

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 in 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:
 - (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 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.
- (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 in or determined eligible for listing in the local, state, or federal registers of historic places.
- (8) 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.

- (9) Slopes:
 - i. Steep Slopes: A slope of fifteen percent (15%) but less than twenty five percent (25%).
 - ii. Protected Slopes: A slope of twenty five percent (25%) but less than forty percent (40%)
 - iii. Critical 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) Kansas State Historical Society Archeological and Historic Resources Inventory
- (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 20-1101(c) 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 20-1101(c). 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 20-1101(i) 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 20-1101(i). 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 20-1101(i). 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 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.
- (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 have been determined 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 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 regardless of the total percentage of the site which is included. All protected areas together shall not be required to exceed 30% of gross land area unless critical sensitive areas exist on more than 30% of the gross land area. 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. To the extent possible, woodlands located on steep slopes and/or within 100 year floodplains shall be given the highest retention priority.
- (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 in this section.

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 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 property owner, 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 aerials 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

Kansas State Historical Society Archeological and Historic Resources Inventory