

## K-10 Design Guidelines

In 1993, the member cities of the K-10 Association adopted design guidelines for the corridor. The document recommends design guidelines for the appearance of development located not only adjacent to the highway but within the entire corridor. Since adoption, these regulations have been used in numerous cases by individual communities to leverage the upgrade of the appearance of development proposals.

### Goals and Objectives for K-10

The design standards and guidelines were prompted by the adoption of new goals and objected by the K-10 Association. Among the goals that are to be attained by implementing design standards include:

**Land Use:** Prevent sprawl and promote development that is orderly, compatible with one another, and appropriate for the region.

**Natural Environment/Open Space:** Preserve and protect the natural environment and the scenic quality of the highway corridor, including flood plains, wetlands and wooded areas.

**Development Appearance/Image:** Enhance the overall appearance and image of the highway corridor by ensuring high quality design standards.

**Transportation:** Ensure adequate, safe and efficient traffic service on K-10 highway and on the adjoining secondary roads system that serves it.

**Coordination:** Accomplish the foregoing goals through cooperative planning by all the jurisdictions located within the highway corridor to benefit all the Johnson and Douglas Counties, Kansas.

### Overlay District

The inextricable link between the automobile and our daily lives emphasized the importance of transportation corridors. Corridors often dictate where development occurs. Therefore, they define the fabric of our communities. In order to ensure appropriate development, coordination should be established prior to major building activities. In the near future, it is expected that development will primarily occur at interchanges along K-10. These design standards propose methods that not only enhance development in the near future, but also ensure compatible development for the areas between interchanges that may occur in years to come. Design standards have been developed to ensure that the K-10 Corridor has a quality experience for travelers and business owners to, however different from, what exists today.

The K-10 Association introduced an overlay district for the corridor with the presentation of its design standards. The district extends 1,320' beyond the highway right-of-way approximately 1/4 mile. However, the extent of the boundaries, in some instances, may require flexibility

based on for protection of the view shed, topographic features, or the need for continuity. Within the overlay district, guidelines are divided into three principle categories:

1. Enhancement Guidelines
2. Design Guidelines
3. Design Requirements.

### Enhancement Guidelines

Enhancement guidelines are standards used to make a judgment regarding the improvements to be made within the state right-of-way. The enhancement guidelines can only be implemented through coordinated efforts with the Kansas Department of Transportation.

Enhancement Guidelines affect the following design elements such as bridge design, highway signage, lighting, vegetative plantings, and fences.

### Design Guidelines

Design guidelines are standards used to make a judgment regarding the development of properties within the overlay district. These voluntary guidelines can act as a framework for review of proposed development plans by each community. The design allows the flexibility that is important to creative design.

Design Guidelines affect such design elements as architecture, design colors, building materials, signage, existing vegetation, lighting, vegetative plantings, parking, and roads.

### Design Requirements

Design requirements are conditions that are obligated by developers of properties within the overlay district.

Design requirements include substantial conformity with design guidelines, setback standards, height standards, and parking standards.

For additional information, please contact the Planning Department of your city or the K-10 Association office at (913) 831-7166.

## **APPENDIX C**

### **Natural Areas Inventory**

A Natural Areas Inventory of the K-10 Corridor was prepared in 1996 by the Kansas Biological Survey of the University of Kansas. This report identifies areas within the corridor of significant environmental sensitivity including wetlands, forests, and natural habitats. The report identifies scenic areas to be preserved and the locations of endangered species including bald eagles that are often seen in the corridor. This \$15,000 study, financed by the K-10 Association, will be used by the individual communities to review development proposals within their respective jurisdictions.

Three significant event related to the environment have occurred since 1991. These events consider and plan for the welfare of the natural environment in the K-10 Corridor. The Kansas Biological Survey published a report inventorying the natural areas along K-10 in 1996. The Johnson County Parks and Recreation District (JCPRD) have identified new opportunities for open space and park areas in the corridor including a new Streamway Park. The streamway park along with a horticultural research center operated by Kansas State University both plan to locate within the Sunflower Ammunition Plant.

#### **Kansas Biological Survey**

The Natural Areas Inventory of the K-10 Corridor was designed to identify protected and rare species and outstanding natural communities along K-10 covering portions of both Douglas and Johnson Counties. The specific objectives of the study were to:

- provide early notification of potential natural resource conflicts;
- identify exemplary natural areas that are reservoirs of biological diversity;
- identify potential green spaces, parks, and preserves that could help maintain the region's aesthetics and provide recreational and educational opportunities.

Thousands of birds and insects move through eastern Kansas during their spring and fall migration, relying on habitat in the K-10 Corridor for resting, feeding and breeding. Human activities have fragmented and disrupted many former terrestrial corridors, especially on upland spots where most natural vegetation has been destroyed. However, riparian forests are especially significant corridors, providing routes for the movement of wildlife, helping maintain water quality, and contributing to the aesthetics of the corridor. The locations of the sites surveyed during the study are illustrated in Figure 1.

