

West of K-10 Plan

Lawrence-Douglas County Planning Department

Lawrence-Douglas County Planning Commission – <DATE PENDING>
~~2/27/13~~

Douglas County Board of County Commissioners – <DATE PENDING>
~~4/10/13~~

Lawrence City Commission – <DATE PENDING> ~~3/26/13~~

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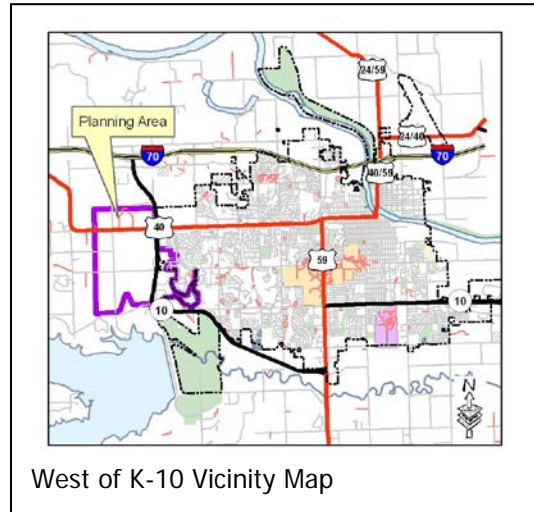
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I. Introduction and Purpose

Location The West of K-10 planning area is located primarily west of K-10 Highway (South Lawrence Trafficway) and north and south of US Highway 40. The planning area also contains some land east of K-10.

Setting The area is primarily rural in nature. It has access to two highways, US 40 and K-10. I-70 is nearby and north of the area. Clinton lake lies south of the area.



Earlier Planning Efforts

The *West 6th Street and K-10 Nodal Plan* was adopted by the City of Lawrence on November 11, 2003. The Plan addressed future land use for the four corners that make up the intersection of West 6th Street/US 40 and the South Lawrence Trafficway/K-10. This revision supersedes the *West 6th Street/K-10 Nodal Plan* and the land use policy guidance for the intersection of US40 and K-10 Highways is now found in this Plan.

The City of Lawrence hired PlaceMakers, a national consulting firm, to write a Traditional Neighborhood Design (TND) code that could be used to develop TND neighborhoods in the future. In early 2007, PlaceMakers held a design workshop in Lawrence. Part of the scope of work for PlaceMakers was to master plan a number of areas, inside and outside of Lawrence, including approximately two square miles west of K-10. The approximately two square miles were located directly west of K-10, south of US 40, north of Clinton Lake, and east of E. 800 Rd. All of the property owners in that area were invited to a number of meetings to gain their input on future development. PlaceMakers produced a TND master plan for the area that is based on the Lawrence SmartCode, which they also produced.

Purpose The purpose of the West of K-10 Sector Plan is to plan for urban density growth in the area west of K-10. This Plan will act as the City's official land use guide for growth in the West of K-10 area.

Relation to Other Plans

This Plan constitutes an amendment to *Horizon 2020*. The Plan is consistent with Horizon 2020. Additional policy guidance has foundation in the following plans:

- *Transportation 2030*, Lawrence/Douglas County Long Range Transportation Plan. Lawrence/ Douglas County Metropolitan Planning Office and Parsons Brinkerhoff. March 26, 2008.
- Lawrence-Douglas County Bicycle Plan, Lawrence/Douglas County Metropolitan Planning Office. May 2004.
- City of Lawrence, Kansas Water Master Plan. Black & Veatch. December 2003.
- City of Lawrence, Kansas Wastewater Master Plan. Black & Veatch. December 2003.

Process

Planning Staff developed a 1st draft of the Plan with input from other City departments. The 2nd draft of the plan, revised after public comments were received on the 1st draft was made available for public comment. A third draft of the plan was made available for Planning Commission review on September 24, 2008. A 4th draft of the plan was produced based on Planning Commission direction. The Planning Commission and City Commission approved the 4th draft. The Board of County Commissioners directed staff to make changes to the 4th draft. The Planning Commission agreed with the changes suggested by the County Commission and approved the 5th draft March 25, 2009. The County Commission approved the 5th draft on May 6, 2009. The City Commission approved the 5th draft on June 6, 2009.

II. Existing Conditions

A. Current Land Use

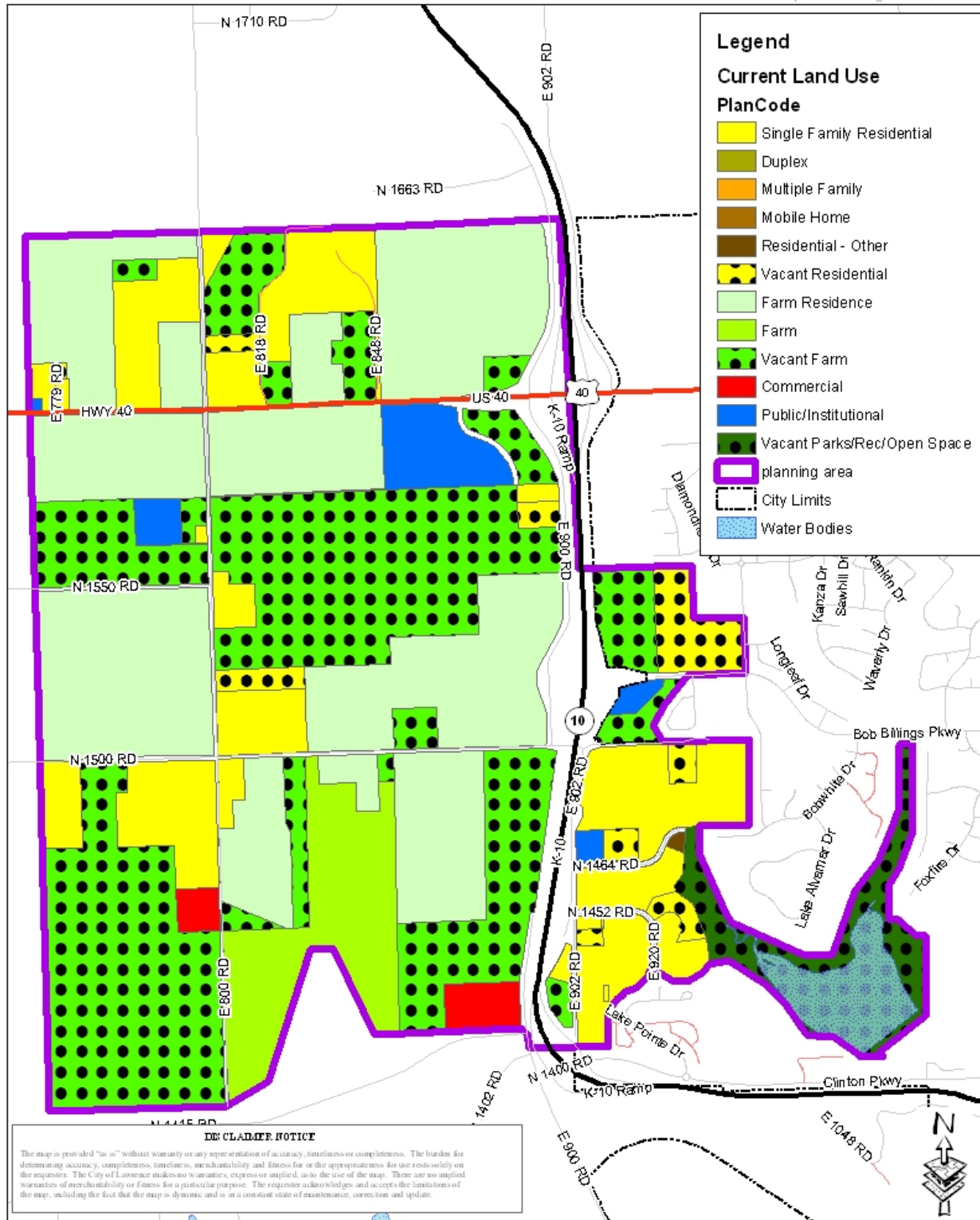
The current land uses in the planning area consist of approximately 2,438 acres of land, excluding street right-of-way, as shown in Table 2-1. The majority of the planning area, approximately 1,800 acres, is in farm use. Most of the remainder of the land uses are types of residential uses. Commercial, public/institutional and vacant parks/recreation/open space are also land uses included in the planning area. (See Map 2-1)

Table 2-1

Current Land Use	Total Acreage
Single Family Residential	381.49
Mobile Home	0.83
Residential - Other	1.40
Vacant Residential	77.94
Farm Residence	855.24
Farm	150.72
Vacant Farm	792.67
Commercial	28.11
Public/Institutional	22.44
Vacant Parks/Rec/Open Space	126.70
Total	2,437.55

West of K-10 Plan Map 2-1 Current Land Use

Map Date: August 15, 2008



B. Current Zoning

The City of Lawrence *Land Development Code* and the Douglas County *Zoning Ordinance* are intended to implement the goals and policies in *Horizon 2020* in a manner that protects the health, safety, and general welfare of the citizens. The *Land Development Code* and the Douglas County *Zoning Ordinance* establish zoning regulation for each land use category which development must follow.

The planning area is primarily located in the county and partially within the city limits. Map 2-2 shows the current zoning designations and the Tables 2-2 and 2-3 below describe the map designations.

Table 2-2

City Zoning	District Name	Comprehensive Plan Designation
RS10	Single-Dwelling Residential (10,000 sq. feet per dwelling unit)	Low-Density Residential
RS7	Single-Dwelling Residential (7,000 sq. feet per dwelling unit)	Low-Density Residential
RM12	Multi-Dwelling Residential (12 dwelling units per acre)	Medium-Density Residential
PCD	Planned Commercial Development	N/A
UR	Urban Reserve	N/A

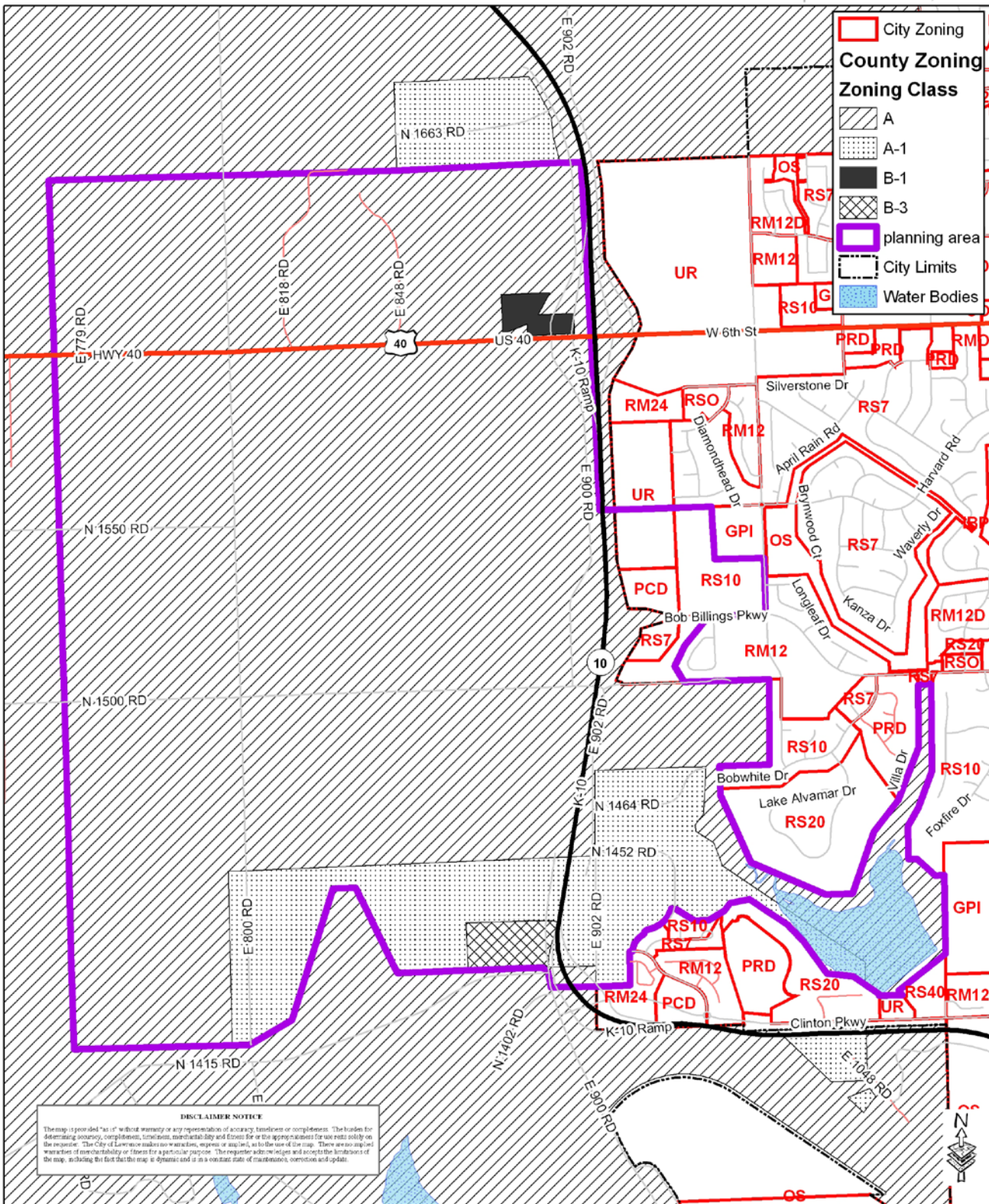
Table 2-3

County Zoning	District Name	Comprehensive Plan Designation
A	Agricultural	Agriculture
A-1	Suburban Home Residential	Very-Low Density Residential
B-1	Neighborhood Business	N/A
B-3	Limited Business	N/A

West of K-10 Plan

Map 2-2 Current Zoning

Map Date: June 26, 2008



C. Current Infrastructure

Water

City water is provided to very few properties in the planning area. There is a hydrant and a 16", PVC pipe line southeast of the intersection of US 40 and K-10 which is outside of the Lawrence city limits and another line east of K-10 along Bob Billings Parkway, within the City limits. All other properties obtain water either from private wells or from Rural Water District #1. The water lines are shown on Map 2-3.

