally Sensitive Features shown on the site plan are prioritized for protection by the ranking scheme above in combination with an evaluation of the development proposal, the surrounding area (to determine connectivity) and the mix of sensitive features present on the site. The actual amounts of

????

(k) DEVELOPMENT OPTIONS

The following development options are available for properties containing environmentally sensitive lands:

When using PD development increasing the net density is not wise, because the sensitive land doesn't reduce the net area. It would be better not to allow reduction in net density and simply allow the other options to compensate for the loss of developable land, such as smaller lot sizes. The density can remain the same as it would have been originally. The standards for using PDs for preserving sensitive lands should be different than for ordinary PDs.

- (1) May develop as a Planned Development, per standards in Section 20-701, to protect the greatest amount of environmentally sensitive features possible while accommodating development. The minimum amount of natural open space to be preserved will be determined after a review of the Sensitive Areas Site Plan. Planned Developments provide the following additional flexibility: reduced lot sizes, increase in maximum net residential density by up to 25%, reduction in minimum setback standards of the base district with some restrictions, increase in the height of the buildings, and reduction in the number of off-street parking spaces required.
- (2) May develop as a Cluster Development per standards listed in Section 20-702. If environmentally sensitive features are present, a Cluster Development may exceed the 35 lots permitted in Section 20-702(c)(1). Cluster Development allows the property to develop at the same maximum density as the base zoning district permits, but with no minimum lot area or lot width requirements. Special setbacks for the perimeter apply and 10' separation is required between all detached dwellings.
- (3) May develop with a site plan, or single-dwelling or duplex residential development may occur through a traditional subdivision, when a review of the Sensitive Areas Site Plan indicates that it is possible to develop the property according to the regulations of the base zoning district while protecting the sensitive areas through easements, building envelopes, common-ownership tracts, or other means. The development proposal shall be reviewed with the approved Sensitive Areas Site Plan to insure that the proposed development will preserve the amount of sensitive area necessary. The Sensitive Areas Site Plan shall be incorporated with any submitted development proposal, i.e. plat, site plan, development plan, etc. The protected sensitive areas and building envelopes must be shown on the preliminary and final plat to insure that

Using building envelopes hasn't been mentioned elsewhere.

buildings and construction activity do not encroach into the sensitive areas. A note must be included on the plat or site plan noting the party responsible for the maintenance of the protected environmentally sensitive areas and stating that all development activity, including grading and construction, is prohibited within the protected sensitive areas.

(l) Sensitive Areas Development Design Guidelines:

- (1) Street rights-of-way, public utility corridors and building sites should be located so as to minimize their impact on environmentally sensitive areas.
- (2) Where possible, environmentally sensitive areas to be protected should be located within designated public or private open space, either through dedication, a conservation easement, or control by a homeowner's association.
- (3) If a review of the Sensitive Areas Site Plan and proposed development indicates that it is not possible or reasonable to protect the required amount of sensitive features, mitigation may be possible. A mitigation plan shall be submitted to the Planning Commission for review. Any appeals from the Planning Commission's determination on the mitigation plan ~~would~~ **shall** be heard by the City Commission.

(m) Modifications to the Sensitive Area Design Standards and Guidelines

The development standards and guidelines contained in this section are to be used as minimum requirements for evaluating development plans on lands containing environmentally sensitive areas. However, the standards and guidelines are not intended to restrict creativity or prohibit reasonable economic returns on developing property. An applicant may request modifications of the sensitive areas design standards and guidelines, such as, but not limited to, a reduction in the area required to be preserved, or a change in the hierarchy ranking of protected features, if all the following criteria are met:

- (1) The modification will be in harmony with the purpose and intent of this section.
- (2) The modification will generally enhance the sensitive areas site or development plan and will not have an adverse impact on its physical, visual or spatial characteristics.
- (3) The modification shall not result in a configuration of lots or a street system which is impractical.
- (4) The modification shall not threaten or diminish the public's health, safety or welfare.
- (5) The modification shall not include or alter environmentally sensitive features for which protection is required, such as 'floodway' or 'jurisdictional wetlands'.

Modification requests will be reviewed by Planning Staff and presented to the Planning Commission. The Planning Commission shall make the determination on the modification request. Appeals of the Planning Commission's decision shall be made to the City Commission.

This is too subjective. If a developer can't achieve reasonable economic returns on a tract because of its sensitive areas, he shouldn't be trying to develop it in the first place.

Please allow people from the protest area to be able to appeal to the City Commission.

The following are definitions to be added to general glossary

Clearcutting. The removal of most or all trees on a site, or the removal of more than one-half (0.5) acre of trees in an area determined to be sensitive by this section, during a single timber harvesting operation or within a three (3) year period.

