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## Chapter 4: Preserve and Enhance Natural Resources and Promote Resiliency

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*For related guiding principles, goals, and policies, refer to: Chapter 8: Healthy, Livable Neighborhoods Offering a Variety of Lifestyle Options; Chapter 9: An Active Community Recognized for its Quality of Life and Strong Sense of Place.*

### Background and Intent

Residents of the Manhattan Urban Area feel strongly about conserving the area’s natural amenities and scenic quality. The City and Counties will work to preserve and enhance natural features and resources that provide wildlife habitat, maintain environmental quality, and enrich the lives of residents through education, observation, and outdoor recreation opportunities. The core of this “green infrastructure” framework will consist of the most sensitive environmental areas as identified on the Development Constraints Map. These include wetlands, critical wildlife habitats of threatened and endangered species, riparian corridors, native woodlands, and steep slopes. The tall grass prairie, the defining natural feature of the areas surrounding Manhattan, may also be incorporated into an open space framework. These areas contain concentrations of natural forms, features, and functions, and are considered worthy of the highest level of protection. Preserving the area’s natural features and resources will help maintain the community’s identity and sense of place, as well as its desirability as a place to live, work, and visit. Green infrastructure can also include features within a more urbanized setting, including undeveloped open spaces (public or private), parks, storm water buffers, view sheds and other similar features. Ongoing coordination on hazard mitigation issues and limitations on growth in flood or other hazard prone areas will help minimize future property damage and potential loss of life and promote the overall resiliency of the community when faced with potential disasters.

Goals and policies to preserve and enhance natural resources and promote resiliency are based on the following guiding principles:

- Conservation of environmentally sensitive areas;
- A connected, continuous, and permanent network of “green infrastructure;” and
- A safer and more resilient community.

The goals and policies in this chapter, in conjunction with the supporting policy documents identified at the end of this chapter and other goals and policies contained in this Plan, should be used to support the continued expansion of a “green infrastructure” framework, protect important natural features and

resources, and reduce risk and long-term effects from natural and manmade disasters.

## Guiding Principles, Goals, and Policies (NRE)

### Guiding Principle NRE-1: Conservation of environmentally sensitive areas and natural resources

#### GOAL NRE-1.1: MINIMIZE IMPACTS FROM DEVELOPMENT ON ENVIRONMENTALLY SENSITIVE AREAS



##### NRE-1.1A: Environmentally Sensitive Areas

Maintain buffers between urban development and environmentally sensitive areas—such as Wildcat Creek, the Big Blue and Kansas Rivers, numerous secondary stream corridors, drainage areas, and wetlands, as well as prairie ecosystems—to reduce negative impacts upon natural habitat, protect water quality and reduce stormwater runoff. Effective protection of environmentally sensitive areas requires that they be linked, where appropriate and possible, into a network of major habitat types and corridors. Protection of these areas also enhances the scenic quality of the Manhattan Urban Area, maintains flood control capabilities and important wildlife habitat, protects water quality, and provides for potential eco-tourism opportunities.

##### NRE-1.1B: Neighborhood Design

Encourage the protection of unique natural features and the incorporation of linkages to the overall system of open space and trails in the Manhattan Urban Area in the design of new neighborhoods. Identify corridors, such as tributary drainage channels, during the subdivision or master planning process as a means to provide linkages within and between non-contiguous parks, environmentally sensitive and preserved open space areas, as well as neighborhoods and other development areas. These linkages are not only important to creating uninterrupted systems for maximum biodiversity, but also contribute to the establishment of a network of green infrastructure that visually and functionally links the various neighborhoods. The defining characteristics of a naturally occurring corridor (e.g., shape, width, vegetation) should be preserved, in



order to maintain its integrity and avoid creating an “engineered” appearance. Corridors may or may not incorporate community parks, open space and trail systems, depending on the environmental sensitivity and specific characteristics of the site.

**NRE-1.1C: Resources Extraction**

Protect the City’s water well field and opportunities for the extraction of subsurface natural resources, such as sand and gravel, as development occurs. Require mitigation of undesirable impacts to the natural environment and community as well as plans for viable potential reuse of the land upon completion of resource extraction activities.

**GOAL NRE-1.2: PROMOTE THE USE OF ENVIRONMENTALLY SENSITIVE SITE DESIGN AND DEVELOPMENT PRACTICES**



**NRE-1.2A: Responsible Grading Practices**

Encourage the use of grading practices that minimize soil disturbance, excessive grading of natural topography, severe roadway cuts, and the removal of existing vegetation to ensure that they do not contribute to flooding and erosion.

**NRE-1.2B: Best Management Practices**

Encourage the use of Stormwater Best Management Practices for addressing nonpoint pollution, such as stormwater retention or on-site storm runoff water treatment technologies, and other techniques to minimize sedimentation and other pollutant runoff into area waters.