Sanitary Sewer

City sanitary sewer is provided to the majority of the properties east of K-10 that are not within Lawrence city limits. There is one 10" and one 8" PVC City sanitary sewer line that cross K-10 to the north and to the south of N. 1500 Road. All other properties are serviced by private septic systems. The sanitary sewer lines are shown on Map 2-3.

Storm Sewer

City storm sewer provides a 24" corrugated metal pipe along Bob Billings Parkway within the planning area. The remainder of the planning area has streams for storm water drainage. The storm water pipes, streams and storm channels are shown on Map 2-4.

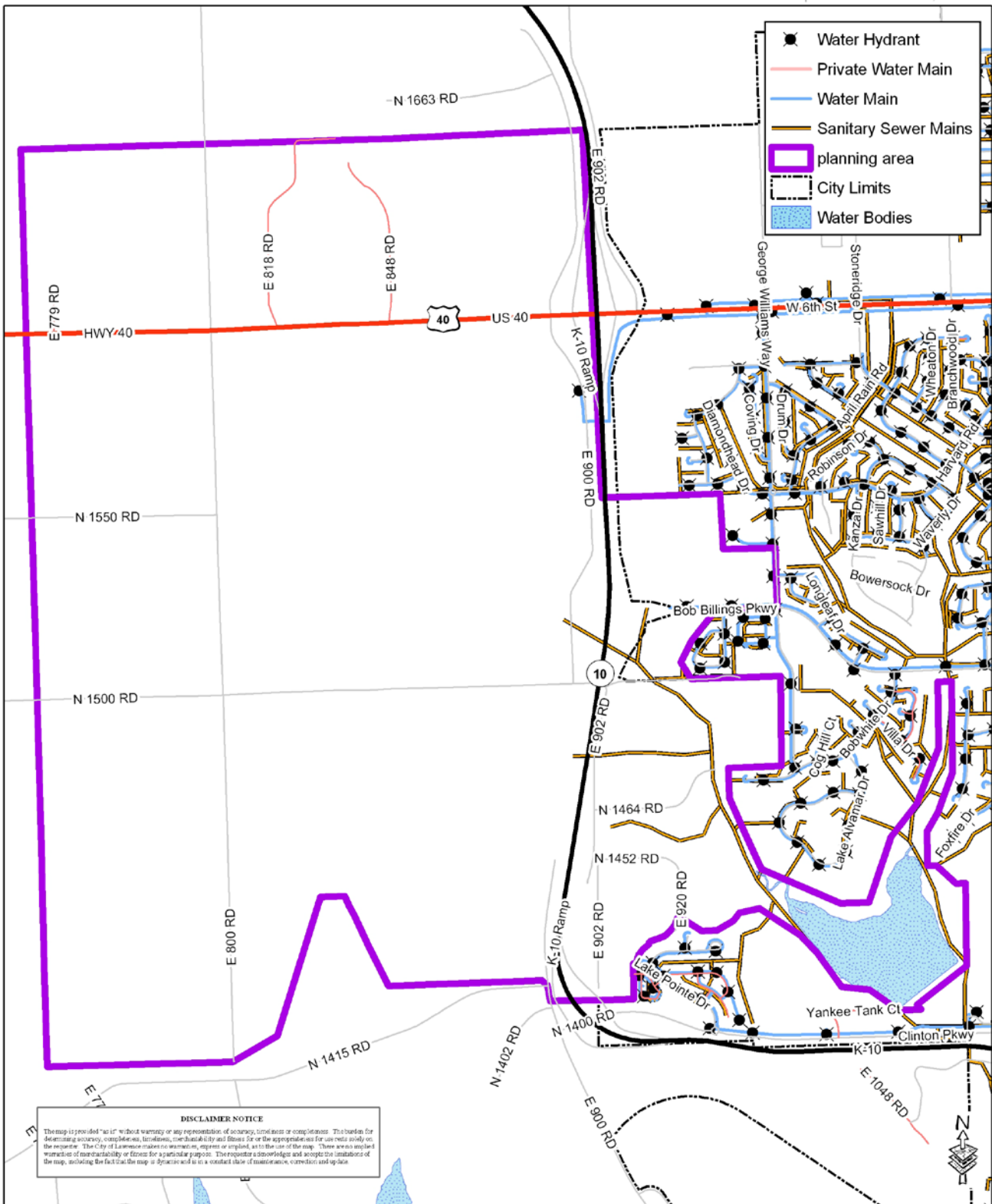
Gas

Southern Star Gas has two lines running through the planning area. One line crosses the planning area across the northeastern corner and the other line crosses at the southern portion of the planning area.

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Map 2-3 City Water and Sanitary Sewer

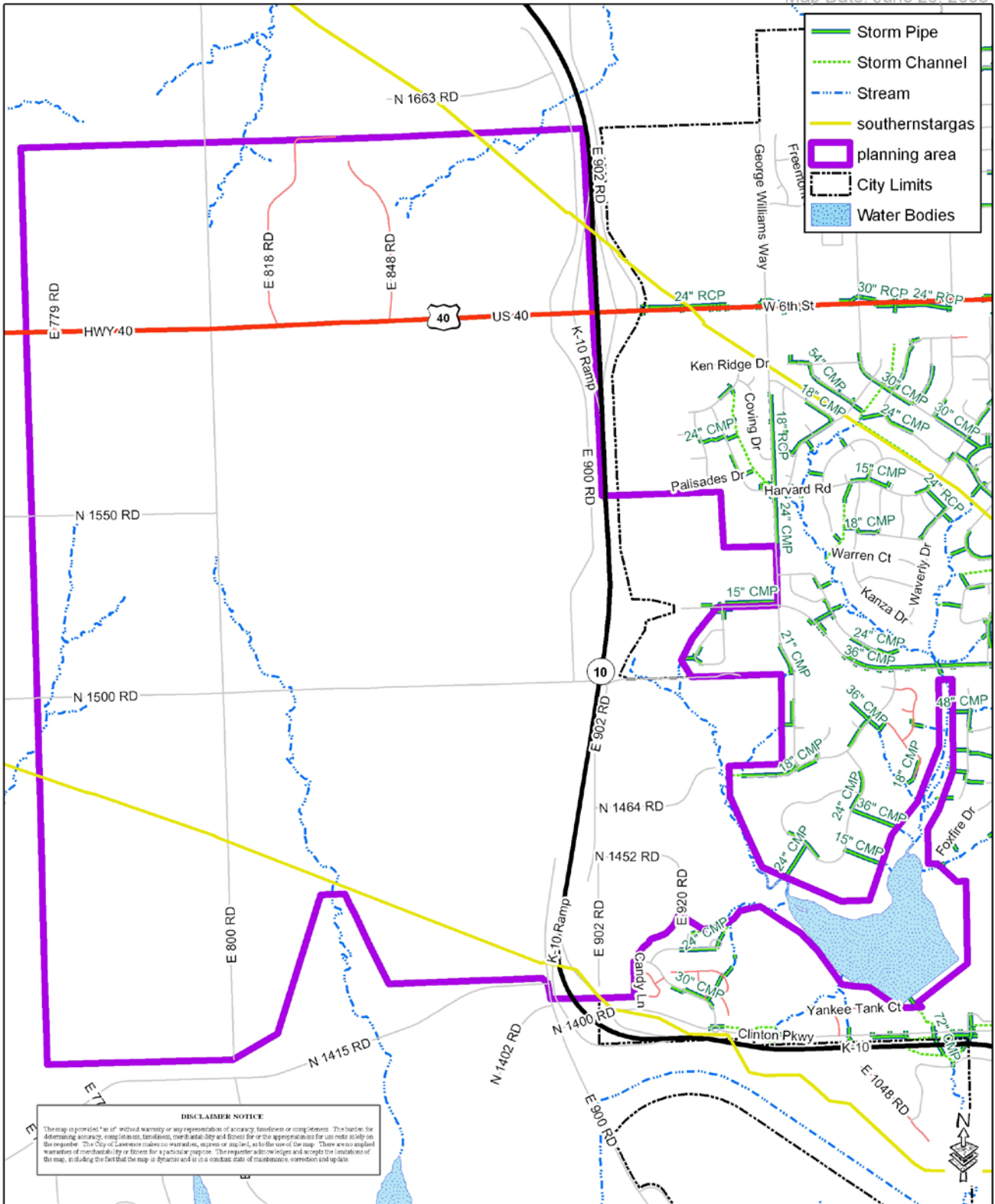
Map Date: June 26, 2008



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Map 2-4 City Storm Water and Southern Star Gas

Map Date: June 26, 2008



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D. Parks and Recreational Facilities

There are currently no existing parks and recreation facilities or park properties located in the plan area. Clinton Lake is directly south of the plan area.

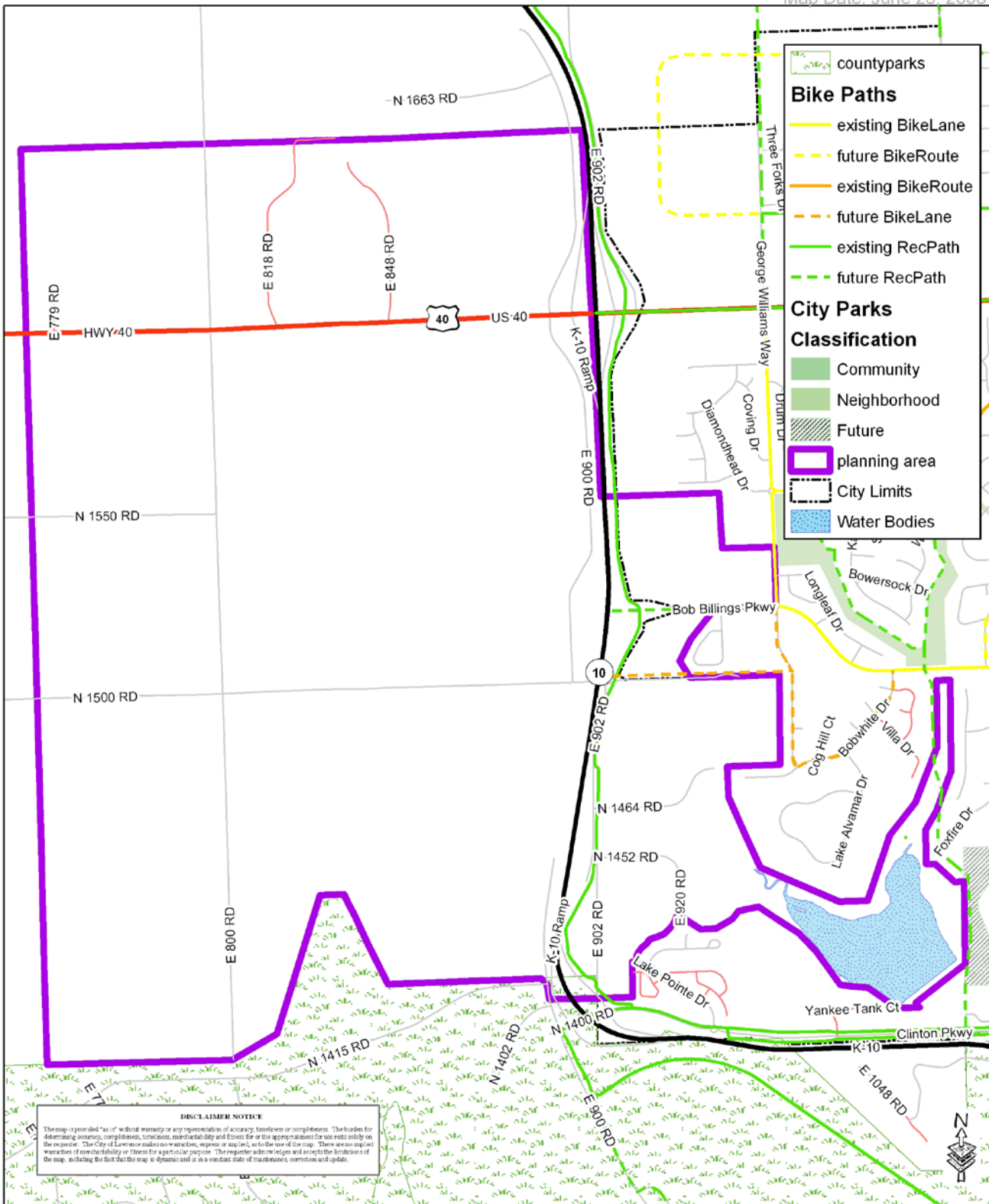
The planning area includes existing and future bike routes, lane, and recreational paths and these are shown on Map 2-5. Bike lanes are a separate space designated with striping, signage or pavement markings for exclusive use by bicycles with a street or road. There is an existing bike lane along Bob Billings Parkway in the planning area and currently stops where the road ends. Bike routes are a network of streets to enable direct, convenient, and safe access for bicyclists. There is a future bike route identified in the planning area long N. 1500 Road. A recreational path is a separate path adjacent to and independent of the street and is intended solely for non-motorized travel. There are existing recreational paths located on the east side of the South Lawrence Traffic Way (SLT/K-10) and a future recreational path from where Bob Billings Parkway ends to the South Lawrence Traffic Way (SLT/K-10).

