City of Lawrence
Douglas County
PLANNING & DEVELOPMENT SERVICES

Updated:
10/22/12 @ 12:15pm
Added communications for the following items:
Item 2 - CUP for Penny Sand Pit at N 1500 Rd & E 1850 Rd
Item 5 - Text Amendment for Truck Stop Use
Item 9-11 - W 6th St & K-10; CC600

10/19/12 @ 3:30pm
Added communications for Item 2 - CUP for Penny Sand Pit at N 1500 Rd & E 1850

10/16/12 @ 4:30pm

LAWRENCE-DOUGLAS COUNTY METROPOLITAN PLANNING COMMISSION
CITY HALL, 6 EAST 6TH STREET, CITY COMMISSION MEETING ROOM
AGENDA FOR PUBLIC & NON-PUBLIC HEARING ITEMS
OCTOBER 22 & 24, 2012 6:30 - 10:30 PM

GENERAL BUSINESS:

PLANNING COMMISSION MINUTES

Receive and amend or approve the minutes from the Planning Commission meeting of September 24, 2012.

COMMITTEE REPORTS

Receive reports from any committees that met over the past month.

COMMUNICATIONS

a) Receive written communications from the public.
b) Receive written communications from staff, Planning Commissioners, or other commissioners.
c) Receive written action of any waiver requests/determinations made by the City Engineer.
d) Disclosure of ex parte communications.
e) Declaration of abstentions from specific agenda items by commissioners.

AGENDA ITEMS MAY BE TAKEN OUT OF ORDER AT THE COMMISSION'S DISCRETION

REGULAR AGENDA (OCTOBER 22, 2012) MEETING
PUBLIC HEARING ITEMS:

ITEM NO. 1 CONDITIONAL USE PERMIT; KANWAKA CORNER SELF STORAGE; HWY 40 & N 1600 RD (MKM)

CUP-12-00154: Consider a Conditional Use Permit for Kanwaka Corner Self Storage, on approximately 3 acres located at the SE corner of U.S. Hwy 40 & Douglas Co Road 442/N 1600 Road. Submitted by Landplan Engineering, for Ryan Sparke, property owner of record.

Recess LDCMPC
Convene Joint Meeting with Eudora Planning Commission

ITEM NO. 2 CONDITIONAL USE PERMIT FOR PENNY SAND PIT; N 1500 RD & E 1850 RD (MKM)

CUP-12-00099: Consider a Conditional Use Permit for sand excavation and extraction for Penny Sand Pit, approximately 434 acres located on the NE Corner of N 1500 Road & E 1850 Road. Submitted by Landplan Engineering, for William Penny & Van LLC, property owners of record. *Joint meeting with Eudora Planning Commission. Deferred by Planning Commission on 9/24/12.*

Adjourn Joint Meeting
Reconvene LDCMPC

ITEM NO. 3 CS TO RS5; .1 ACRE; 833 CONNECTICUT ST (MJL)

Z-12-00147: Consider a request to rezone approximately .1 acre from CS (Strip Commercial) to RS5 (Single-Dwelling Residential), located at 833 Connecticut Street. Submitted by Leslie Soden, property owner of record.

NON-PUBLIC HEARING ITEM:

ITEM NO. 4 PRELIMINARY PLAT; LINCOLN SUBDIVISION; 700 BLOCK LINCOLN ST (MKM)

PP-12-00151: Consider a Preliminary Plat for Lincoln Subdivision, an 8 lot subdivision on approximately 3.7 acres located in the 700 Block of Lincoln Street (east of Lyon Park on the north side of Lincoln Street). Submitted by Grob Engineering Services for Bluejacket Ford, LLC, property owner of record.

RESUME PUBLIC HEARING:

ITEM NO. 5 TEXT AMENDMENT TO THE LAND DEVELOPMENT CODE; TRUCK STOP USE (MJL)

TA-12-00182: Consider text amendments to the City of Lawrence Land Development Code, Chapter 20, Article 4 to change the Truck Stop use from permitted to permitted with a Special Use Permit in the IG (General Industrial) District. *Initiated by City Commission on 8/28/12.*

ITEM NO. 6 TEXT AMENDMENT TO THE LAND DEVELOPMENT CODE; RECYCLE PROCESSING CENTER USE (MJL)

TA-12-00183: Consider text amendments to the City of Lawrence Land Development Code, Chapter 20, Article 4 to change the Recycle Processing Center use from permitted to permitted with a Special Use Permit in the IL (Limited Industrial) District. *Initiated by City Commission on 8/28/12.*

MISCELLANEOUS NEW OR OLD BUSINESS

MISC NO. 1 VARIANCE; 3512 & 3514 CLINTON PKWY (MKM)

Variance request from right-of-way requirement in Section 20-810(e)(5)(i) associated with Minor Subdivision for Parkway Plaza No. 5 (MS-12-00033); located at 3512 and 3514 Clinton Parkway.

MISC NO. 2 VARIANCE; 2522 & 2530 ALABAMA ST (MKM)

Variance request from right-of-way requirement in Section 20-810(e)(5)(i) associated with Minor Subdivision for Meadow Hill (MS-12-00193); located at 2522 and 2530 Alabama Street.

Consideration of any other business to come before the Commission.

Recess until 6:30pm on October 24, 2012.

BEGIN PUBLIC HEARING (OCTOBER 24, 2012):

COMMUNICATIONS

a) Receive written communications from staff, Planning Commissioners, or other commissioners.
b) Disclosure of ex parte communications.
c) Declaration of abstentions from specific agenda items by commissioners.

AGENDA ITEMS MAY BE TAKEN OUT OF ORDER AT THE COMMISSION'S DISCRETION

REGULAR AGENDA (OCTOBER 24, 2012) MEETING
PUBLIC HEARING ITEMS:

ITEM NO. 7 IG TO RS7; 14,317 SQ FT, 513 N 7TH ST (DDW)

Z-12-00194: Consider a request to rezone approximately 14,317 square feet from IG (General Industrial) to RS7 (Single-Dwelling Residential), located at 513 N 7th Street. *Initiated by Planning Commission on 5/25/11.*

ITEM NO. 8 IG TO RS7; 7,887 SQ FT, 529 N 7TH ST (DDW)

Z-12-00196: Consider a request to rezone approximately 7,887 square feet from IG (General Industrial) to RS7 (Single-Dwelling Residential), located at 529 N 7th Street. *Initiated by Planning Commission on 5/25/11.*

ITEM NO. 9 W OF K-10 PLAN & NODAL PLAN FOR W 6TH ST & K-10; CC600 (AAM)