Environmentally Sensitive Areas – Areas containing natural features and/or natural resources which include regulatory floodplain, jurisdictional wetlands, streams and their corridors, woodland areas, individually significant trees, prominent ~~geographic~~ **geologic** features with rocky outcroppings, archaeological and historic sites, prairie remnants and steep slopes.

Individually Significant Tree – A significant tree is an existing healthy tree which, when measured four feet above grade, has a minimum diameter of 8 inches for evergreen trees, or 12 inches for deciduous trees. Significant trees may be of any species listed in the Northeast Kansas Preferred Species List (available at the Planning Office) or any of the following native species: Walnut, Red Maple, Shagbark Hickory, Black Cherry, Black Locust, American Elm, ~~Chinese Elm~~, Hackberry, Osage Orange, White/Red Mulberry, Chinkapin Oak, Bur Oak, White Oak, Black Oak, Honey Locust, Cottonwood, Sycamore, Red Cedar, Black Gum, or Yellow Poplar.

Open Space – An area of land or water, either landscaped or essentially unimproved, which is used to meet human recreational or spatial needs, or for resource protection. Open space areas may or may not be improved but can include playfields, trails, greenbelts/greenways, community gardens, farmed areas, buffers between land uses of differing intensities, areas within community or neighborhood parks and other environmentally sensitive areas.

Prairie Remnants – Prairie areas that have remained relatively untouched on undeveloped, untilled portions of properties and containing Prairie Remnant of one (1) acre or larger: Prairie areas that have remained primarily a mixture of native grasses interspersed with native flowering plants. (These areas have not been planted, but are original prairies) ~~±~~

Stream – A stream is a natural body of flowing water, whether constant or intermittent, that begins at headwaters and gathers water from run-off, rain, snow melt, **groundwater discharge** or from underground springs. Streams hold great importance regardless of size or flow. Streams provide ~~water~~, a variety of aesthetic **and ecological** values and are important wildlife habitats. All streams shown in blue dashed or solid lines on the USGS Quad maps are included in this listing.

The following term will be replaced:

~~Stand of Mature Trees: An area of ½ acre or more covered by densely wooded growth of mature trees having a minimum height of 25 feet.~~

Woodland – Any tract of land with a contiguous wooded area not less than ~~two (2) acres~~ **one (1) acre** and containing not less than one hundred (100) trees per acre that are two inches (2 in.) in diameter or greater measured at 53 in. above the ground. The extent of any woodland plant community or any part thereof shall be measured from the outermost drip line of all the trees in such plant community. Woodland shall include any area where clearcutting has occurred within the previous three years.

Woodland Area – Area of 1 acre which is denoted as ‘woodland’ or ‘forest’ on the City Woodland Baseline Map. Data for the woodland baseline map is taken from City-wide aerial photography. For recently annexed properties the City Woodland Baseline Map is based on data developed from satellite imagery provided by the Kansas Applied Remote Sensing Program and the Kansas Biological Survey. This map serves as the baseline for woodland area and will serve as the basis for Sensitive Areas Site Plans, or for determining if woodland was present on land which was disturbed prior to the submittal of a Sensitive Areas Site Plan. A tree inventory may be conducted by the property owner using the definition of ‘woodland’, to refine the limits of the woodland area.

The following term will be revised:

~~Stream Corridor – A strip of land 100 feet wide, of which the centerline shall be the centerline of a stream that is not an intermittent stream or an intermittent stream specifically identified in the comprehensive plan as a significant intermittent stream subject to protection.~~

A stream corridor is a stream and it's **a 200' vegetated** buffer area, **which is centered on the stream.** the width of which varies according to the size of the stream, the amount of flow, and topography of the site. The City Stormwater Engineer will determine the required buffer area for streams.² **When a Stream Ordinance establishing a corridor or buffer width for each stream in the City has been adopted, the width of each stream corridor will be as set out in the Ordinance.**

QUESTION: In mitigation requirements, if a developer bulldozes an entire woodland that may cover most of his tract (site) would he be required to replace an amount equal only to what existed on 30% of his tract?

In reviewing codes from other communities, we found that the percentage of sensitive lands required to be preserved also, as is true here, depends on what it is. Woodlands are considered fundamental environmental needs and are preserved 100 per cent in stream corridors and on steep slopes, (which are much more protected than in this draft, designated slopes often starting at 15%). Woodlands in some codes are preserved up to 80% or more of the existing woodland in residential developments, less in commercial developments. The amount preserved is based on the amount of sensitive land and not on the size of the tract.

The point should be made that in areas where there are streams beyond those listed on the USGS Quad Maps, woodland outside of stream corridors, and rocky ledges, for example, most of these could be destroyed on small ownership sites. Trying to preserve an arbitrary percentage of sensitive land on a site could be extremely destructive. Slopes as steep as 15% and above are considered by many communities as requiring severe limitations on use. FOR EXAMPLE, EVEN LOCAL STREETS HAVE A MAXIMUM PERCENTAGE PERMITTED GRADE OF 10% AS CITED IN THE LAWRENCE-DOUGLAS COUNTY SUBDIVISION REGULATIONS.