Different types of bicycle facilities are attached to a certain street classification. Recreational Paths are part of Arterials, Bike Lanes are part of Collectors, and Bike Routes are also part of Collectors.

West of K-10 Plan

Map 2-5 Parks and Recreation Facilities

Map Date: June 26, 2008



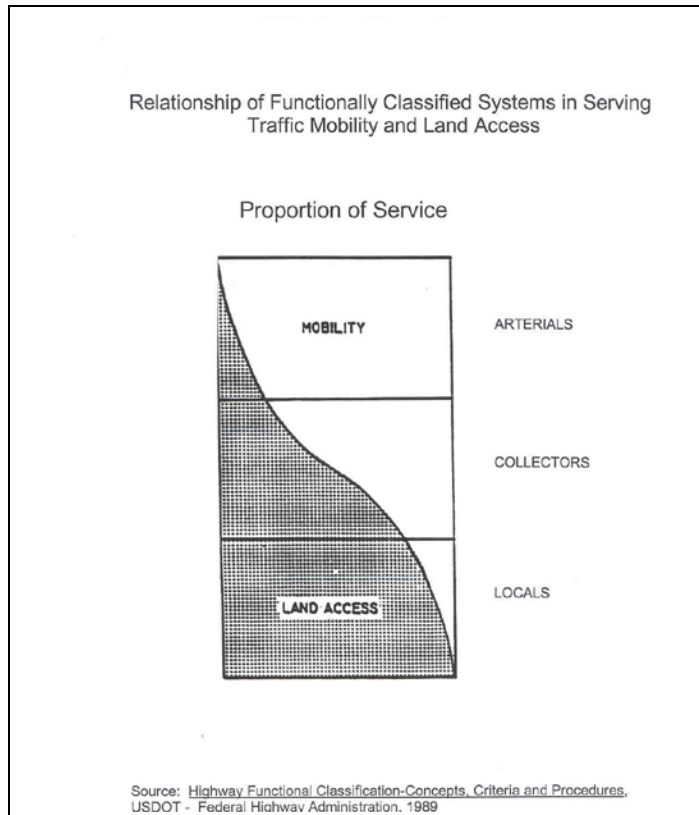
E. Transportation

Transportation 2030 (T2030) is the comprehensive, long-range transportation plan for the metropolitan area. T2030 designates streets according to their functional classification or their primary purpose. These functional classifications are shown on Map 2-6. The classification system can be described as a hierarchy from the lowest order, (local streets) that serve to provide direct access to adjacent property, to (collector streets) that carry traffic from local streets, to major thoroughfares (arterial streets) that carry traffic across the entire city. Freeways and expressways are the highest order of streets and are designed with limited access to provide the highest degree of mobility to serve large traffic volumes with long trip lengths.

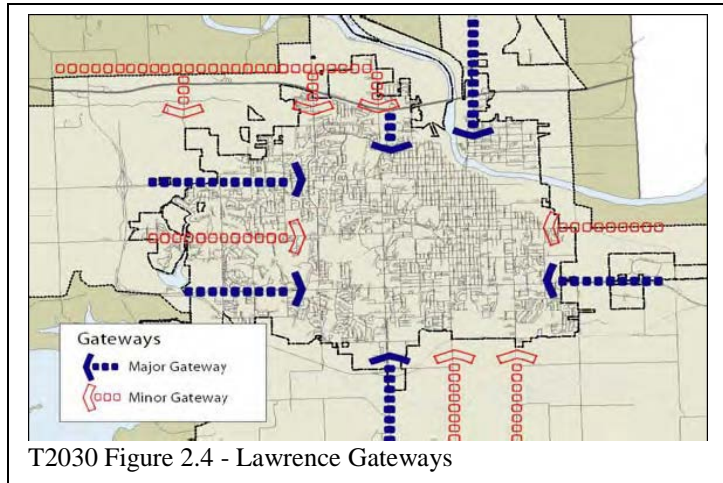
The graphic on the right helps explain the relationship between functional classification in serving traffic mobility and land access.

Chapter 2 of T2030 discusses and identifies minor and major gateways into and out of Lawrence. T2030 states, "Gateways are locations on transportation corridors that define the entrances to cities. These provide visitors with a first

impression of the city and often indicate the transition from rural to urban land uses. As such, cities desire to make these locations as attractive and informative as possible. As noted in T2030 in Figure 2.4, there are several roadways that represent gateways into the city of Lawrence or into smaller communities within the region that should be reviewed for aesthetic and informational enhancements when they are improved."



The planning area for the *West of K-10 Plan* includes three of the *Transportation 2030* identified gateways into Lawrence from the west. US Hwy 40 and Clinton Parkway are identified as major gateways to Lawrence and Bob Billings Parkway is identified as a minor gateway to Lawrence.



Transportation 2030 identifies the South Lawrence Traffic Way (SLT/K-10) and US Hwy 40 as truck routes.

There are no immediate plans to widen K-10 Highway beyond the current two travel lanes.

Currently there are no transit routes that travel to or through the planning area.

F. Schools

School Districts

The *West of K-10 Planning Area* is located entirely within the Lawrence USD 497 school district. The Perry-Lecompton USD 343 school district is located just to the southwest and northeast of the planning area. (See Map 2-7)

School Locations

Lawrence has one public and one private school located just east of the planning area. The public school is Langston Hughes Elementary School which includes grades kindergarten through sixth grade. Langston Hughes is located along George Williams Way, east of the planning area.

The private school is Corpus Christi Catholic School which includes grades kindergarten through sixth grade. Corpus Christi is located east of the planning area along Bob Billings Parkway.

The Lawrence School District has purchased property within the West of K-10 planning area. The school district has not identified what type of school is to be located at this site. The school district property is located southeast of the intersection of N. 1500 Road and E. 800 Road.

G. Stormwater

The sector plan area lies within The Baldwin Creek drainage basin on the north, the Yankee Tank Creek drainage basin on the east, and parts of the Upper Wakarusa Watershed on the west and south (see Map 2-8 for drainage basins and Map 2-9 for contours).

The Baldwin Creek drainage basin lies in the north central part of Douglas County, and encompasses approximately 5,470 acres (approximately 8.5 square miles). The drainage basin consists of two sub-basins. The first sub-basin is bounded on the south by a major ridge line (the Kanwaka Ridge) that generally follows US Highway 40/ West 6th Street and extends approximately 1 mile west of the South Lawrence Trafficway and one-quarter mile south of U.S. 40 Highway at its southwestern most extent. Land in this sub-basin drains northward toward the main channel of Baldwin Creek, which begins in the middle of sections 20 and 21 and drains northeastward toward the Kansas River. The creek channel and the associated floodplain broadens and flattens as the creek approaches the Kansas River. The second sub-basin of Baldwin Creek is a much more expansive land area with approximately 4,200 acres. It lies southwesterly and northerly of the smaller sub-basin, extending southwesterly beyond the west leg of the South Lawrence Trafficway and northward to Lakeview Lake. This sub-basin drains from southwest to northeast toward the Kansas River.

Parts of the West of K-10 plan area lie in the Yankee Tank Creek drainage basin. This basin generally lies south of US Highway 40, west of Wakarusa Drive, north of 31st street and east of E 650 Road. The west sub-basin was identified in the

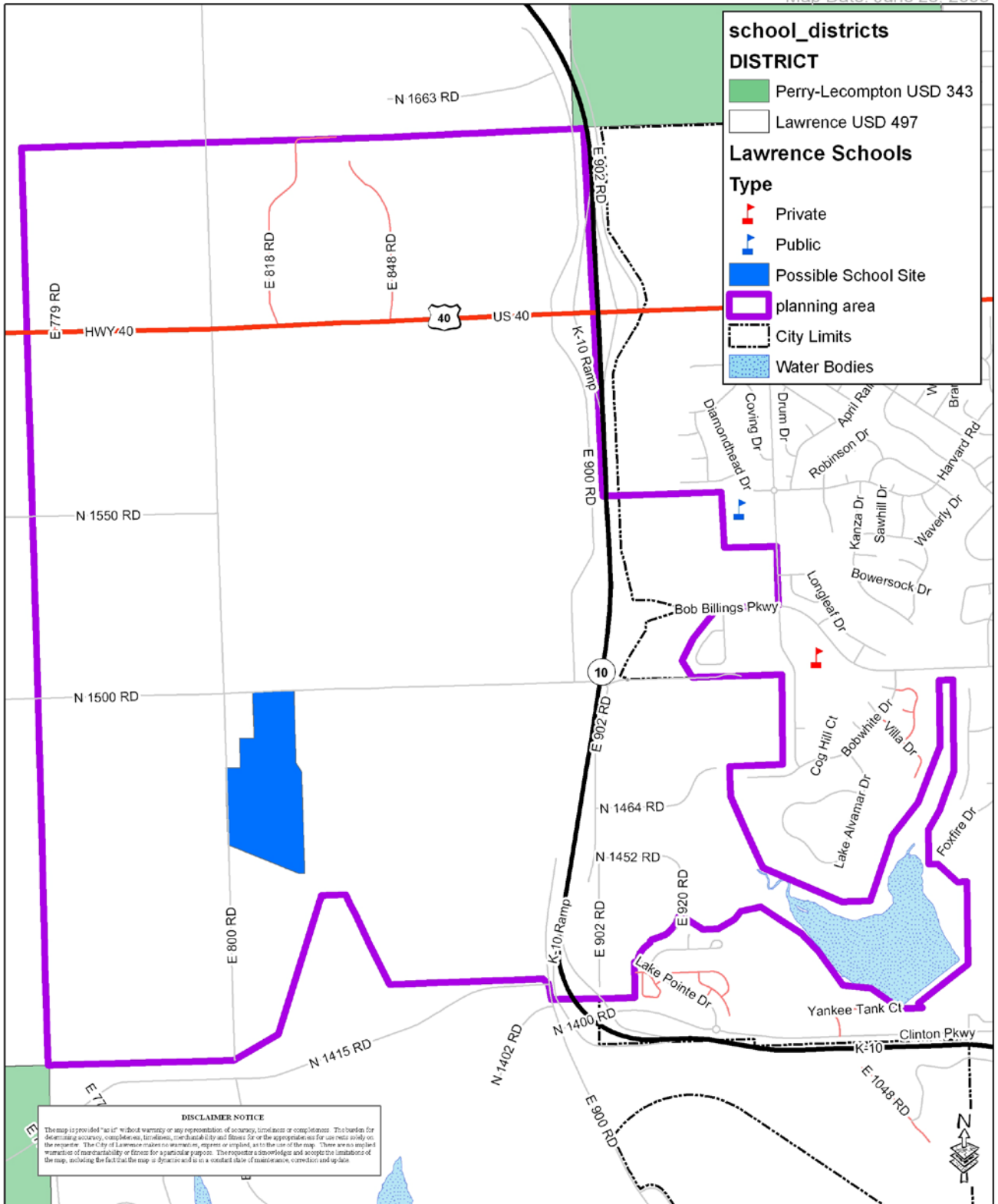
1996 Stormwater Management Master Plan as encompassing 756 acres and drains into Yankee Tank Lake (Lake Alvamar), a private lake just north of Clinton Parkway.