**NRE-1.1C: Landscape Materials/Maintenance Practices**

Encourage the use of native or xeric landscape plants to minimize the need for water, pesticides, and fertilizers. Encourage use of organic pesticides and fertilizers in existing turf areas to reduce impacts on area waters.

**Guiding Principle NRE-2: A connected, continuous, and permanent network of “green infrastructure”**

**GOAL NRE-2.1: COMPLETE MISSING LINKS IN THE OPEN SPACE AND TRAILS NETWORK**



**NRE-2.1A: Green Infrastructure**

Use a variety of methods—both public and private—to facilitate the creation of a continuous, permanent, system of open space corridors using natural features such as preserved open space areas, drainages, streams, and rivers to the extent possible. Continue to expand the Linear Trail and other trail and open space corridors that will ultimately link key destinations in the Manhattan Urban Area. Prioritize improvements and linkages to greenways, open space, and trails in areas that are underserved (see Parks and Trails Recreation Service Areas map in Chapter 9) or areas where “missing links” can be readily addressed either as standalone projects or as part of other public improvement projects.

**NRE-2.1B: Coordinated Improvements**

Coordinate planning and development of open space and trail corridors with the development of stormwater facilities to maximize available resources and to reduce the need for engineered stormwater solutions.



## Guiding Principle NRE-3: A safer and more resilient community

### GOAL NRE-3.1: REDUCE RISK AND EFFECTS OF NATURAL AND MANMADE HAZARDS



#### **NRE-3.1A: Natural Hazards**

Prohibit development in areas where natural hazards have been identified which have the potential to endanger life, resources, and property. Within the Manhattan Urban Area, these hazards include steep slopes (twenty percent or greater slope), floodways, and other special flood hazard areas.

#### **NRE-3.1B: Integrated Planning and Decision-Making**

Integrate hazard mitigation considerations into supporting plans and policies at the city, county, and regional level to increase awareness of the associated risks and costs, identify strategies to minimize threats for existing development in high risk areas, and to promote informed decision making when future development within high risk areas is proposed for consideration. Participate in periodic updates to and the implementation in the Multi-Jurisdiction Hazard Mitigation Plans for Riley and Pottawatomie County, as needed. Coordinate planning of new developments located in identified critical noise impact areas with Fort Riley and implement applicable recommendations in the Flint Hills Joint Land Use Study.

#### **NRE-3.1C: Open Space Protection in High Risk Areas**

Prioritize open space protection efforts in areas recognized as potentially being at risk of being impacted by natural or manmade hazards, including but not limited to floodplains, steep slopes, and areas located below a dam.

#### **NRE-3.1D: Foster Interagency Coordination**

Foster interagency coordination to promote a greater understanding of what resources are available to support hazard mitigation planning and disaster recovery efforts within the region, minimize duplication of efforts, and ensure open lines of communication are established in advance of a major event.

#### **NRE-3.1E: Utility Undergrounding**

Promote undergrounding of existing utility systems as opportunities arise as part of related infrastructure projects to reduce damage to and vulnerability of above

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ground utilities during flood events, high winds, and other potentially hazardous weather conditions.