Trying to preserve sensitive lands could lead to their destruction if the standards aren't clear and less minimal.

1034 E. 450 Rd.
Lawrence, KS 66047
June 21, 2008

Lawrence-Douglas County Planning Commission
City Hall, 6th and Massachusetts St.
Lawrence, KS 66044

Dear Chairman and members,

I have reviewed the draft of the Environmentally Sensitive Lands Code, item 3 on your agenda and wish to make a few suggestions.

First, I highly recommend that you incorporate a paragraph at the outset of this document that describes the rationale for including it in the codes. The most important reason for placing restrictions on sensitive areas is that it saves the community money in the long run. These areas that are preserved in their natural state provide many free services, including flood control, erosion control, water filtration, storm water runoff areas, pollution control, passive recreation, carbon sequestration, wildlife protection, etc. Recognizing and protecting free ecological services decreases our losses from floods, protects our clean water resources, reduces our carbon footprint, and improves the quality of life.

I would also suggest that on page 9-2, the words "ecology expert" or "natural areas expert" be added as a third party who can submit evidence that the planning commission must use in making a determination of compliance. There is no guarantee that the planning staff will always include someone with sufficient training in ecology, and an outside expert in forestry, prairies, or watersheds—whatever type of sensitive area is under consideration—would add invaluable assistance to the commission and credibility to the code.

Finally, I encourage you to consider the revisions suggested by the League of Women Voters. I have reviewed them carefully; they should guide you in clarifying the substance of this document. In particular, the repeated suggestion that the word "should" be replaced with "shall" is very important. If there are consequences for developers who ignore this code—replanting or mitigation—then the items in the code are required, not optional. "Should" implies that it ought to be done, not that it must be done.

Thank you for considering my suggestions.

Respectfully submitted,

Beverley Worster

ITEM NO. 18 AMENDMENTS TO DEVELOPMENT CODE (MKM)

TA-12-27-07: Consider amendments to Section 20-1101 and 20-1701, Lawrence City Land Development Code, relating to environmentally sensitive lands.

STAFF PRESENTATION

Ms. Mary Miller presented the item. Since the June Planning Commission meeting, Staff has received comments on the proposed text amendment language from various individuals. Stan Rasmussen, Planning Commissioner, met with Staff to discuss language which may be unclear. The amendment has been revised based on his suggestions to clarify language and to reformat the amendment so that standards and guidelines are clearly listed in a separate section and not distributed throughout the amendment. Frank Norman of Norman Ecological Consulting provided information on the native prairie remnants as well as other ecological issues. The text amendment has been revised to include the language and reformatting as a result of these discussions.

COMMISSION DISCUSSION

Commissioner Dominguez asked for information on the revised standard for historical properties which includes those which are 'eligible' for listing. He asked how eligibility is determined.

Ms. Lynne Braddock Zollner, Historic Resources Administrator, stated that the State Historical Preservation Office has a database of properties that are eligible for listing and there is a set of criteria that must be met in order to be eligible for listing. Utilizing the database and the criteria, she would determine if the property was eligible for listing.

Commissioner Dominguez asked how long the determination would take.

Ms. Braddock Zollner responded that it takes a short time to make the determination, usually within one day.

PUBLIC HEARING

Ms. Betty Lichtwardt, League of Women Voters, said that several months ago the League was encouraged by Mary Miller examining the proposed revisions for loopholes. A key provision in the draft is the following excerpt (i) under the new Section 20-1109 which is a source of their concerns.

(i) Ranking and Required Protection of Environmentally Sensitive Areas

All protected areas together shall not be required to exceed 30% of gross land area unless critical sensitive areas exist.

She said that the term "gross land area" was not clear. It could be interpreted in two different ways: (1) the gross land area of the sensitive features or (2) the gross land area of an ownership tract. She was assuming that it means the ownership tract, but it should be made clear. Second, the amount of environmentally sensitive land required to be "protected" by the new draft they believe would be a major source of trouble. The arbitrary limit of "All protected areas together shall not be required to exceed 30% of the gross land area." they view as a major problem. She went on to say that the draft also states that 100% of "protected areas" must be preserved. However, except for the category of 40% slopes and stream corridors on USGS Quad maps this is not over and above the amount of land that would, under other laws be required to be preserved anyway. If 30% or more of a tract constituted all "protected areas" features, everything else that might exist on a tract would be lost regardless of what other features might be present. She said that the League has mentioned this several times in letters. Some sensitive features commonly exist in combination such as streams, wooded slopes, rocky outcroppings, and even prairie. In the case of a major stream existing on a tract coming up to or exceeding the 30% preservation allotment, the wooded slopes, rocky outcroppings, and prairie would be sacrificed because they exceeded the 30% maximum required for preservation. She said that this did not make sense. In the near future, besides the other many environmental benefits, trees are going to be worth money in the form of carbon credits and they should be protected. She said that it would make