On the west and south of the plan area is part of the Upper Wakarusa Watershed which covers 367 square miles in total across Douglas, Shawnee, Osage and Wabunsee counties. The watershed drains into Clinton Lake, which serves as a major source of drinking water for the City of Lawrence. In 2003, the Upper Wakarusa Watershed Restoration and Protection Strategy (WRAPS) was completed, which identified thirteen water quality goals. Primary concerns include excess sediment, phosphorus, nitrogen and fecal coli form bacteria going from the watershed into the river and lake. The WRAPS strategy is based on a combination of riparian/stream bank restoration measures to reduce sediment and nutrient input. Specific care should be taken as lands in this watershed develop to have a positive impact on the water quality.

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Map 2-7 School Districts and Possible School Location

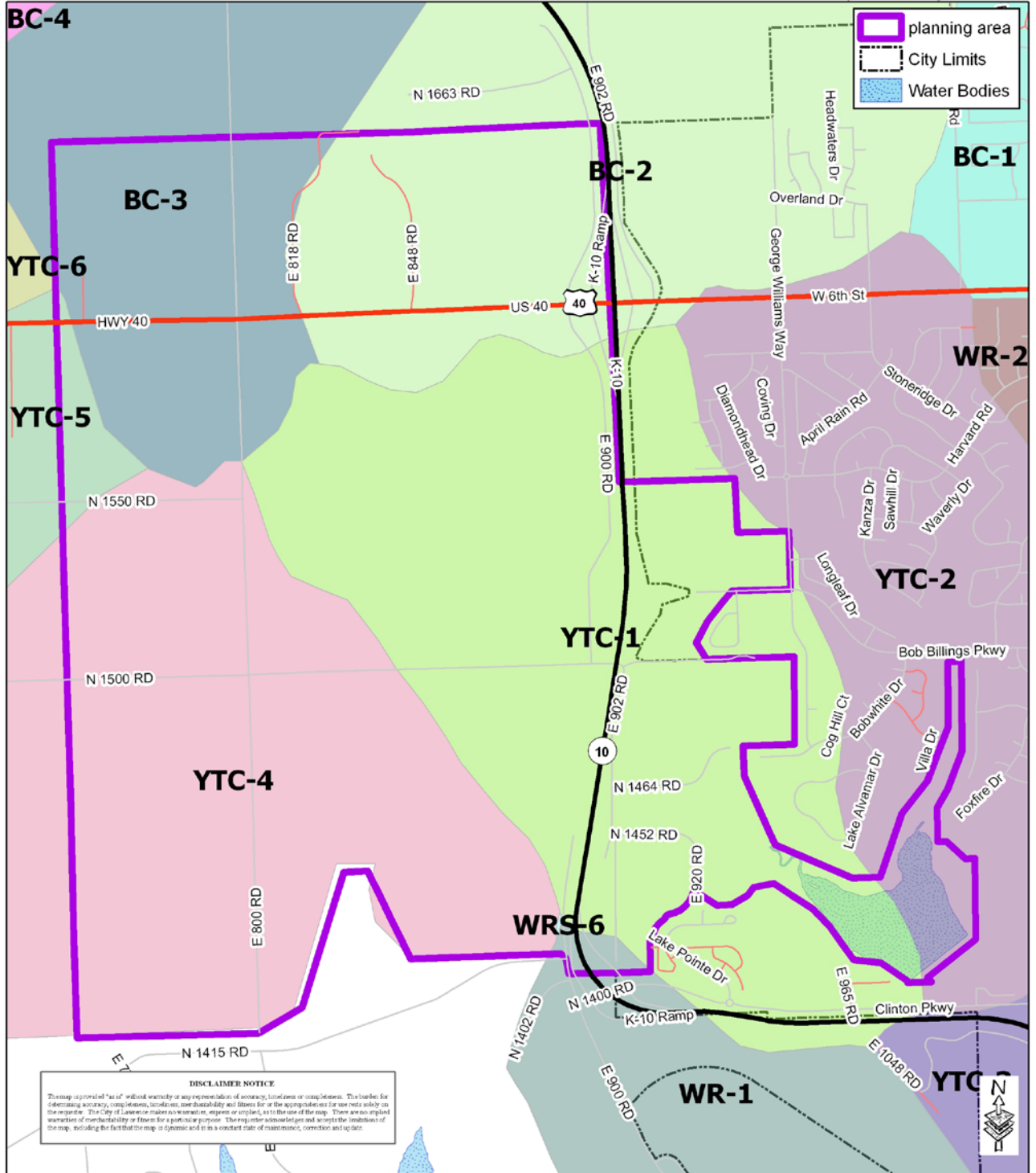
Map Date: June 26, 2008



West of K-10 Plan Map 2-8 Drainage Sub-Basins

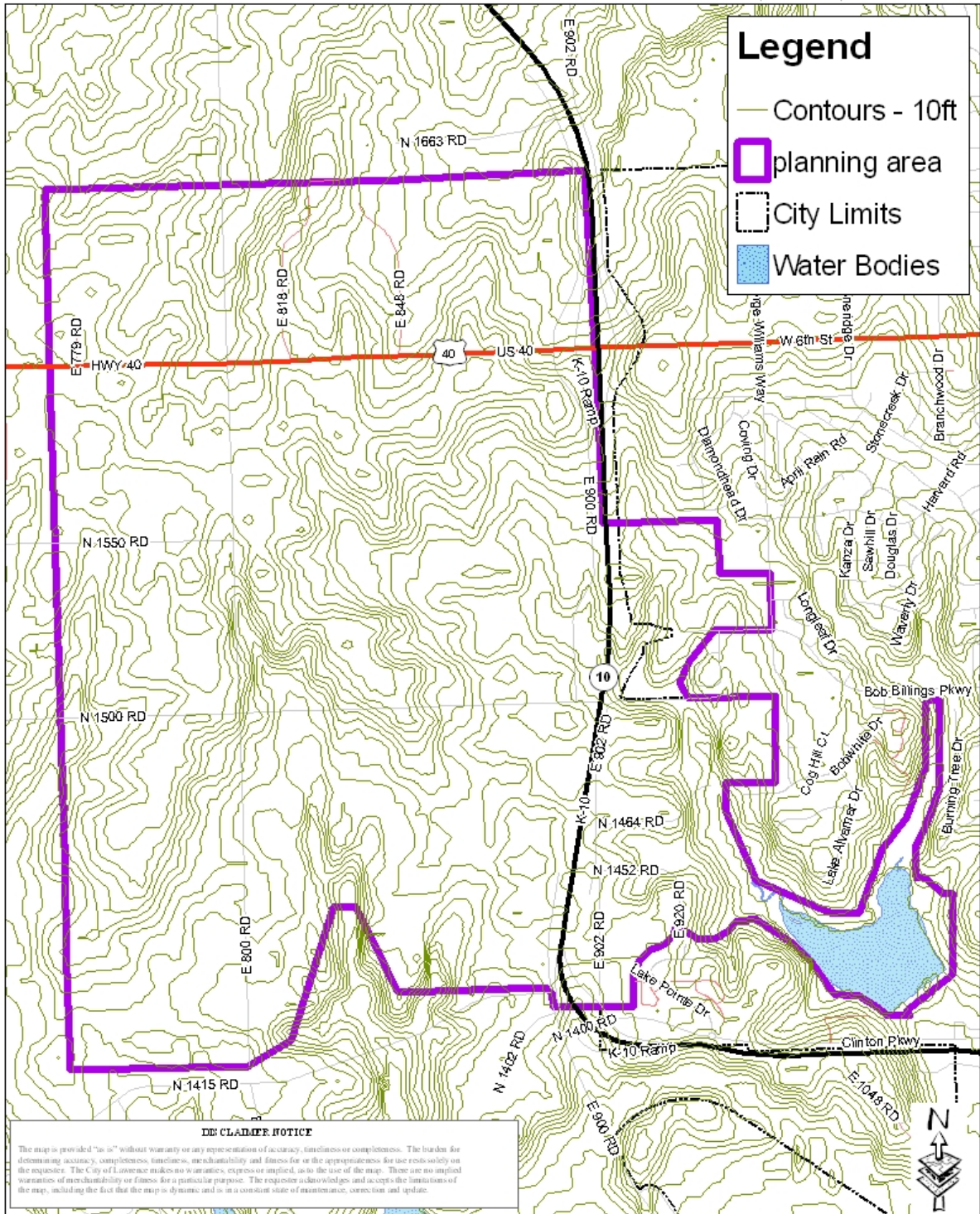
Map depicts drainage sub-basins of the planning area for Baldwin Creek (BC),
Yankee Tank Creek (YTC), and Wakarusa River (WRS).

Map Date: July 10, 2008



West of K-10 Plan Map 2-9 Contours

Map Date: September 30, 2008



III. Goals and Guiding Principles

The following policy statements in Sections III - VIII are for the development of the West of K-10 Plan area. "Shall" statements identify the items that are expected to be incorporated into development within the planning area. "Should" and "encouraged" statements identify the items that are strongly recommended to be incorporated into development within the planning area. "Shall" statements are stronger than "should" and "encouraged" statements.

LAND USE

Goal – Create unique mixed-use neighborhoods; encourage healthy development of commercial, office and employment uses; develop strong park/trail system.

Guiding Principles

- A mix of uses within neighborhoods is encouraged.
- A mix of housing types should be built within each neighborhood. Neighborhoods should not be developed with a single housing type, i.e. single family.
- Allow for Traditional Neighborhood Design (TND) neighborhoods in the area. TND neighborhoods shall be properly integrated with adjoining suburban-style neighborhoods.
- Allow for large employment uses at appropriate locations in the planning area.
- Allow for neighborhood-level commercial activities within the planning area.
- Integrate parks and open space within the neighborhoods.

PUBLIC FACILITIES & INFRASTRUCTURE

Goal – Provide ongoing infrastructure and public facilities improvements as the area develops at urban densities.

Guiding Principles

- Improve K-10 and Bob Billings Parkway/15th Street to a separated grade intersection.
- Encourage trail connections to the existing regional trail system.
- Sewer and water system capacity shall be adequate prior to urban development.

- Create pedestrian friendly streetscapes (streets and sidewalks) that connect to a neighborhood's amenities and assets.
- Co-locate public facilities where feasible and appropriate.

NEIGHBORHOOD CHARACTER

Goal – Develop unique neighborhoods that are sustainable and remain viable over the long-term.

Guiding Principles

- Connectivity is a priority; neighborhoods should connect to each other and to amenities and focal points within the area.
- Visual corridors should be protected as development occurs in the planning area.
- Create an identity that gives residents and visitors a sense of the neighborhood (i.e. create gateways at neighborhood entrances).

ENVIRONMENT

Goal – Develop neighborhoods and new development with the natural layout of the land in mind.

Guiding Principles

- Neighborhoods should be built in ways that protect existing natural drainage and ecosystems.
- Priority should be given to stormwater measures that protect Clinton Lake from development run-off as this area reaches urban densities.

IV. Future Land Use

The West of K-10 Future Land Use Section illustrates conceptual guides for future development and redevelopment that embody the vision and goals presented in Section III. The future land use map in this Section is conceptual and should not be used to determine precise zoning boundaries. The following land uses, zoning districts, and densities are the “maximum recommended” and assume less intensive land uses, zoning districts, or densities are appropriate.

This section presents two future land use options for the planning area. One is a conventional development option and the other is a Traditional Neighborhood Design (TND) option. Property owners and developers have the option of choosing one of the options in order to develop in the planning area after the land becomes part of the city of Lawrence.

The West of K-10 Plan supersedes and replaces the West 6th Street/K-10 Nodal Plan. The Future Land Use Policies of the West of K-10 Plan now apply to the four corners of the West 6th Street and K-10 intersection.

Conventional Future Land Use Option

The conventional future land use option for West of K-10 (Map 4-1) was developed using a combination of adopted policy, existing conditions including City zoning and stormwater considerations, projections based on past build-out patterns in west Lawrence, and comments from stakeholders and the Planning Commission. This option is predominantly a low density residential pattern that also allows for higher densities near commercial and employment uses and at the intersections of future major roads.

2. A street pattern created by a TND neighborhood should be followed as closely as possible in subsequent neighborhoods.
3. Compatible land uses should be located adjacent to each other where neighborhoods of different design characteristics adjoin.

Industrial/Office/Warehouse/Research Land Uses

Regardless of which land use option is chosen for development, the employment related land uses should be maintained. They can be developed conventionally under the Development Code or potentially with Special Districts under the Lawrence SmartCode.