CPA-4-2-12: Reconsider a Comprehensive Plan Amendment to Chapter 6 of Horizon 2020 to create CC600 District policies and to Chapter 14 Specific Plans, to revise the West of K-10 Plan and A Nodal Plan for the Intersection of West 6th Street & Kansas Highway 10 (K-10) designating the node of 6th Street and K-10 as a CC600. *Remanded to the Planning Commission by the City Commission on 9/25/12.*

ITEM NO. 10 TEXT AMENDMENT TO THE LAND DEVELOPMENT CODE; CC600 (MJL)

TA-4-3-12: Reconsider a text amendment to the City of Lawrence Land Development Code, Articles 1, 2 and 13, to provide for a CC600 (Community Commercial) District. *Remanded to the Planning Commission by the City Commission on 9/25/12.*

ITEM NO. 11 A & B1 TO CC600; 146 ACRES; W 6TH ST & K-10 (MKM)

Z-4-5-12: Reconsider a request to rezone approximately 146 acres located in the NW quadrant of the intersection of West 6th Street/Hwy 40 and Kansas Hwy 10 (K-10) from County A (Agriculture) District and County B1 (Neighborhood Business) District to the pending district CC600 (Community Commercial) District to accommodate a regional recreation facility. *Remanded to the Planning Commission by the City Commission on 9/25/12.*

MISCELLANEOUS NEW OR OLD BUSINESS

Consideration of any other business to come before the Commission.

ADJOURN

CALENDAR

September						2012
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

October						2012
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

November						2012
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

PCCM Meeting: (Generally 2nd Wednesday of each month, 7:30am-9:00am)

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City of Lawrence
Douglas County
PLANNING & DEVELOPMENT SERVICES

PLANNING COMMISSION MEETING
September 24, 2012
Meeting Minutes DRAFT

September 24, 2012 – 6:30 p.m.
Commissioners present: Burger, Culver, Hird, Josserand, Lamer, Liese, von Achen
Staff present: McCullough, Stogsdill, Day, Larkin, M. Miller, Ewert

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MINUTES

Receive and amend or approve the minutes from the Planning Commission meeting of August 20, 2012.

Motioned by Commissioner Hird, seconded by Commissioner von Achen, to approve the August 20, 2012 Planning Commission minutes.

> Motion carried 5-0-1, with Commissioner Burger abstaining. (Commissioner Lamer was not present at the meeting yet.)

COMMITTEE REPORTS

Receive reports from any committees that met over the past month.

Commissioner Hird said the County Commission returned the agritourism text amendment to the Agritourism Committee so they will be meeting in the next few weeks.

EX PARTE / ABSTENTIONS / DEFERRAL REQUEST

- No ex parte.
- Abstentions:
  Commissioner Hird said he would abstain from Item 1.

ITEM NO. 1 CONDITIONAL USE PERMIT FOR PENNY SAND PIT; N 1500 RD & E 1850 RD (MKM)

CUP-12-00099: Consider a Conditional Use Permit for sand excavation and extraction for Penny Sand Pit, approximately 434 acres located on the NE Corner of N 1500 Road & E 1850 Road. Submitted by Landplan Engineering, for William Penny & Van LLC, property owners of record. *Joint meeting with Eudora Planning Commission.*

Eudora Planning Commissioners Kurt von Achen and Glenn Bartlett were present.

Eudora Commissioner von Achen said Eudora Planning Commission did not have quorum this evening.

Mr. McCullough said for action and voting Eudora Planning Commission would need quorum but that they could participate in the discussion.

Commissioner Burger inquired about the quorum by-laws for Planning Commission.

Mr. McCullough said it took six for Lawrence Planning Commission quorum and if someone abstained there was still quorum.

Eudora Commissioner von Achen said the City of Eudora was meeting this evening to discuss this item. He said one of the vital interests Eudora had was the preservation of their well water and they were discussing a recommendation this evening. He said based on the fact the City of Eudora had not been able to stake their position and the absence of quorum from the Eudora Planning Commission he requested the item be deferred for 30 days.

Mr. Randy Larkin, City Attorney, said the City of Eudora Planning Commission could not defer the item but that Lawrence Planning Commission could.

Commissioner Burger said she would support a deferral based on the lack of professional recommendation from the City of Eudora and lack of quorum from Eudora Planning Commission. She felt it would be in the best interest of the community to defer the item.

ACTION TAKEN
Motioned by Commissioner Burger, seconded by Commissioner von Achen, to defer Item 1, CUP-12-00099, for 30 days.

Commissioner von Achen said they seemed to be lacking some information regarding the wetlands and she hoped they could receive additional information before they act on it.

Motion unanimously carried 5-0.

PC Minutes 9/24/12 **DRAFT**

ITEM NO. 2 A TO R-T; 31 ACRES; 1674 N 1000 RD (MKM)

Z-12-00098: Consider a request to rezone approximately 31 acres from County A (Agriculture) to County R-T (Rural-Tourism Business), located at 1674 N 1000 Rd. Submitted by Mid-American Association for Autistic Training and Research (MAATR), for Marcus and Sandra Patton, property owners of record.

STAFF PRESENTATION

Ms. Mary Miller presented the item.

Commissioner Lamer arrived at the meeting at 6:50pm.

APPLICANT PRESENTATION

Mr. Harry McLear, Director of MAATR, was present for questioning. He said the program focused on autistic adolescents and young adults.

PUBLIC HEARING

Mr. Gary Holladay wanted to know if all the buildings would be built to code.

Ms. Miller said in the Rural Tourism District it was necessary to plat and site plan and that all the buildings would have to built to code.

Mr. Holladay asked where the east boundary was from E 1700 Road. He wondered if there would be 15 cabins.

Ms. Miller showed a map of the east boundary on the overhead.

Ms. Deborah Giudicessi, MAATR, said about 12 acres would separate the property from E 1700 Road. She said the number 15 was the number of guests not cabins. She said each cabin would have a separate septic field with three acres per cabin so that would only allow a maximum of 5 cabins. She said there would not be much more activity than the current use as a commercial stable.

COMMISSION DISCUSSION

Commissioner Josserand wondered how much would be dependent upon third party payment from insurance companies, state, federal government for the services provided.

Ms. Miller said this could possibly be considered as agritourism when the text amendment was adopted but that it was coming to them today as rural tourism which was a business zoning district.

Mr. McLear said primarily they were a not-for-profit corporation. He said they exist with the ability to raise funds, primarily from individuals. He said to this day they have not been dependent on federal or state funding but that if funding was available he would not turn it down. He said they were trying to reach a segment of autism, adolescents and teenagers, that had not been truly touched yet. He said he has a 48 year old autistic son and there was nothing for him so he was trying to make something for youngsters at this facility.