### **GOAL NRE-3.2: INCREASE PUBLIC AWARENESS AND PRE-PAREDNESS WITH REGARD TO POTENTIAL HAZARD RISKS**

#### **NRE-3.2A: Public Information and Education**

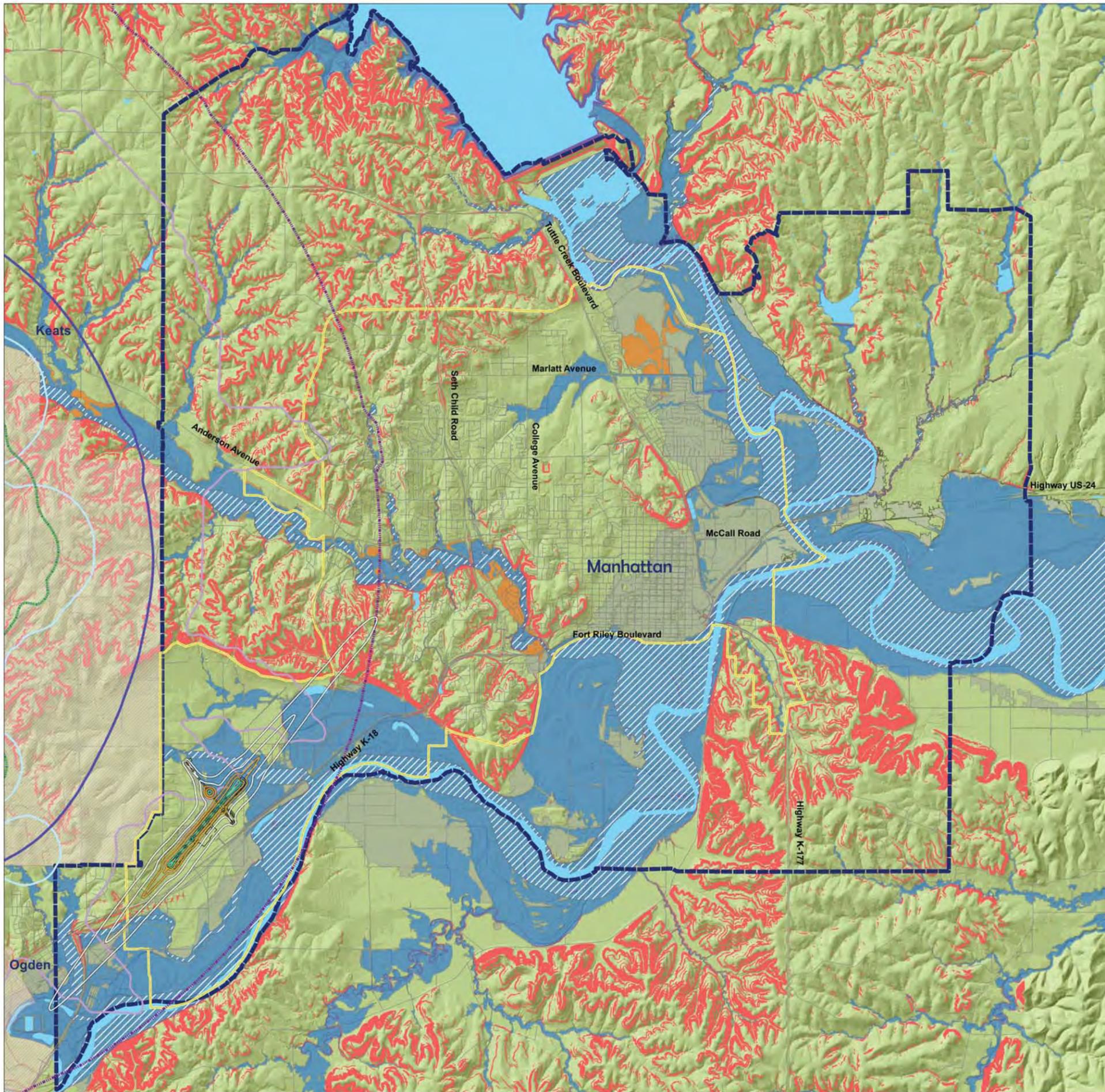
Improve public awareness of natural and manmade hazards in general and at specific high-risk locations; and give people knowledge about measures they can use to protect themselves, their property, and their community.

#### **NRE-3.2B: Public Health and Safety**

Take proactive steps to protect inhabitants of the Manhattan Urban Area through the development of Safe Rooms, and warning and communication systems.

#### **NRE-3.2C: Community Rating System**

Continue Community Rating System activities to educate the public about flood risks and mitigation measures and to help to reduce flood insurance costs.



**Legend**

- Airport 2027 Projected Noise Countours**
  - 60-65 ADNL
  - 70-75 ADNL
  - 80-85 ADNL
- LUPZ: 57 CDNL**
- 62 CDNL**
- 70 CDNL**
- FR Noise**
- Fort Riley Peak Noise Levels**
  - Large Caliber 115
  - Large Caliber 130
- 2014 Urban Service Area**
- Comprehensive Plan Update Boundary**
- Fort Riley**
- Flood Zones**
  - Floodway
  - 1 PCT FUTURE CONDITIONS
  - A
  - AE
  - AH
  - 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
  - X PROTECTED BY LEVEE
  - Slope > 20%

**DEVELOPMENT CONSTRAINTS**

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## Related Plans and Policy Documents

The following previously developed plans may or may not have been formally adopted as a part of the Comprehensive Plan; however they provide important background information and policy direction with regard to natural resources, green infrastructure, and hazard mitigation issues. Refer to [Appendix B: Related Plans and Policy Documents](#) for additional information on each plan and links to the full documents.

- Big Blue River Floodplain Management Plan (2016)
- Pottawatomie County Multi-Jurisdiction Hazard Mitigation Plan (2012)
- Five Year Strategic Plan for Bicycling (2011)
- Riley County Multi-Jurisdiction Hazard Mitigation Plan (2011)
- Flint Hills Joint Land Use Study (2005)
- Strategic Park Plan (1999)
- Linear Park Master Plan, Phase II (1998)
- Fairmont Park Master Plan (1997)
- Comprehensive Parks Master Plan (1992)

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