Further, structures in these developments should be aesthetically pleasing from all sides and should incorporate quality building materials and other high quality architectural elements. Transitions between uses should be accomplished by buffer yards, landscaping, setbacks, scale and massing, and transition of uses to include low-intensity industrial uses along the perimeter of the areas identified as industrial or office/research. In addition, sites should incorporate a variety of landscaping treatments to alleviate the potential for monotonous perimeter buffering.

Access to major roads from the industrial or office/research development lots shall be limited. However, industrial users on large lots that are significant generators of traffic may directly access arterial roads if the size of the site is such that it allows internal circulation without the necessity of constructing local roads to direct that circulation to the arterial road. Such access shall be based on sound traffic engineering principles and shall be properly controlled with appropriate signalization and turn lanes. Smaller lots shall take access from local roads. Additional local roads that serve the site should be arranged to minimize development lot access to the future major roads.

Rural Subdivisions

Rural subdivisions are developments built under rural standards that often don't meet the requirements of urban development. They may be processing wastewater on-site, have undersized water lines and rural standard roads. Issues arise as urban development moves into the area in which the rural subdivision lies. One issue is that undersized water lines may not be appropriate to provide fire service from the City. Rural subdivisions shall not be accepted for annexation until such time that the appropriate urban infrastructure is in place to serve the subdivision upon annexation.

Additionally, development lots in rural subdivisions are often larger than the typical urban lot. Urban development adjacent to the rural subdivision may be of higher density than the rural subdivision. This plan encourages infill of the rural subdivisions to more urban densities. Dividing large lots to accommodate more than one principal structure will help to more efficiently provide urban services to an area. Existing rural subdivisions are primarily located in the area this Plan covers east of K-10 Highway.

This Plan encourages annexing the rural subdivisions east of K-10 Highway as development occurs in the surrounding or adjacent areas and infrastructure is brought to reasonable proximity. The goal is to help ensure urban services are being provided in a contiguous manner as the city grows westward.

E. 902 Rd

E. 902 Rd. is located in the southeast corner of the planning area. Transportation 2030 projects a future collector road built to urban standards that could in the future replace the existing rural E. 902 Rd. Map 4-1 designates future land uses in the area as High Density Residential west of the future road and Medium Density Residential east of the future road. Since the exact alignment of this road has not been determined, the future road will be the separation between High Density and Medium Density Residential land uses.

A. Conventional Future Land Use Option

Land Use Categories

Residential – Very Low Density

The intent of the very low-density residential use is to allow for large lot, single dwelling type uses.

Primary Uses: Detached dwellings, cluster dwellings, manufactured home residential design, zero lot line dwellings, group home, public and civic uses

Zoning Districts: RS40 (Single-Dwelling Residential), PD (Planned Development Overlay)

Density: 1 unit/acre

Residential – Low Density

The intent of the low-density residential use is to allow for single-dwelling, duplex, and attached dwellings but emphasis is placed on residential type uses. Development in this area should be compatible with single-family character, which could include such uses as churches, small-scale daycares and institutional uses.

Primary Uses: Detached dwellings, attached dwellings, duplex, group home, public and civic uses

Zoning Districts: RS10 (Single-Dwelling Residential), RS7 (Single-Dwelling Residential), RS5 (Single-Dwelling Residential), RM12D (Multi-Dwelling Duplex Residential), PD (Planned Development Overlay)

Density: 6 or fewer dwelling units/acre

Residential – Medium Density

The intent of the medium-density residential category is to allow for a variety of residential options for the area at a greater density than the Low Density Residential category. This category can serve as a transition between low density and higher density uses.

Primary Uses: Detached dwellings, attached dwellings, duplex, multi-dwelling structures, group home, civic and public uses

Zoning Districts: RS5 (Single-Dwelling Residential), RS3 (Single-Dwelling Residential), RM12 (Multiple-Dwelling Residential), RM12D (Multi-Dwelling Duplex Residential), RM15 (Multi-Dwelling Residential), PD (Planned Development Overlay)

Density: 7-15 dwelling units/acre

Residential – High Density

The intent of the high-density residential category is to allow for compact residential development. These developments are primarily located at the intersection of two major roads or adjacent to commercial or employment uses.

Primary Uses: Multi-dwelling structures, group home, civic and public uses

Zoning Districts: RM12 (Multiple-Dwelling Residential), RM12D (Multi-Dwelling Duplex Residential), RM15 (Multi-Dwelling Residential), RM24 (Multi-Dwelling

Residential), RM32 (Multi-Dwelling Residential), and PD (Planned Development Overlay)

Density: 16+ dwelling units/acre

Residential Office

The intent of the residential/office use is to accommodate mixed use development of administrative and professional offices with varying degrees of residential. This category can serve as a buffer between higher intensity uses and major roads to lower intensity/density land uses.

Primary Uses: office, multi-family dwellings

Zoning Districts: RSO (Single Dwelling Residential-Office), RMO (Multi-Dwelling Residential-Office), MU (Mixed Use District), and PD (Planned Development Overlay)

Density/Intensity: 7-15 dwelling units/acre/medium

Commercial – Neighborhood Center

The intent of the commercial use is to allow for retail and service uses. A Neighborhood Commercial Center provides for the sale of goods and services at the neighborhood level. This category is applied to the intersection of N 1500 Rd and E 800 Rd and to the intersection of K-10 and Bob Billings Parkway/15th Street. Horizon 2020 Chapter 6 – Commercial identifies these corners as future Neighborhood Commercial Centers. See Horizon 2020 Chapter 6 – Commercial for more policy regarding Neighborhood Commercial Centers.

Primary Uses: Non-ground floor dwellings, multi-dwelling structures, civic and public uses, medical facilities, eating and drinking establishments, general office, retail sales and services, fuel sales, car wash

Zoning Districts: CN1 (Inner Neighborhood Commercial District), CN2 (Neighborhood Commercial Center District), PD (Planned Development Overlay), and MU (Mixed Use District)

Intensity: medium-high

Commercial – Lake Oriented Community Center

Community Commercial Center provides goods and services to several different neighborhood areas. This category is applied to the existing commercial development located at K-10 and Clinton Parkway. This lake-oriented commercial development should serve the many visitors to Clinton Lake. Horizon 2020 identifies K-10 and Clinton Parkway as a future Neighborhood Commercial Center. This Plan recommends changing that designation to a Community Commercial Center to reflect the higher intensity of the lake oriented nature of the existing commercial uses. Many of those existing uses serving the lake, such as boat storage, are not appropriate for a Neighborhood Commercial designation. This designation will be limited to the area of the existing lake oriented uses adjacent to Clinton Lake and the approved commercial uses on Lake Pointe Drive, just east of the planning area along Clinton Parkway. No additional areas shall be approved for the Community Commercial Center. See Horizon 2020 Chapter 6 – Commercial for more policy regarding Community Commercial Centers.

Primary Uses: lake oriented commercial

Zoning Districts: CC200 (Community Commercial Center), MU (Mixed Use District)

Intensity: medium

Commercial Center – CC600

The intent of the CC600 Commercial District in this Plan is to allow for commercial, office, mixed use residential, and employment uses, as well as up to 600,000 square feet of retail space to be located at the intersection of two state or federally designated highways, which in this case is the intersection of US40 and K-10 Highway. See the K-10/US40 Node discussion below for the allocation of the commercial retail space, along with additional information about the particular land uses on each of the intersection's corners. See Horizon 2020 Chapter 6 – Commercial for further policy guidance regarding CC600 Commercial Centers.

Primary Uses: retail, commercial, office, recreation center

Zoning Districts: CC600 (Community Commercial Center), CC400 (Community Commercial Center), CC200 (Community Commercial Center), CN2 (Neighborhood Commercial Center), CO (Commercial Office), and PD (Planned Development Overlay) Districts

Intensity: medium to heavy

K-10/US40 Node

The following discussion provides additional policy detail regarding the four corners of the K-10/US40 intersection:

Northwest Corner

The northwest corner of US40/6th Street and K-10 Highway is expected to have a mix of uses including retail and other commercial uses. The total allocated retail space for this corner is 155,000 square feet. A green space buffer along the northern edge of the corner will help provide a transition to the residential neighborhood to the north. There are a number of ways to provide transitions to less intense land uses, such as berms with dense landscaping, open space, fences, etc. This green space buffer could accommodate passive uses such as walking trails, etc.

Northeast Corner

The northeast corner has received approval for a mixture of retail ~~and commercial and residential uses. The retail and commercial uses are located towards the 6th Street and George Williams Way frontages, while the residential uses are in the northern portion of the corner.~~ The allocated commercial retail space for this corner is 360,000 square feet. ~~Residential development is limited to the northern half of the intersection and will be low and high density neighborhoods. The residential area serves as transition area between the more intensive retail and commercial uses planned within this corner and the planned recreation center and low density residential uses north and east of the study area.~~

Southwest Corner

The southwest corner is meant to ultimately have a mixture of land uses that includes religious, retail and commercial, and employment related uses. The corner currently has a religious use that is designated Public/Institutional. The southern portion of the intersection is designated Office/Industrial/Warehouse. This corner is allocated 25,000 square feet of commercial retail space. A greenspace buffer is located along the southern edge of the intersection and is meant to provide a buffer to future residential uses. There are a number of ways to provide transitions to less intense land uses, such as berms with dense landscaping, open space, fences, etc. This green space buffer could accommodate passive uses such as walking trails, etc.

Southeast Corner

Like its northern counterpart, this corner provides opportunity for a variety of residential, commercial, retail, and office activities. The commercial and retail uses will be located along the northern side of the corner along the 6th Street frontage and are designated CC600. This corner is allocated 60,000 square feet of retail space. This corner currently has developed and planned low density residential uses along the south portion of the corner. A portion has also been rezoned RM24 (High Density Residential) District and is designated High Density Residential. Further, another portion has been rezoned to RSO (Single-Dwelling Residential – Office) District and is designated Residential Office.

Office/Industrial/Warehouse

A portion of the southwest corner of US 40/6th Street and K-10 Highway node is designated Office/Industrial/Warehouse. The intent of the industrial use is to allow for moderate to high-impact uses including large scale or specialized industrial uses. The office and research uses are characterized by businesses involved in technology, research and scientific-related activities and/or office, office research activities that are designed in a campus like setting. A mixing of land uses is appropriate on this corner. See the K-10/US40 Node discussion above for additional information about the particular land uses on each of the intersection's corners.

Primary Uses: office, research, industrial and warehouse

Zoning Districts: IBP (Industrial/Business Park District), IL (Limited Industrial District), IM (Medium Industrial District), CO (Commercial Office District), and PD (Planned Development Overlay)

Intensity: medium to heavy

Public/Institutional

This designation recognizes an existing site owned by USD 497 for a future school in the area. It also recognizes an existing church near 6th and K-10 and another church at E 902 Rd. and N 1464 Rd.

Primary Uses: Cultural center/library, religious assembly, school, utilities, recreational facilities, utility services

Zoning Districts: RSO (Single Dwelling Residential-Office), RMO (Multi-Dwelling Residential-Office), and GPI (General Public and Institutional)

Intensity: medium

Park/Open Space

The intent of the park/open space use is to provide space for public recreational facilities and natural area preservation.

Primary Uses: Park and open space

Zoning Districts: GPI (General Public and Institutional District), OS (Open Space), UR (Urban Reserve)

Intensity: light

Green Space Buffer

This designation is provided on the northwest and southwest corners of West 6th Street and K-10. It is to provide a buffer for lower intensity uses that will be adjacent to the commercial, office, industrial, and warehouse areas. There are a number of ways to provide transitions to less intense land uses, such as berms with dense landscaping, open space, fences, etc. This green space buffer could accommodate passive uses such as walking trails, etc.