Commissioner Hird inquired about the staff recommendation of buffer width reduction to 100' along the north and south property line but no recommendation for the east and west sides.

Ms. Miller said she did not recommend a reduction on those sides so it would be keeping the 200' on the east and west sides.

Commissioner Hird asked the applicant to discuss the buffers.

Mr. McLear said he asked for a lesser buffer on all four sides. He said the south side was along the road and he was not as concerned with that one but that on the west side they were not going to build anything but that he wanted to allow room for another temporary cabin if needed. He did not want to be restricted because of a 200' buffer. He said on the east side the present owners of the property indicated they would give 0' buffer if possible. He said if he could go that far he would but that 100' would satisfy him.

Mr. Holladay asked if it was a non-profit organization.

Commissioner Liese said that was what the applicant said.

ACTION TAKEN

Motioned by Commissioner Hird, seconded by Commissioner von Achen, to approve the rezoning request for approximately 31 acres from A (Agricultural) District to R-T (Rural Tourism), and forwarding it to the Board of County Commissioners with a recommendation for approval based on the findings of fact found in the body of the staff report, and; approval of the buffer width reduction to 100 ft along the east, west, north and south property lines, subject to the following conditions:

- The reduction on the south property line would apply only to the area needed to accommodate the activity area parking area and drive. The buffer on the remainder of the south property line would remain at 200 ft.
- A note would be added to the site plan which limits the use of the driveway to the cabins to 4 cabins, to insure it remains a low-intensity use.

Unanimously approved 7-0.

ITEM NO. 3 VARIANCE FOR GRAND ADDITION NO. 2; 3400 & 3401 ALDRICH ST (SLD)

MS-12-00092: Consider a variance associated with the Minor Subdivision for Grand Addition No. 2, from the 150' right-of-way requirements in section 20-810 (e)(5) for an arterial street, Kasold Drive, to remain at 100', and from section 20-811 (c) to require a sidewalk on the south side of Aldrich Street. A four-lot division located at 3400 and 3401 Aldrich Street. Submitted by Dean Grob for Jerry Willis, Grand, LLC, property owners of record.

STAFF PRESENTATION
Ms. Sandra Day presented the item.

APPLICANT PRESENTATION
Mr. Dean Grob, Grob Engineering Services, was present for questioning.

PUBLIC HEARING
No public comment.

COMMISSION DISCUSSION
Commissioner Josserand said he liked sidewalks.

Mr. McCullough said the recreation path was being moved and a variance was being given to not put sidewalks on the south side of the street.

ACTION TAKEN
Motioned by Commissioner Hird, seconded by Commissioner Culver, to approve the variance requested from Section 20-810(e)(5) to allow the Kasold Drive right-of-way in this location to remain at 100 feet, rather than the 150 feet required by Code, and; Approve the variance requested from Section 20-811(c) to forego the construction of sidewalk along the south side of Aldrich Street.

Motion carried 6-1, with Commissioner Josserand voting in opposition.

ITEM NO. 4A I-4 & VC TO UR-FP; 31.7 ACRES; N OF K-10 BETWEEN GREENWAY CIR & E 1575 RD (SMS)

Z-12-00119: Consider a request to rezone approximately 31.7 acres (and adjacent railroad r-o-w) from I-4 (Heavy Industrial) and VC (Valley Channel) Districts to UR-FP (Urban Reserve – Floodplain Overlay) District, located in the NE1/4 & NW1/4 Sec 4-13-20 (Former Farmland Industries property, N of K-10 between Greenway Circle & E 1575 Rd). *Initiated by City Commission on 8/7/12.*

ITEM NO. 4B I-4 TO UR; 170.4 ACRES; N OF K-10 BETWEEN GREENWAY CIR & E 1575 RD (SMS)

Z-12-00120: Consider a request to rezone approximately 170.4 acres (and adjacent railroad r-o-w) from I-4 (Heavy Industrial) District to UR (Urban Reserve) District, located in the NE1/4 & NW1/4 Sec 4-13-20 (Former Farmland Industries property, N of K-10 between Greenway Circle & E 1575 Rd). *Initiated by City Commission on 8/7/12.*

ITEM NO. 4C I-4, I-1, A, & CC200 TO IG; 170.7 ACRES; N OF K-10 BETWEEN GREENWAY CIR & E 1575 RD (SMS)

Z-12-00121: Consider a request to rezone approximately 170.7 acres (and adjacent highway r-o-w) from I-4 (Heavy Industrial), I-1 (Limited Industrial), A (Agricultural) County Districts and CC200 (Community Commercial Center) City District to IG (General Industrial) District, located in the NW1/4 & SW1/4 Sec 4-13-20 (Former Farmland Industries property, N of K-10 between Greenway Circle & E 1575 Rd). *Initiated by City Commission on 8/7/12.*

ITEM NO. 4D I-1, B-1, A, & IG TO IM; 59 ACRES; N OF K-10 BETWEEN GREENWAY CIR & E 1575 RD (SMS)

Z-12-00122: Consider a request to rezone approximately 59.0 acres (and adjacent highway r-o-w) from I-1 (Limited Industrial), B-1 (Neighborhood Business); A (Agricultural) [County Districts] and IG (General Industrial) District to IM (Medium Industrial) District, located in the SE1/4 Sec 5-13-20 & SW1/4 Sec 4-13-20 (Former Farmland Industries property, N of K-10 between Greenway Circle & E 1575 Rd). *Initiated by City Commission on 8/7/12.*

ITEM NO. 4E PRELIMINARY PLAT FOR FORMER FARMLAND INDUSTRIES; N OF K-10 BETWEEN GREENWAY CIR & E 1575 RD (SMS)

PP-12-00101: Consider a Preliminary Plat for the Former Farmland Industries property, an industrial subdivision containing 20 lots, 4 tracts and 4 greenway tracts. The property is located N of K-10 between Greenway Circle & E 1575 Rd. Submitted by Bartlett & West, for City of Lawrence, property owner of record.

ITEM NO. 4F SPECIAL USE PERMIT FOR WESTAR SUBSTATION; N OF K-10 BETWEEN GREENWAY CIR & E 1575 RD (SMS)

SUP-12-00100: Consider a Special Use Permit for a Westar substation to provide electricity to the Former Farmland Industries property and surrounding properties. The property is located N of K-10 between Greenway Circle & E 1575 Rd. Submitted by Bartlett & West for Westar Energy. The City of Lawrence is the property owner of record.

STAFF & CONSULTANT PRESENTATION

Commissioner Lamer said his wife worked for Bartlett & West in this past year and may have had a hand in this plan so he recused himself.