The focus area of the study included a 2-mile wide band of land bisected by K- 10 Highway. It begins in the east at the Junction of K-10 and K-7 and extends west to the east city limits of Lawrence near the Junction of K-10 and Douglas County Road 442. The corridor encompasses roughly 28,000 miles.

By contrast, the study area encompasses a larger geographic region. It roughly includes the northern half of the Cedar Creek, Kill Creek and Captain Creek watersheds, all of the Camp Creek watershed, and the extreme eastern portion of the Wakarusa River watershed. The Kansas River flood plain is included in the study area.

Four sites recorded by the study possessed communities that were present at sufficient size and quality to be added to the Kansas State Natural Heritage Inventory (KSNHI) database of outstanding natural communities.

Other remnants such as degraded prairies, forests and wetlands also exist throughout the focus area. These natural areas are also vital to native lands and animals, as they serve as buffer areas and connectors for high quality sites and many could be restored to pristine conditions.

The identified natural communities within the focus area that were present at a quality and sized to be added to the KSNHI include:

**Eastern upland forest** occurs on gentle to moderately steep slopes on uplands and steep valley slopes. The best examples of this community type are dominated by oak (*Quercus*), and hickory (*Carya*).

**Eastern low floodplain forest**

occupies level to undulating floodplains of the Kansas River and its major tributaries. This community type typically exhibits lower plant species richness than does Eastern high floodplain forest due in part to periodic floods that may inundate sites with standing water for extended periods. Dominant species include plains cottonwood (*Populus deltoides monilifera*) and sycamore (*Platanus occidentalis*).

**Eastern high plain forest** occupied level to undulating floodplains along the upper reaches of tributaries to the Kansas River. The dominant species in these forests are common hackberry (*Celtis occidentalis*), white ash (*Fraxinus American*), American Elm (*Ulmus Americana*), and Slippery Elm (*U. rubra*).

**Northeastern tall grass prairie** occurs on level to steep slopes on upland in the Glaciated Region of Kansas, mostly north of the Kansas River and east of the Little Blue River. Soils of these natural communities are deep, somewhat poorly drained to well drained, and silty to loamy, having formed from loess, glacial till, or colluvium. Dominant species on

these prairies are big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), **and** Indian grass (*Sorghastrum nutans*).

**Southeastern tall grass prairies** are characterized by steep slopes on uplands in the age Cuestas and Chautauqua Hills physiographic provinces of Kansas (*i.e.* on unglaciated terrain south of the Kansas River and east of the Flint Hills). Soils of this prairie type are moderately deep, to deep, somewhat poorly drained to well drained, and silty to loamy, having formed from clay, alluvium or material weathered from shale, limestone, or sandstone. Dominate and common plant species are similar to those of the Northeastern tall grass prairie, although Southeastern tall grass prairie tends to support a greater abundance and variety of xeric-adapted species.

Figure 2 and Table 1 illustrate the location of identified significant natural communities to be added to the KSNHI. Other natural communities occurring in the study area includes Eastern low floodplain forest, Limestone glade, Rock outcrop, intermittent stream, Perennial stream, and River. However, none of these communities were of sufficient size or quality to be added to the KSNHI.

### **Rare plants and animals**

Rare plants and animals were also surveyed. Table 2 summarizes the federal and/or state protected species potentially occurring in the K-10 Corridor. Species in bold face were confirmed as occurring in the corridor. An asterisk denotes that surveys were conducted for that species. Figure 2 and Table 1 illustrate the location of identified rare plant and animals sightings during the study.

Several other species not confirmed to be present during this study may migrate, nest, or breed in the K-10 Corridor. Six species of federally-protected birds do or may migrate through the area, but nesting and/or foraging habitat for these species is rare or absent in the corridor.

Bald eagle  
Eskimo curlew  
Least tern  
Peregrine falcon  
Piping plover  
Whooping crane.

Mead's milkweed, a federally protected plant, occurs at one site in the corridor focus area, and several other populations were documented in the study area. One population of each of the three state-rare plants was discovered.

Appendage waterleaf  
Papillary watermeal  
Eggleaf skullcap.

### **Managed areas**

Managed areas are tracts of land in public or institutional ownership that is managed or could be managed to protect significant elements of biological diversity. Examples of managed areas are parks, recreation areas, nature preserves, and private lands with conservation easements. Fifteen managed areas were identified to be within the corridor study area. Seven of these areas currently support outstanding natural communities. Most harbor population of one or more rare species. Table 3 and Figure 3 illustrate the sensitive elements and location of each managed area.

## **Recommendations**

From the results of the study, the following recommendations were presented:

- Develop protection and management strategies for the resource and resource users.
- Make informed proactive decision about the use and management of land in the care of users.
- Develop a regional conservation plan that can provide the appropriate context for much of this information.
- Identify conservation priorities and principle stakeholders
- Connect greenways.
- Include conservation tools in plans for conservation such as:
  - Voluntary protection efforts
  - Incentives for landowners
  - Conservation easements
  - Land acquisition.