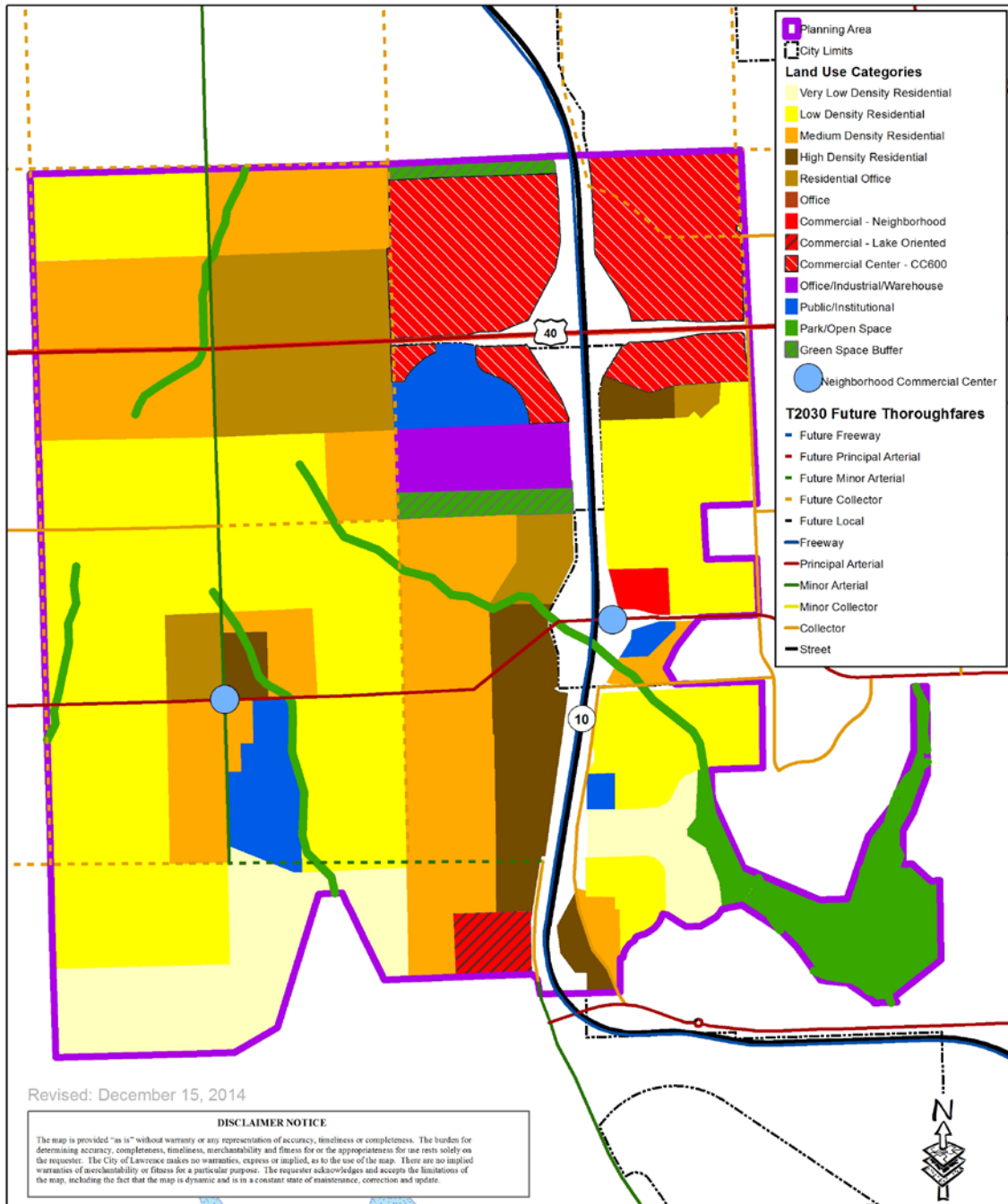
Primary Uses: Open Space

Zoning Districts: GPI (General Public and Institutional District), OS (Open Space), UR (Urban Reserve)

Intensity: light

West of K-10 Plan

Map 4-1 Future Land Use



B. TND Future Land Use Model

Landowners/developers wishing to develop TND neighborhoods in the planning area will have to seek approvals for such development under the *Lawrence SmartCode*. The option for TND development will be available throughout the entire planning area. Map 4-2 provides a visual model of TND neighborhoods organized for the *Lawrence SmartCode*. The regulatory Transect categories of the Lawrence SmartCode are listed below.

Lawrence SmartCode Transect Categories

T5: Urban Center

This category includes higher intensity with mixed use and significant retail. This zone is what we think of as Main Street.

Primary Uses: Retail, office, rowhouses, multi-family.

Zoning Districts: T5

Minimum Base Density: 24 units/acre

T4: General Urban

This category is mixed use, but primarily residential urban fabric.

Primary Uses: Urban residential.

Zoning Districts: T4

Minimum Base Density: 12 units/acre

T3: Sub-Urban

This category is low density, suburban areas that allow home occupations.

Primary Uses: Low density suburban residential – allows home occupations.

Zoning Districts: T3

Minimum Base Density: 4 units/acre

T2: Rural Reserve

This is land in open or cultivated state or sparsely settled.

Primary Uses: very low density residential

Zoning Districts: T2

Minimum Base Density: 1 unit/20 acre average

T1: Rural Preserve

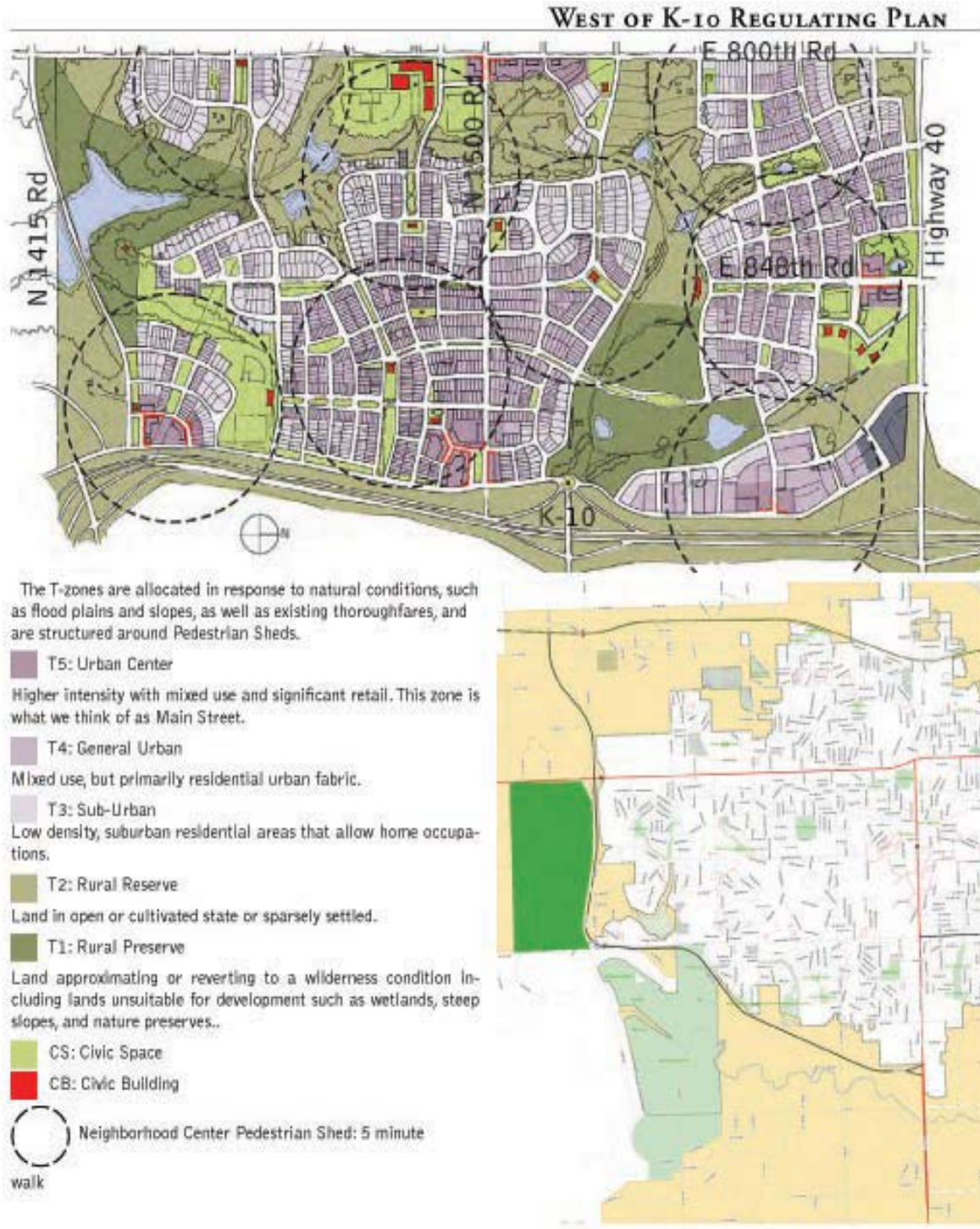
This is land approximating or reverting to a wilderness condition including lands unsuitable for development such as wetlands, steep slopes and nature preserves.

Primary Uses: natural area

Zoning Districts: T1

Minimum Base Density: By Variance Only

Map 4-2: TND Future Land Use Model



V. Great Neighborhoods

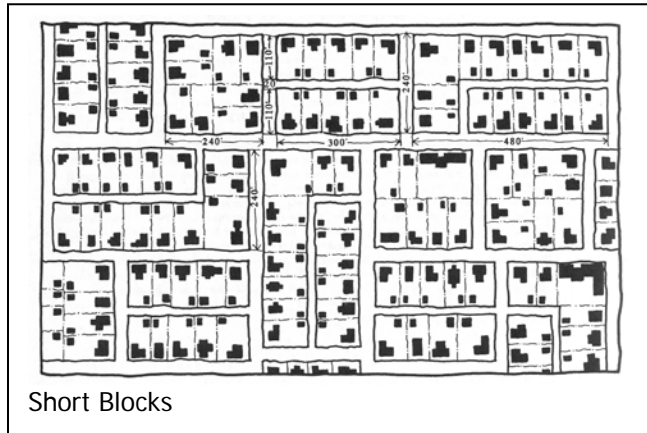
The opportunity to develop unique neighborhoods as Lawrence continues to grow westward is present in the area west of K-10. The key components that will create and knit the neighborhoods together are described below. The following policy language is intended to guide future urban development in a manner that will help create these new neighborhoods to have long lasting value to the community.

A. Neighborhood Connectivity

Streets

Streets within the various neighborhoods of this area shall be connected to each other. The street pattern within neighborhoods does not have to be a strict grid pattern. Streets can meander if terrain makes it necessary. Cul-de-sacs are discouraged, but are appropriate if terrain makes them necessary. The key is that streets connect to each other within neighborhoods and connect to other neighborhoods. Connected streets provide multiple route options for vehicles which can help eliminate the choke points that are created when cars are forced onto a limited amount of streets that carry traffic in and out of neighborhoods.

A key feature of some vital neighborhoods is short blocks. People utilize short blocks more frequently, and they just feel more alive. Short blocks tend to encourage pedestrian activity, while long blocks can feel unsafe from a lack of pedestrian traffic. Blocks for neighborhoods in the area should be short.



Pedestrians

Neighborhoods shall also be connected with pedestrian pathways. This includes the most simple of connections of sidewalks on connected streets. Pathways and trails shall also connect neighborhoods. An extensive system of pedestrian and bike friendly paths could be created by connecting trails in linear parks to the paths on the major roads. Further, where civic uses exist within neighborhoods, all care should be taken to ensure there are safe pedestrian routes and connections to those civic uses. Civic uses include public parks and open space, schools, churches, etc. In addition, commercial development shall be designed to facilitate pedestrian and non-motorized access from abutting areas.

Streets should also be designed to enhance pedestrian safety. Sidewalks shall be placed on both sides of streets. Additionally, parking should be allowed on

one or both sides of the street. This will help to create a slower speed environment for traffic which will help make pedestrian travel safer.

Bicycles

Bicycles are another viable mode of transportation that should be accommodated in the new neighborhoods of this area. Bicycle facilities located on an existing road shall be continued as the road is extended or improved to urban standards. Designated bike routes should be established within this area with attention paid to connecting those routes to the established city system. Bike lanes shall be added to the appropriate streets. Further, multi-use paths that accommodate bicycles should be extended into the neighborhoods from the existing city system. Open space areas should be provided and/or acquired along major thoroughfares and along drainage ways for development of pedestrian and bicycle trails. Utility corridors can also be used in conjunction with trails and parks.



B. Viewsheds

There are areas within the planning area that have great views of Lawrence to the east and rural Douglas County to the southeast. These areas deserve protection as they can be assets to future neighborhoods. Effort should be made to prevent these high points from being graded to a lower level. Further, adjacent development should step down or have height limits to protect the views of the higher points.

C. Environment

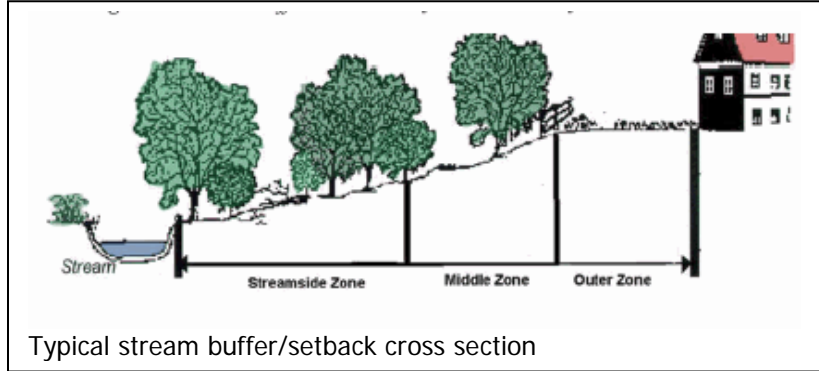
Care should be taken to design new neighborhoods and developments in this area with the natural layout of the land. Preserving the natural systems already in place prior to development should be a priority for the planning area. Streams should follow their natural paths and should not be rerouted or straightened.