Mr. Darron Ammann, Bartlett & West, presented background information about the planning that has been going on at the site in the past year. He showed a graphic of what the site could potentially look like when completely built.

Ms. Eileen Horn, Sustainability Coordinator, discussed some of the green sustainable aspects of the project.

Ms. Sheila Stogsdill presented the item.

PUBLIC HEARING

No public comment.

COMMISSION DISCUSSION

Commissioner Burger said she assumed the Chamber of Commerce was represented within all of the conversations.

Mr. McCullough said that was correct.

Commissioner Burger inquired about the IG area along K-10. She asked if there was a market benefit to having IG frontage property.

Mr. McCullough said some companies want the visibility and some do not. He said it was advantageous that IG was the most advantageous industrial district because it was the most wide open. He stated general industrial use allowed some of the high off-site impacts. He said IG was beneficial to the community when companies were looking at Lawrence.

Commissioner Hird asked if they took into consideration the possibility of less intensive uses along frontage road.

Mr. McCullough said it was considered and a few things were in the works right now. He said it was possible that codes covenants and restrictions on the park could address some of the use issues. He said the City owed the property so there would be a real estate negotiation that would likely include use of a specific site because they did not know how it would evolve. He stated they would not want to put a use in the new park that would prohibit attracting other uses.

Commissioner Hird said he was not in favor of cutting down the amount of IG. He was concerned about this being a major gateway to the City and needed reassurance that the buffering requirements and industrial design guidelines would protect the appearance of the site as people drive into Lawrence.

Mr. McCullough said that was a high priority and that they had every intention of creating a park like setting in the business park and allowing it to be a true industrial park with industrial uses. He said the City put a lot of resources into the park by removing stuff that was un-aesthetically pleasing. He said the park-like easement at the sign and gateway would be landscaped well.

Commissioner Hird inquired about there not being a commercial area. He was surprised there wasn't some area for support like a gas or convenience station.

Mr. McCullough said there was some commercial zoning across the street at Fairfield Farms. He said this was to carry forth and implement the concept of capturing as much industrial land as possible at the appropriate places to support primary jobs.

Commissioner Hird said people using the industrial area would need to use the roads to drive out to get commercial services.

Mr. McCullough said yes, the industrial park would be more auto related than any kind of mixed use center.

Commissioner Hird inquired about fueling stations and said he was surprised that was not part of the mix.

Mr. Ammann said they discussed and investigated how commercial might work in the park. He said one of the things to get site selectors interested in a business park like this was having that land available. He said most of them don't care where the gas station was located, they care about how big the piece of land was, railway, incentives, access, etc. He said there was some thought that the area where Slimmer's and Knights of Columbus were could potentially be additional commercial in the future. He said they were concerned about what the gateway to the community along K-10 would look like. He said there was a traffic issue with East Hills Business Park and that hopefully with the intersection of K-10 and O'Connell being signalized it would start to alleviate that problem. He said the exact landscape plan hasn't been developed. He stated along the entire frontage there would be between 30'-50' easement for greenspace landscaping and that it could be some sort of berm. He said the easement would run from the entrance all the way over to the East Hills Business Park lot.

Commissioner Culver inquired about potential access for 15th Street and 19th Street.

Mr. McCullough said even though there was a possibility to go up to 15th Street it was not in the plans today. He said 19th Street would have to be improved. He stated traffic patterns would dictate it.

Commissioner von Achen inquired about the cemetery.

Mr. McCullough said it would remain the same.

Commissioner von Achen inquired about the remediation status.

Mr. McCullough said the process was working but essentially the property was hot with nitrates so it was a natural process of filtering the ground of those nitrates and collecting it in some of the lagoons on the property and shifted to it agriculture property. He said it was approximately a 30 year process.

Mr. Ammann said a portion of the property on the far north could not be touched for 30 years because of the high levels of nitrates in the soil.

Commissioner von Achen asked if the maximum length of time was 30 years.

Mr. Ammann said that was the approximate time for the nitrates to leach out of the soil given by KDHE. He said the southern area was deemed acceptable for development.

Commissioner Josserand said he was excited about the site and the work that had been done on it.

ACTION TAKEN on Item 4A
Motioned by Commissioner Josserand, seconded by Commissioner Hird, to approve the rezoning request for 31.7 acres from I-4 (Heavy Industrial) and VC (Valley Channel) to UR-FP (Urban Reserve-Floodplain Overlay) District and forwarding it to the City Commission with a recommendation for approval based on the findings of fact found in the body of the staff report.

Motion carried 6-0-1, with Commissioner Lamer abstaining.

ACTION TAKEN on Item 4B
Motioned by Commissioner Josserand, seconded by Commissioner Hird, to approve the rezoning request for 170.4 acres from I-4 (Heavy Industrial) to UR (Urban Reserve) District and forwarding it to the City Commission with a recommendation for approval based on the findings of fact found in the body of the staff report.

Motion carried 6-0-1, with Commissioner Lamer abstaining.

ACTION TAKEN on Item 4C
Motioned by Commissioner Josserand, seconded by Commissioner Burger, to approve the rezoning request for 170.7 acres from I-4 (Heavy Industrial), I-1 (Limited Industrial), A (Agricultural) and CC-200 (Community Commercial) to IG (General Industrial) District and forwarding it to the City Commission with a recommendation for approval based on the findings of fact found in the body of the staff report.

Commissioner Hird said he would vote in favor of the rezoning but felt there should be commercial zoning of some sort. He hoped they weren't creating a potential situation where employees would have to use motor vehicles to go out and get essential services.

Commissioner Burger appreciated Commissioner Hird's comment. She said the industrial park was designed similar to what had already been developed in other regional cities that Lawrence competes with. She felt having IG on K-10 could get significant industrial partners in the community and long term visibility that Lawrence was industrial friendly. She said many times the essential services, commercial component, goes faster in development so she would promote the idea to preserve the IG as is but with a caveat that the landscape planning should be detailed.

Commissioner Josserand asked if a gas station was allowed in IG zoning.

Mr. McCullough said there were areas of commercial in the Southeast Area Plan, and even adjacent to this property, so it was possible that those lots could be conglomerated and redeveloped into something walkable for this. He said if there was a need for commercial in this part of town they would have given it heavier thought but that there was currently commercial on 23rd Street.

Motion carried 6-0-1, with Commissioner Lamer abstaining.