more sense if there must be a limit on how much is protected, to add the 30% allotment over and above the mandatory protected areas when they also exist on a tract. She said that there are many other problems that by setting arbitrary allotments. The land itself should dictate what is to be preserved and not the size of an ownership tract. However, the most serious issue of this code that we see is its method of enforcement. Mitigation requires only replacement of what would have been required to be preserved. This is an invitation to destroy everything else before submitting a Sensitive Areas Site Plan with a challenge to the City to prove the damage. The enforcement would require taking the perpetrator to court. We suggested in previous communications on this code that the City extend the Development Permit requirement to all land in the City, not just in Floodplains where they now are required. She said that they have also asked that the City and County institute a program of Transferrable Development Rights or similar program to better preserve environmentally sensitive areas and agricultural lands.

ACTION TAKEN

Motioned by Commissioner Blaser, seconded by Commissioner Carter, to approve the proposed amendment [TA-12-27-07] to Section 20-1101 and 20-1701, Lawrence City Land Development Code, relating to environmentally sensitive lands, and forward to the Lawrence City Commission.

Motion carried 7-1-1, with Commissioner Singleton voting in opposition and Commissioner Harris abstaining.

ITEM NO. 9 AMENDMENTS TO SECTIONS 20-1101 & 20-1701, DEVELOPMENT CODE (MKM)

TA-12-27-07: Amend Section 20-1101 and 20-1701 of the Development Code relating to environmentally sensitive lands.

STAFF PRESENTATION

Ms. Miller presented the item and recommended that the Commission not take action this evening since there were a number of public communications which staff has not had a chance to look at.

Commissioner Lawson inquired about significant trees and tree species. He asked if native trees are something that would have been in existence in this geographical area prior to the time of settlement.

Ms. Miller said she assumed that native trees meant native to Kansas before settlement.

Commissioner Hird asked, in regard to prairie remnants, what relatively untouched or undeveloped meant.

Ms. Miller said that a prairie is managed by burning it and that managed was what they were talking about. Land that had been plowed would not be considered relatively untouched and would no longer be prairie.

Commissioner Hird asked if individually significant trees would mean there was one on the property.

Ms. Miller said that was correct.

Commissioner Harris asked what is the goal of saving individually significant trees.

Ms. Miller said that individually significant trees can be established big trees, which are old and sturdy.

Commissioner Harris inquired about harvesting trees.

Ms. Miller gave the example of harvesting trees on a Christmas tree farm.

McCullough said this was not about individual lots and homes, it is about development projects. If a property owner has 10 acres and they were not developing the property then they could use the trees as desired. Staff has identified some of the loop holes associated with development activities and this Text Amendment is trying to tighten those loop holes. Staff was not asking for recommendation, just guidance on where the thresholds should be in protecting the sensitive lands.

PUBLIC HEARING

Ms. Betty Lichtwardt, League of Women Voters, was concerned about preserving sensitive lands. She felt that the Text Amendment needed revisions and she gave suggestions.

Ms. Joyce Wolf, on behalf of Jayhawk Audubon, summarized the letter that was included in the Planning Commission online packet.

Commissioner Moore asked how she would define a mature tree.

Ms. Wolf said that it would depend on the species of tree and that an arbitrary figure for all species cannot be picked.

Mr. Bob Lichtwardt, property owner who owns several wooded lots, showed photos that illustrated the kind of land he discussed. He believed parts of his woodland do not qualify for preserving under the current code proposed. He felt that the Development Code should enforce the preservation of trees. He said that there are other areas of the city that have woodlands that need preserved.

COMMISSION DISCUSSION

Commissioner Hird inquired about clear-cutting of trees.

Ms. Miller stated that the removal of trees in a three year period would be clear-cutting.

Commissioner Harris asked why the reasons for saving sensitive lands were not in the standards.

Ms. Miller said that staff deliberately omitted discussing the reasons for saving sensitive lands because different people may have different objectives for saving sensitive lands. It could be an area of argument. She thought that it might be better to include in the environmental chapter of Horizon 2020. A forester would be primarily concerned with tree species and health while a biologist's objective may be wildlife habitat.

Commissioner Harris was concerned about wildlife habitat.

Ms. Miller clarified that it was 20% of the site, not 20% of the woods that would be saved. If the site contained 20% of trees then all of the trees would be saved.

ACTION TAKEN

No action taken.