One way to accomplish the protection of natural systems is with stream buffer or stream setback regulations. The benefits of such regulations include the reduction of erosion and sediment entering the stream,

preserving the base flows of a stream, providing infiltration of stormwater runoff, and stabilizing stream banks.

This Plan encourages the adoption of a city-wide stream buffer or stream setback ordinance by the City of Lawrence. Setback widths will vary dependent upon land use as well as topography. Regional detention should also be encouraged to take advantage of existing natural geographic features when possible.



Clinton Lake is a major provider of water supply to 7 municipalities including Lawrence and 9 Rural Water Districts. Sediment erosion and runoff during urban development in the planning area poses a risk to that water supply. Sediment erosion control during development activities is a priority for the planning area. While the City of Lawrence has controls in place (Section 9-903 of the City Code), this is an important issue that bears extra emphasis in this Plan.

Sensitive lands, as designated by the *Land Development Code* should be preserved and protected per those standards identified in the code. Street rights-of-way, public utility corridors and building sites should be located so as to minimize their impact on environmentally sensitive areas. 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. If a review indicates that it is not possible or reasonable to protect sensitive features, mitigation should be incorporated.

D. Gateways

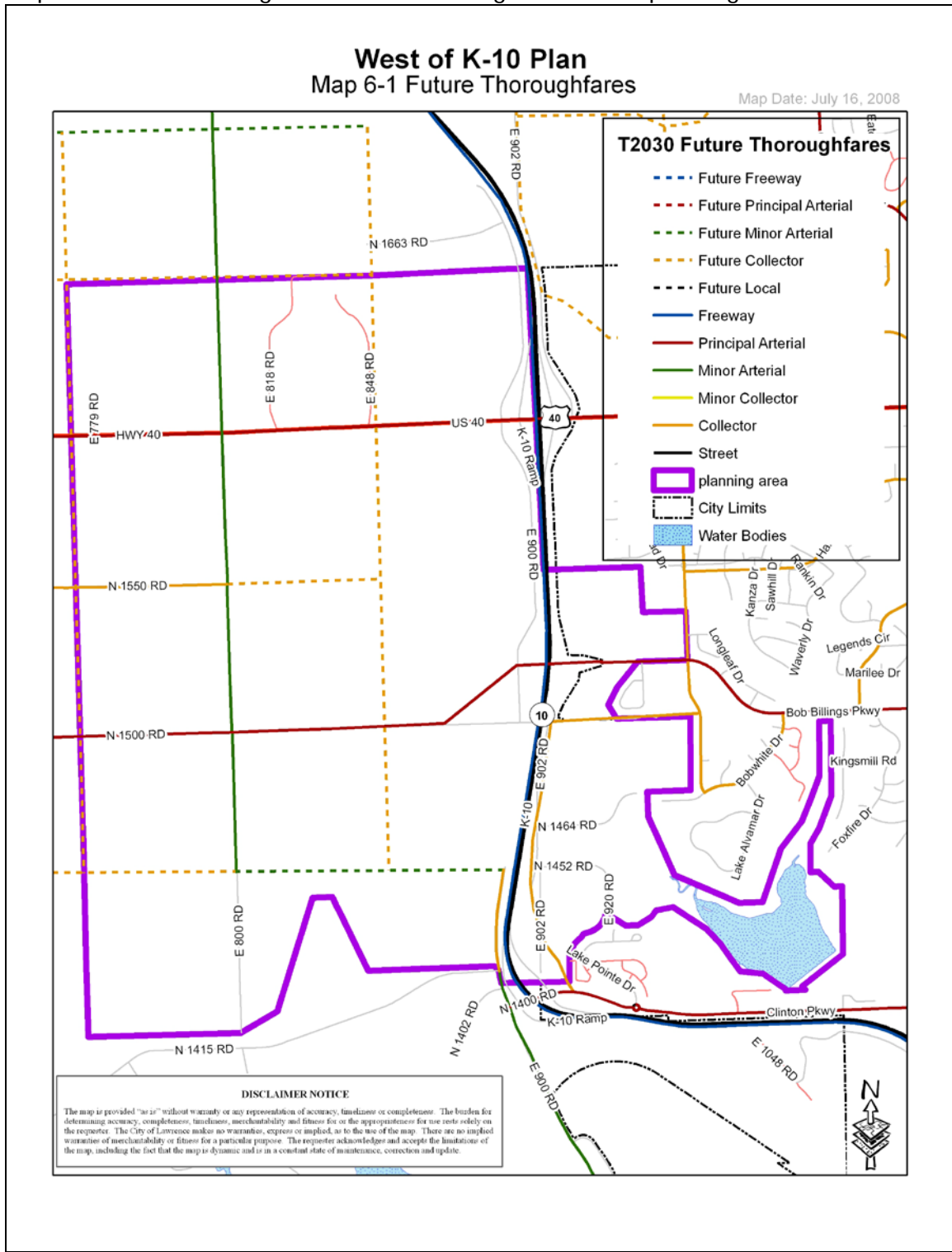
Development shall enhance the identified gateways of the planning area by creating aesthetically pleasing corridors. Aesthetically pleasing landscaped entry ways along gateways should be required. Both public and private property owners are responsible for achieving and maintaining this aesthetically pleasing landscaping.

Further, fencing installations shall incorporate continuous landscaping at the base and edges of the fence to integrate the fence with the site and landscaping. Finally, high quality, aesthetically pleasing building materials should be used.

VI. Transportation

A. Future Thoroughfares

Map 6-1 shows the designated Future Thoroughfares in the planning area.



Map 6-1 is derived from Transportation 2030 (T2030), the Long-Range Transportation Plan for Lawrence and Douglas County.

E 900 Rd currently functions as a frontage road to K-10 Highway, although not continuously. E 900 Rd currently extends from the south and stops near the self storage units near Clinton Lake. E 900 Rd also extends from N 1500 Rd north through the planning area. The road does not extend south from N 1500 Rd. This plan deviates from T2030 by recommending that E 900 Rd. connect between N 1500 Rd and where it stops near the self-storage units. This road will serve as future collector road to handle the new urban density in the area and to provide a connection to Clinton Lake.

B. US Highway 40/West 6th Street

Extraordinary setback

The 50-foot extraordinary setback, in place for most of W. 6th Street between K-10 Highway and Monterey Way, is rooted in the *Western Development Plan*, adopted in 1969. Policy 6 of the *Western Development Plan* states: "A 50 foot easement, in addition to right-of-way required for street and utility purposes, will be required for property being platted adjacent to and on each side of West Sixth Street. This easement will be used as greenspace easement to be landscaped and maintained by the developer or owner of the property". The 50-foot extraordinary setback rule for West 6th Street is located in the joint Lawrence-Douglas County Subdivision Regulations.

This plan recommends establishing an extraordinary setback on US Highway 40 west of K-10 to Stull Road. Establishing the extraordinary setback of 50 feet before urban development begins will help ensure that the cost of right-of-way acquisition for the eventual widening of 6th Street will not be increased because of the added cost to acquire buildings that could be constructed before the widening of the roadway. The extraordinary setback should be repealed after 6th Street is improved to an urban 5-lane road.

Access Management

US Highway 40/West 6th Street is classified as a B Route in a developed area according to the KDOT published *Corridor Management Policy*. According to that policy, B Routes are to be protected by allowing for direct access only when alternative access is infeasible. When direct access is necessary, shared access will be required whenever possible.

The access management standards put in place on West 6th Street between K-10 and Wakarusa Drive only allow access to West 6th Street every ¼-mile. The access management standards were based on the 1998 West 6th Street Access Management Plan. The recommendation of this plan is to continue the access management standards of 6th Street east of K-10 as US Highway 40/6th Street west of K-10 is improved to an urban principal arterial in the future.

Multi-Use Path

A 10' multi-use path was constructed on one side of 6th Street between Wakarusa Drive and K-10 while a 6' sidewalk is on the other side of 6th Street. As 6th Street is improved west of K-10, it is recommended a 10' multi-use path be constructed on one side of the street and a 6' sidewalk on the other side.



Multi-Use Path on 6th Street

C. Bob Billings Parkway/15th Street

Bob Billings Parkway Extended

Bob Billings Parkway currently does not extend to K-10 Highway from the east. Bob Billings Parkway shall be extended to K-10 to provide another connection to K-10 and to provide a direct route to Kansas University from K-10. This connection will help to relieve traffic congestion on 6th Street.

K-10 Highway Intersection

From the east, E 1500 Road currently intersects K-10 Highway with an at-grade intersection. Bob Billings Parkway does not extend from the east to connect to K-10. Urban development will generate large amounts of traffic for which the existing at-grade intersection is not appropriate.



E 1500 Rd & K-10 – looking east toward Lawrence.

No urban density development west of K-10 Highway will be approved until the City of Lawrence, Douglas County and/or the Kansas Department of Transportation (KDOT) has approved a financing plan, along with a commitment to construct the improvements within a reasonable timeframe, that will

be implemented to address the K-10/15th Street intersection to make it safe to handle urban density traffic. The acceptable solution is a grade separated intersection. Properties north of US Highway 40/6th Street and within ½ mile south of US Highway 40/6th Street will not have to comply with this policy when they develop to urban densities in the future.

Possible financing mechanisms in the approved financing plan could include impact fees. An impact fee is a charge on new development to pay for the construction or expansion of off-site capital improvements that are necessitated

by and benefit the new development. Construction of a new interchange at K-10 Highway and Bob Billings/15th Street is a project that would directly benefit the new urban growth west of K-10 Highway.

Multi-Use Path

A 10' multi-use path should be constructed on one side of an improved Bob Billings/15th Street while a 6' sidewalk should be constructed on the other side of the street.

D. E 902 Rd.

T2030 identifies E 902 Rd. as a future collector street that will access Clinton Parkway. Providing this road and the connection to Clinton Parkway should occur as urban scale development happens in southeast corner of the planning area. This will help accommodate the additional traffic that will be generated with urban development.

T2030 shows this road going north from Clinton Parkway generally parallel to K-10 Highway. As shown in T2030, it turns east at N 1500 Rd and connects to George Williams Way, which will take traffic to Bob Billings Parkway. Providing this connection between Bob Billings Parkway and Clinton Parkway is important as the area urbanizes. The final alignment of the road and how that connection is accommodated will be determined when final design decisions are made. Alternative alignments to connect E 902 Rd directly to Bob Billings Parkway could be considered as well.

E. Transit

Future transit service for the planning area should be determined to be warranted or not based on the ultimate land use of employment and commercial activity.

VII. Community Facilities

A. Fire & Medical

A new fire and medical station is planned for 6th Street and K-10 Highway. The new station will serve some of the existing new growth east of K-10 and a good deal of the new growth west of K-10. It is programmed in the City's CIP budget for 2009.

B. Parks, Recreation, and Open Space

Clinton Lake

The west of K-10 area is adjacent to Clinton Lake, one of the cornerstone natural areas of the community. The Clinton Lake property contains the Clinton Lake reservoir and park, Sesquicentennial Plaza, Eagle Bend Golf Course, a sports complex and multi-use and nature trails, among other things. Clinton Lake is a regional attraction that is a jewel for the community.

Controlled access to Clinton Lake is vital for its operation and security. Consideration should be given to establishing a controlled vehicular and/or pedestrian connection to the north side of Clinton Lake. Any type of access, pedestrian or vehicular, would need to be planned accordingly and receive all the necessary approvals. Perhaps an opportunity exists to provide a connection by extending E 800 Rd to connect to N 1415 Road just east of the Clinton State Park office. A single point of controlled pedestrian or vehicular access to the lake at this location would benefit the residents in these new neighborhoods and would provide another entrance/exit to the lake.

Co-Located Facilities

USD 497 and the City of Lawrence co-located facilities when the school district built Free State High School and the City built the Indoor Aquatic Center next door to the school. This model of cooperation and service delivery should be continued west of K-10. USD 497 owns ground west of K-10 for a future school site. Planning for the future school site should happen in conjunction with the City's planning for new park and recreation facilities.



Parks and Open Space

Connecting parks and open space with pedestrian pathways is encouraged in this area. Each neighborhood must contain parks and open space. Parks and open space should be located on usable land that is easily accessible to the majority of the neighborhood in which it is located. Parks and open space may act as focal

points for neighborhoods and also act as edges for neighborhoods. Additional policy language regarding parks and open space is found in Chapter 9 of *Horizon 2020*.