ACTION TAKEN on Item 4D

Motioned by Commissioner Josserand, seconded by Commissioner von Achen, to approve the rezoning request for 59.0 acres from I-1 (Limited Industrial), B-1 (Neighborhood Business), A (Agricultural) and IG (General Industrial) to IM (Medium Industrial) District and forwarding it to the City Commission with a recommendation for approval based on the findings of fact found in the body of the staff report

Motion carried 6-0-1, with Commissioner Lamer abstaining.

ACTION TAKEN on Item 4E

Motioned by Commissioner Josserand, seconded by Commissioner Culver, to approve the Preliminary Plat of the former Farmland Industries Property subject to the following conditions:

1. Provision of a revised plat including: a. Dedication of full 50' of right-of-way for E 15th Street;
   b. Dedication of a 15' utility easement along the south side of Lots 1 & 2, Block B to accommodate the planned sanitary sewer separate from the proposed 30' landscape easement, if needed;
   c. Provision of a utility easement crossing Lots 7 & 8, Block C and Lot 1, Block D if the existing overhead power lines are not relocated;
   d. Provision of actual minimum FFE on all lots adjacent to drainage easements once those elevations are determined; and
   e. Provision of street names for all internal park streets and E 1575 Road.

2. Execution of revised access control agreements with KDOT prior to recording of a Final Plat.

Motion carried 6-0-1, with Commissioner Lamer abstaining.

ACTION TAKEN on Item 4F

Motioned by Commissioner Josserand, seconded by Commissioner Hird, to approve SUP-12-00-100, a Special Use Permit for, a Minor Utility, based upon the findings presented in the body of the staff report and subject to the following condition:
1. Review and approval of a landscape screening plan to be provided prior to final inspection of the substation improvements.

Motion carried 6-0-1, with Commissioner Lamer abstaining.

Mr. McCullough responded to Commissioner Josserand's earlier question regarding gas stations. He said the Development Code does allow, permitted by right, gas and fuel sales and truck stops in IG. He stated it was not the City's intent today to entertain those kind of uses. He said all eating and drinking establishments were not prohibited in IG.

Commissioner Hird said he was not endorsing truck stops but rather trying to keep them off 23rd Street. He said from a sustainability standpoint it might be more efficient to have fuel located where the trucks were.

PC Minutes 9/24/12 **DRAFT**

MISCELLANEOUS NEW OR OLD BUSINESS

MISC NO. 1 TEXT AMENDMENT INITIATION

Information Item: The City Commission, at their August 21, 2012 meeting, initiated the text amendments noted in the attached memo. Staff will work to draft the code language and place each amendment on a future Planning Commission agenda.

STAFF PRESENTATION

Mr. McCullough said City Commission initiated several text amendments that were generated out of a request by the City Commission for staff to review the Code and determine what may be less friendly to development. He said staff put forth to City Commission and Planning Commission some Code amendments that aren't necessarily aimed at removing a value from the Code. He said all of them still maintain the core value of what they are intended to do today but include a different way to look at some of them. He said they were not being asked to analyze any of these this evening, and that they would see them in the future for action. He said this was just an update on what they would be considering in the future and that Planning Commission was not being asked to take any action. He said City Commission already initiated them.

Commissioner Josserand asked how many text amendments were currently open.

Mr. McCullough said there were a few open. He said City Commission initiated text amendments on the uses of truck stop and recycle facility in the IG district. He said there was one for Article 9 regarding parking. He said the County Zoning Regulations was in the process right now.

Consideration of any other business to come before the Commission.

Commissioner Liese inquired about the public turnout for the Penny Sand Pit Conditional Use Permit and how some seemed unhappy with the process.

Mr. McCullough felt Planning Commission made the best decision based on the facts. He said if Eudora Planning Commission had quorum staff would have encouraged them to hold the public hearing because they always had the option to defer after the public hearing. He also stated Eudora City Commission was meeting tonight to discuss the issue.

Commissioner Liese said based on high level of emotion regarding the Penny Sand Pit it might be optimal to have safety officer present for the next Planning Commission meeting.

Mr. McCullough said that could be done.

Commissioner Liese asked what would be done if a speaker refused to stop talking after the 3-5 minutes allowed.

Mr. McCullough said the police officer could remove the speaker from the room.

ADJOURN 8:47pm

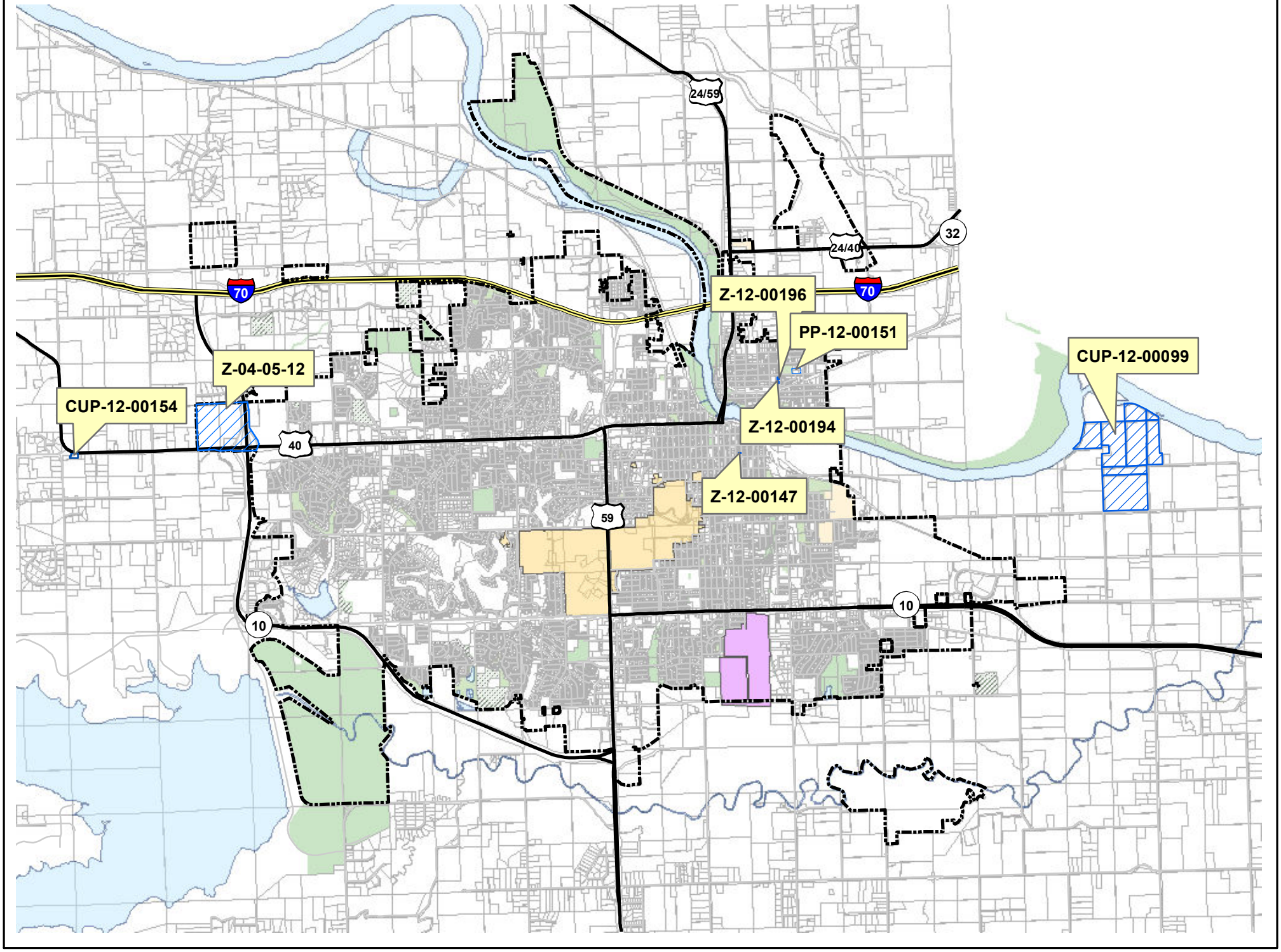
2012
LAWRENCE-DOUGLAS COUNTY METROPOLITAN PLANNING COMMISSION
MID-MONTH & REGULAR MEETING DATES

Mid-Month Meetings, Wednesdays 7:30 – 9:00 AM	Mid-Month Topics		Planning Commission Meetings 6:30 PM, Mon & Wed	
Jan 11	Industrial Districts TA		Jan 23	Jan 25
Feb 8	Agritourism		Feb 27	Feb 29
Mar 14	Northeast Sector Plan		Mar 26	Mar 28
Apr 11	"Planning for Planning: What we need to do at our upcoming orientation."		Apr 23	Apr 25
May 9	APA Conference follow-up		May 21	May 23
Jun 13			Jun 25	Jun 27
Jul 13	*PC Orientation – all day Friday*		Jul 23	~~Jul 25~~
Aug 8	Legal Review – **Start at 8:00AM**		Aug 20	Aug 22
Sep 12	Comprehensive Plan – What's it all about & review of Goals and Policies		Sep 24	Sep 26
Oct 10	Development Review Process	Elements of a Site Plan	Oct 22	Oct 24
---			Nov 12	Nov 14
---			Dec 10	Dec 12

	Suggested topics for future meetings: *How City/County Depts interact on planning issues* *Stormwater Stds Update – Stream Setbacks* *Overview of different Advisory Groups – potential overlap on planning issues* *Open Space Acquisition/Funding Mechanisms – what do other states do?* *Library Expansion Update* *Joint meeting with other Cities' Planning Commissions* *Joint meeting with other Cities and Townships – UGA potential revisions*	*Presentation from KC-metro Planning Directors* *Tour City/County Facilities* *2010 Census Data* *Oread Overlay Districts* *KDOT 5-County Regional Transportation Study* *US40/K-10 Area Transportation Plan* *Water/Wastewater Master Plan Update*
Meeting Locations	The Planning Commission meetings are held in the City Commission meeting room on the 1st floor of City Hall, 6th & Massachusetts Streets, unless otherwise noticed.	

Planning & Development Services |Lawrence-Douglas County Planning Division |785-832-3150 | www.lawrenceks.org/pds

Revised 7/20/12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PLANNING COMMISSION REPORT
Regular Agenda

PC Staff Report
10/22/12

ITEM NO. 1: CONDITIONAL USE PERMIT; KANWAKA CORNER SELF STORAGE; HWY 40 & N 1600 RD (MKM)

CUP-12-00154: Consider a Conditional Use Permit for Kanwaka Corner Self Storage, on approximately 3 acres located at the SE corner of U.S. Hwy 40 & Douglas Co Road 442/N 1600 Road. Submitted by Landplan Engineering, for Ryan Sparke, property owner of record.

STAFF RECOMMENDATION: Staff recommends approval of the Conditional Use Permit for Kanwaka Corner Self Storage and forwarding it to the Board of County Commissioners with a recommendation for approval based on the findings of fact found in the body of the staff report subject to the following conditions:

1) The provision of a revised Conditional Use Site Plan with the following changes:
   a. Addition of a note indicating the prohibited activities listed in Section 12-319-4.34(i) of the Zoning Regulations.
   b. Addition of a note that the area shall be policed by the owner or operator for removal of trash and debris.
   c. Addition of a note indicating the potential for the southern unit to be converted into a restroom for the use of storage tenants.
   d. Addition of landscaping along the east 36 ft of the northern border in the southwest corner of the property. Landscaping located to the east and south of this area can be relocated to the west.

Reason for Request: *"The property owner seeks to develop a self-storage facility on the subject property."*

KEY POINTS

- The property is zoned B-2 (General Business) District. Per Section 12-310-2.12 of the Zoning Regulations for the Unincorporated Territory of Douglas County, a wholesale establishment or warehouse is permitted in the B-2 District when located in a completely enclosed building so long as the floor area does not exceed 20,000 sq ft. As the proposed storage facility will exceed 20,000 sq ft of total area, a Conditional Use Permit is required.
- Per Section 12-319-4.11 of the Zoning Regulations for the Unincorporated Territory of Douglas County, *self storage* is a use which may be approved as a Conditional Use.
- No direct access is permitted to Hwy 40. Access will be taken from Douglas County Road 442/N 1600 Road through a frontage road which the applicant shall improve per County Standards.

ATTACHMENTS

A – CUP Plan

DESCRIPTION OF USE

The applicant is requesting a Conditional Use Permit to allow the development of a self-storage facility. Boat storage may be included; however, all storage will be within an enclosed building.

ASSOCIATED CASES/OTHER ACTION REQUIRED

- Approval of Conditional Use by the Board of County Commissioners.
- Conditional Use Permit Plan released to the Zoning and Codes Office.
- Issuance of permit for the Conditional Use by the Zoning and Codes Office following application and determination that all conditions have been met.
- Building plans submitted for approval and issuance of building permit from the Douglas County Zoning and Codes Office prior to development.

PUBLIC COMMENT RECEIVED PRIOR TO PRINTING

- Walt Spencer, owner of other commercial property in the B-2 District, called for information on the project.