Lake Alvamar is identified by this plan as open space. The importance of the lake to the planning area is its value as an open space amenity and also as a collection lake for stormwater flowing into it. Maintaining this lake for these purposes is important.

VIII. Utilities

Three master plans prepared for the City – 2003 Water Master Plan, 2003 Wastewater Master Plan, and the Stormwater Management Master Plan – form the policy basis for the necessary infrastructure elements that need to be in place prior to urbanizing the area west of K-10 Highway.

It is important to note from Section II (c) and (g) of this Plan that public utility infrastructure currently in place necessary for urbanizing the planning area west of K-10 Highway is scarce. The following details what infrastructure must be in place prior to urbanizing the area.

A. Water

There is a hydrant and a 16", PVC pipe line southeast of the intersection of US 40 and K-10 which is outside of the Lawrence city limits and another line east of K-10 along Bob Billings Parkway, within the City limits. All other properties obtain water either from private wells or from Rural Water District #1.

The 2003 Water Master Plan (see map 8-1) identifies several improvements designed to serve the area west of K-10 Highway. Due to areas of high ground west of K-10 Highway and an inability to adequately serve the area from the existing West Hills Service Level these improvements include a second water main crossing of K-10 Highway and booster pumping station in the vicinity of N 1500 RD and K-10. For redundancy it would be advisable to have a second water main crossing of K-10 Highway prior to development.

Per the 2003 Water Master Plan the improvements required to extend water service to the west side of K-10 Highway, with the exception of the noted booster pump station and future elevated water storage tank, were to be at the developer's expense.

The water distribution network in this area would be designed and constructed as urban development proceeds.

B. Sanitary Sewer

City sanitary sewer is provided to the majority of the properties east of K-10 that are not within Lawrence city limits. There is one 10" and one 8" PVC City sanitary sewer line that cross K-10 to the north and to the south of N. 1500 Road. A portion of the Yankee Tank Creek No. 3 drainage basin could potentially be served by these existing lines. The capacity of these lines as well as the system downstream of these lines including Pump Station PS09 would need to be evaluated based on proposed development.

Per the 2003 Wastewater Master Plan (see map 8-2) Sanitary Sewer Drainage Basins to the west of Yankee Tank Creek No. 3 will be collected by gravity within each basin and then pumped to the Yankee Tank Creek No. 3 system and conveyed via PS09 for treatment at the Wakarusa Water Reclamation Facility.

These areas will need to be evaluated along with the capacity in the receiving systems downstream to determine any necessary improvements.

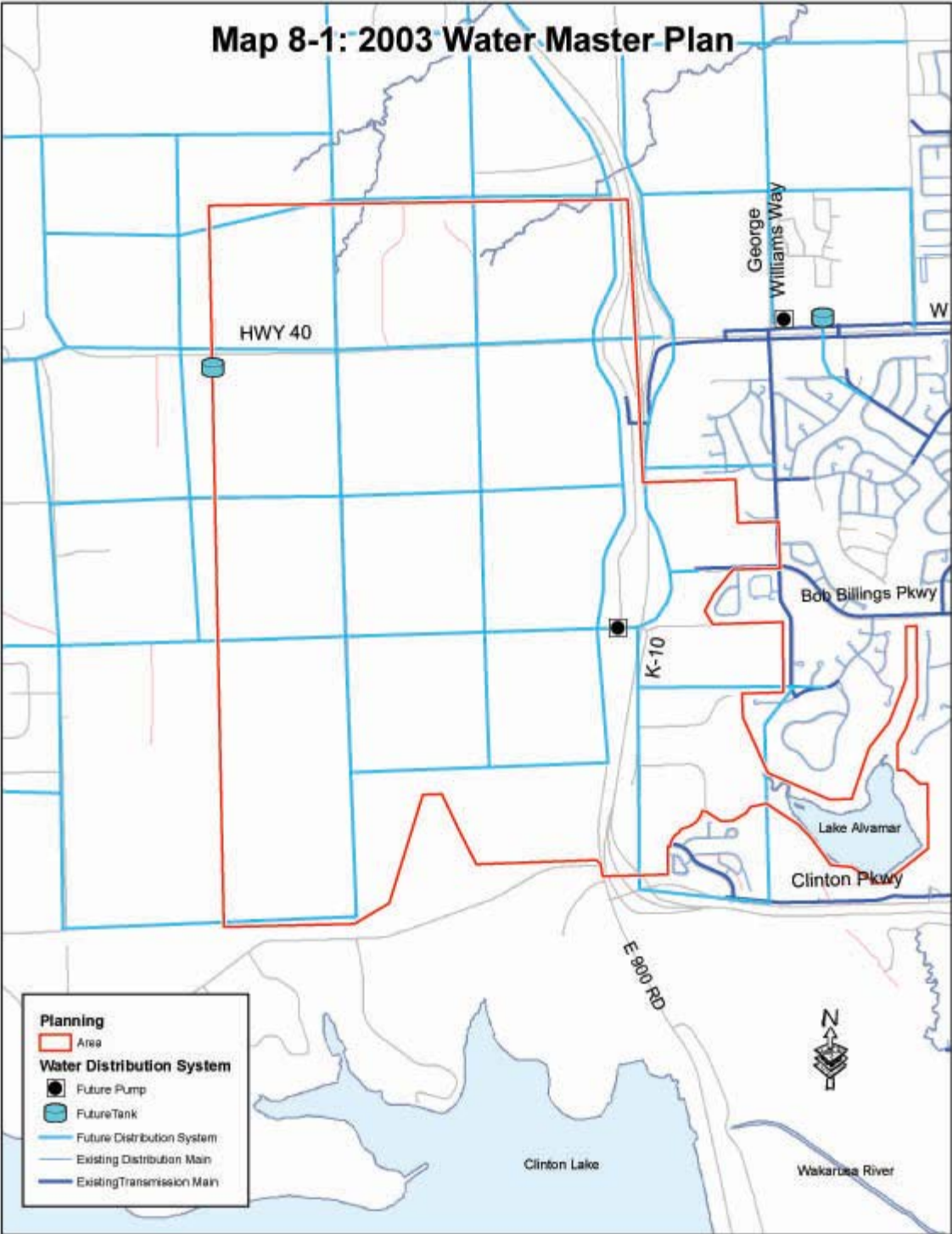
There is a limited area of the Baldwin Creek Drainage Basins immediately south of 6th Street. Per the 2003 Wastewater Master Plan these areas are to follow their natural drainage and flow to the north of 6th Street for further collection and conveyance.

Per the 2003 Wastewater Master Plan the improvements required to extend sanitary sewer service to the west side of K-10, other than those identified as relief improvements to the existing system, were to be at the developer's expense.

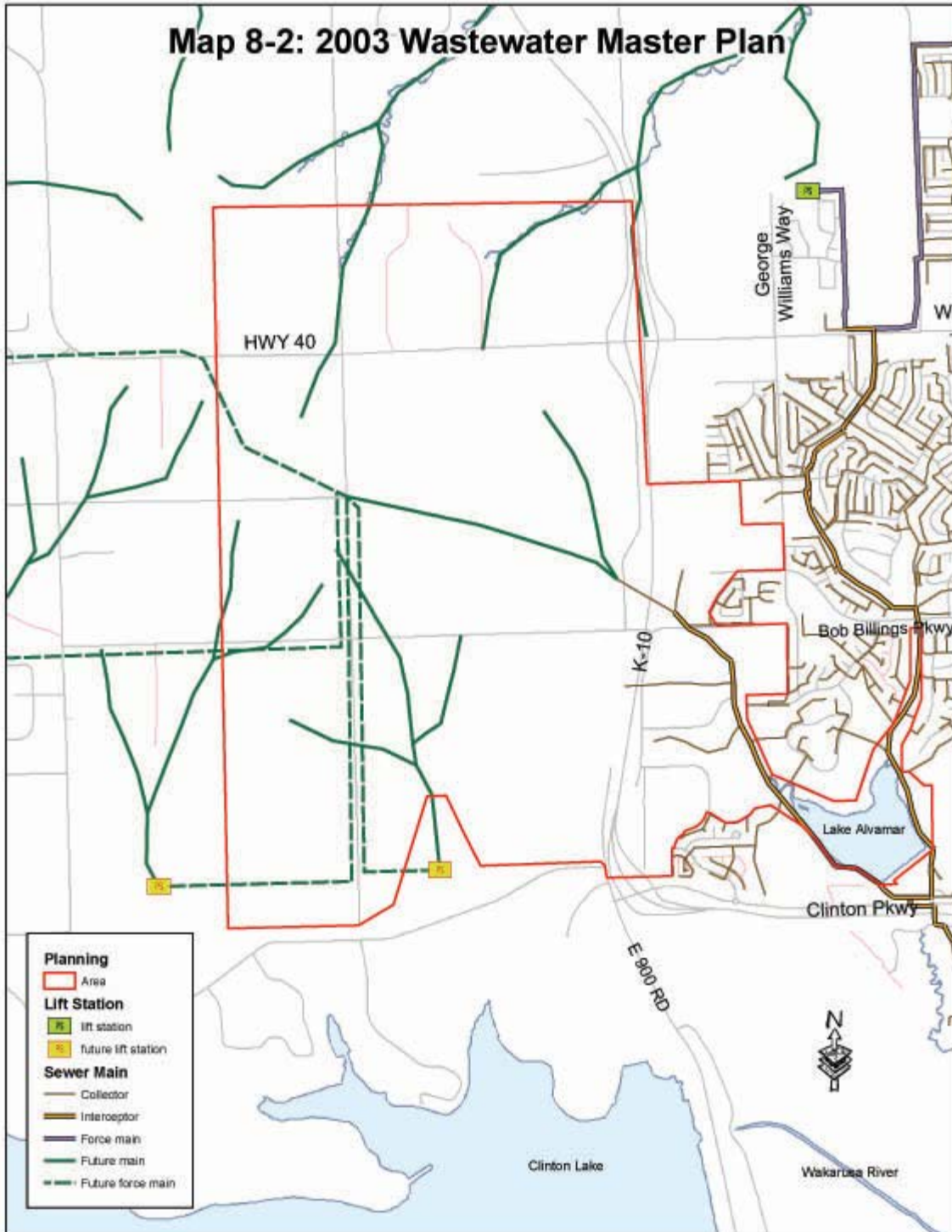
C. Stormwater

The City of Lawrence completed its *Stormwater Management Master Plan* in 1996, which generated policy governing storm water management. Basically, the policy requires an engineering study to assure drainage systems are designed for the 10-year return period peak flow with overflow channels sufficient enough to convey the 100-year peak flow. Overflow channels are to be covered by drainage easements with land use restrictions, and natural channels are encouraged to remain in their original location. Detention is required where buildings in the drainage basin downstream from the proposed development are frequently flooded during storm events, or where the required engineering study indicates the proposed development would cause flooding of downstream structures not previously affected.

At the time that the *Stormwater Management Master Plan* was created, the majority of the Baldwin Creek drainage basin was outside of the city limits, but the plan did recommend that it be updated at a point in the future to include the Baldwin Creek drainage basin. The Yankee Tank west drainage basin was identified in the 1996 plan, and was found to have a satisfactory 10-year performance rating on the majority of its systems. The plan did note that the area was still developing at the time and the plan should be updated at some point in the future as development happens. Current City policies regarding stormwater management will affect all incorporated areas.



Map 8-2: 2003 Wastewater Master Plan



IX. Implementation

The purpose of this section is to provide actions that should happen as this Plan is adopted and urban development starts to occur in the planning area. Each implementation action is assigned a group or groups ultimately responsible for completing or approving the action.

- Amend Horizon 2020 Chapter 14, Specific Plans, to include the West of K-10 Sector Plan by reference.
Who: Planning Commission, City Commission, County Commission
- Amend Horizon 2020 Chapter 6, Commercial, to change the designation of K-10 and Clinton Parkway from Neighborhood Commercial Center to Community Commercial Center.
Who: Planning Commission, City Commission, County Commission
- Adopt the Lawrence SmartCode as a development option for new development and infill in Lawrence.
Who: Planning Commission, City Commission
- Develop a financing plan to improve the intersection of K-10 Highway and 15th Street/Bob Billings Parkway so that it can safely serve urban density development west of K-10.
Who: City Commission, County Commission, KDOT
- Amend Horizon 2020 Chapter 3, General Plan Overview, Map 3-1 Lawrence Urban Growth Area Service Areas & Future Land Use, to reflect the adopted future land use.
Who: Planning Commission, City Commission, County Commission
- Create and adopt a stream buffer or stream setback ordinance.
Who: Planning Commission, City Commission