GENERAL INFORMATION

Current Zoning and Land Use:	B-2 (General Business) District; undeveloped.
Surrounding Zoning and Land Use:	To the northwest: A-1 (Suburban Home) District; rural residential subdivision. To the north and south: A (Agricultural) District; agricultural uses, rural residence and right-of-way for Hwy 40 and County Route 442. To the east and west: B-2 (General Business) District; service and auto related businesses to the east, rural residence to the west. (Figure 1)

Site Summary:	
Subject Property:	130,628 sq ft (3.01 acres)
Proposed Buildings:	38,610 sq ft
Off Street Parking Required:	1 space per 8,000 sq ft of floor area in the facility, plus one space for each employee. 38,610/8,000=4.8 5 spaces + 1 employee: 6 spaces
Off Street Parking Provided:	6 spaces with one ADA accessible.

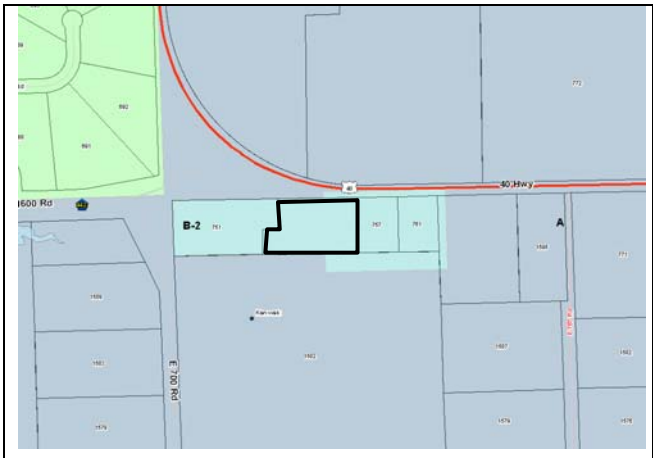


Figure 1a. Area zoning. (Subject property outlined.)

Figure 1b. Area land use. (Subject property outlined.)

I. ZONING AND USES OF PROPERTY NEARBY

The surrounding area is zoned A (Agricultural) and contains agricultural and rural residential uses with two areas being zoned for more intense uses. A rural subdivision is located to the northwest of the subject property within the A-1 (Suburban Home) District and service businesses are located to the east of the subject property on approximately 2.5 acres zoned B-2 (General Business). The parcel to the west of the subject property is also zoned B-2 but is currently used for residential purposes. The area is divided by the intersection of County Road 442/N 1600 Road and US Hwy 40, with the commercially zoned properties being located adjacent to US Hwy 40 on the southeastern corner of the intersection.

Staff Finding –The area contains a major transportation network with the intersection of US Hwy 40, County Route 442/N 1600 Road, and E 700 Rd, all principal arterials. The predominate zoning in the area is Agricultural and agriculture and rural residences are the principal land uses. A-1 Zoning and a rural residential subdivision is located on the northwest corner of the intersection and B-2 Zoning is located east and west of the subject property; commercial uses have been developed on the properties to the east.

II. CHARACTER OF THE AREA

This is a rural residential and agricultural area with a limited amount of commercial uses in the vicinity of the subject property. A US Highway and two county principal arterials intersect in this area. The subject property is located approximately 2 miles west of the intersection of K-10 and Hwy 40/W 6th Street and is within Service Area 4 of the City of Lawrence UGA.

Staff Finding -- This is a rural residential and agricultural area with limited commercial uses. The subject property is located on a major transportation corridor within the Lawrence Urban Growth Area. The proposed use, a self-storage facility, could be compatible with the character of the area.

III. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED

Applicant's response:

> *"The subject property has existed as a vacant and undeveloped farm field since the time of its rezoning from A to B-2. While it is possible that this property could be developed into a use permitted in the B-2 District, such a proposal has yet to materialize. Without the approval of this conditional Use Permit (CUP), the property will remain vacant."*

The property was rezoned from the A (Agricultural) to the B-2 (General Business) District in 2011 with approval of rezoning application Z-3-7-11. The B-2 District permits uses such as automobile parking lots and storage garages; filling stations; offices, personal uses such as barbers, restaurants, taverns, etc.; retail stores; bowling alleys; drive-in restaurants; hotels; material storage yards; used car lot; and wholesale establishment or warehouse in a completely enclosed building so long as floor area devoted to such uses shall not exceed 20,000 sq ft. The subject property is well-suited for the commercial uses which are permitted in the B-2 District.

The proposed use is a self-storage facility which would be classified as a warehouse in a completely enclosed building. This is a permitted use in the B-2 District if the building does not have a floor area greater than 20,000 sq ft. As the use will be larger in scope than permitted in the B-2 District, approval as a Conditional Use is necessary. Given the property's proximity to Hwy 40, County Road

442/N 1600 Road, and E 700 Road, all principal arterials, the property is well-suited to the proposed self-storage use and the traffic that would be generated.

Staff Finding – A Conditional Use Permit (CUP) does not change the base, underlying zoning; therefore, the suitability of the property for other commercial uses permitted in the B-2 District will not be altered. The property has good access to the major transportation network and is also well suited for the proposed use of *self-storage*.

IV. LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED

Staff Finding – The property was rezoned to the B-2 District on July 20, 2011 with Resolution No. 11-24. The property has remained vacant as zoned for approximately 15 months.

V. EXTENT TO WHICH REMOVAL OF RESTRICTIONS WILL DETRIMENTALLY AFFECT NEARBY PROPERTY

Applicant's Response:

> *"The subject property, as well as its neighbors to the east and west, is zoned B-2. A contractor's shop and auto restoration facility are currently in business immediately to the east. The proposed self-storage business will be an appropriate addition to this small commercial node. Removal of restrictions on the subject property poses no detriment to nearby property."*

The proposed use is a permitted use within the B-2 District; however, the removal of restrictions will allow a larger warehouse facility, 38,610 sq ft, than is permitted in the B-2 District, 20,000 sq ft. The use will be completely enclosed and the screening and lighting will be as required in Section 20-319-4.34 for mini- or self-storage facilities. The screening and lighting requirements for the mini-or-self-storage use permitted with a CUP exceed those required for warehouse uses in the B-2 District. With these additional provisions the visual impact of a larger facility on nearby properties should be minimal.

The larger building area could result in more storage units and increased trips to the facility. The Traffic Impact Study (TIS) provided with the application indicated that, on average, five inbound and three outbound trips would be generated during the morning peak hour of a typical weekday and five inbound and five outbound trips would occur during the afternoon peak hour. The Traffic Impact Study concluded that the traffic generated from the proposed development will not have a negative impact on the capacity of the roadway networks in the study area.

The TIS made the following recommendations for improvements to the area to improve safety based on the proposed development:

1. Remove the over-grown trees and shrubs along the east side of US Hwy 40, approximately 550 ft north of its intersection with DG County Road 442/N 1600 Road. This will increase the intersection sight distance to the north (around the curve) providing additional time required by those passenger cars pulling a boat trailer entering US Hwy 40 from Dg County Road 442/N 1600 Road. KDOT maintains the right-of-way in this area and is aware of this recommendation. They've indicated that they would remove vegetation in the right-of-way to eliminate conflict with the sight distance.

2. Realign the exiting driveway to the residential dwelling unit adjoining the development site (which is to serve the proposed site as well) in such a way that its intersection with Dg County Road 442/N 1600 Road will be located at mid-point between US Hwy 40 and E 700

Road. This will provide for more storage room between main highway and the driveway location. *This change is being made by the applicant and is shown on the CUP plan.*

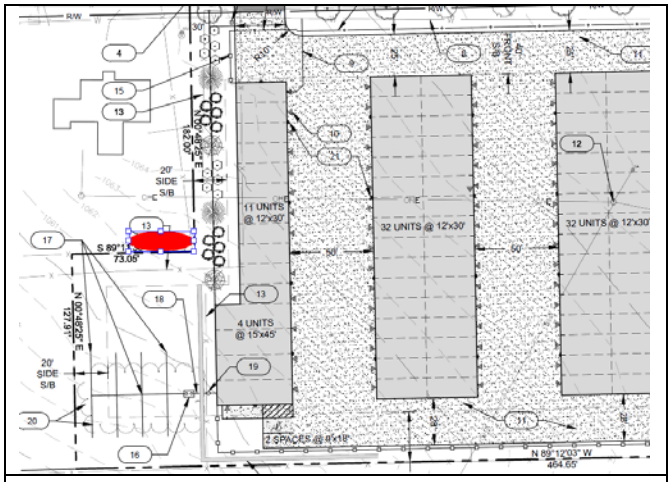


Figure 2. Area for additional landscaping.

The Zoning Regulations provide standards for self-storage when approved as a Conditional Use. A photometric plan has been submitted that illustrates that lighting is adequate for security while eliminating glare or light trespass to other properties to the maximum extent possible. Screening is required on any side which abuts a residentially zoned district of property containing a residence with a view reducing wall, fence, berm, landscaping materials or a combination. The structure will be screened from the nearby residence to the west with a 6 ft high solid wood fence and landscaping consisting of a mix of trees and shrubs. Staff recommends that additional landscaping be provided where the property turns to the west, close to the residence to screen the view of the facility from the residence. This jog in the property is approximately 73 ft in length, approximately half or 36 ft should be landscaped similarly to the landscaping provided along the west property line. (Figure 2) Some of the landscaping shown south of this point could be relocated to the west.

Screening from the residence to the south will be accomplished with a 6 ft high solid wood fence and with the back of the building itself. Given the distance of the residence to the south from the facility, this screening should be adequate. (Figure 3)

Staff Finding – The proposed use is similar to the permitted warehouse use within the B-2 District with the exception that the total area of the storage building will exceed 20,000 sq ft in area. The TIS indicates that the increased traffic associated with the proposed use will not have a negative impact on the capacity of the roadway networks in the study area. With the safety improvement recommended in the TIS, and the design standards required in the CUP process, the proposed use should not negatively impact surrounding properties.

VI. RELATIVE GAIN TO THE PUBLIC HEALTH, SAFETY AND WELFARE BY THE DESTRUCTION OF THE VALUE OF THE PETITIONER'S PROPERTY AS COMPARED TO THE HARDSHIP IMPOSED UPON THE INDIVIDUAL LANDOWNERS

Applicant's Response:
"Denial of this CUP does not pose a relative gain to the public health, safety, and welfare. Rather it perpetuates the vacancy of this commercially-zoned land. Approval of the CUP does not pose a hardship to individual landowners. It instead promotes the commercial development of this property, as intended under the B-2 District, and other neighboring properties at this corner."

Evaluation of the relative gain weighs the benefits to the community-at-large vs. the benefit of the owners of the subject property. Denial of the request for a Conditional Use Permit would prohibit the scope of the proposed enclosed storage facility and require development to be limited to a 20,000 sq ft facility.

Denial of the CUP request would not benefit the public health, safety, and welfare as the roadway network in the area is capable of handling the traffic which would be generated by the use. With this proposed use, the frontage road access point will be moved further to the south, about midway between Highway 40 and E 700 Road. The increased spacing of the frontage road/driveway from Hwy 40 will be a safety improvement in the area.

Staff Finding – Denial of the request limits the scope of the business for this site. Denial of the CUP would not benefit the public safety, health, or welfare. Approval of this request does not directly harm the public health, safety and welfare; but would provide a benefit in the improved access point location on Douglas County Road 442/N 1600 Road.

VII. CONFORMANCE WITH THE COMPREHENSIVE PLAN

The subject property is located within Service Area 4 of the Lawrence Urban Growth Area. The subject area was rezoned in 2011 to the B-2 (General Business) District. The proposed use is in conformance with the comprehensive plan as the general use is permitted within the zoning district; and a Conditional Use Permit is being obtained in order to insure compatibility of the larger facility with surrounding properties

Staff Finding – The proposed use is in general conformance with the recommendations in the Comprehensive Plan as it is a permitted use within the existing Zoning District. Consideration is being given to design of the facility, which is larger than permitted in the B-2 District, to insure that it is compatible with surrounding properties.

STAFF REVIEW

The applicant proposes to develop a 38,610 sq ft self-storage facility on the subject property. The Rural Water District indicated they would be able to serve this facility and the Health Department approved the proposed on-site sewage management system. Prior to installing a septic system, the property owner must first obtain a permit from the Lawrence-Douglas County Health Department. A septic system is shown to the west of the facility and the applicant indicated that the southern unit on the west row of units may be converted to a restroom for the use of customers of the storage facility. No office or caretaker unit is being proposed at this time.

The request has been reviewed with Section 12-319-4.34 of the Zoning Regulations which contains standards which must be met for approval of a conditional use for a self-storage facility. The property meets these standards in that it is located in the Urban Growth Area; takes access to E 700 Road, a principal arterial; security fencing and lighting is provided for the entire facility; photometric plan was submitted which meet the standards in this section; screening has been provided for sides which abut residentially zoned property or property which contains a residence (Figure 3). Adequate off-street parking is provided and the access ways are a minimum of

Figure 3. Residences in relation to subject property. Residence on Hwy 40: approximately 27 ft west of subject property. Residence on E 700 Road: approximately 670 ft southwest of subject property.

25 ft in width. The storage will occur within an enclosed building; a keyless keypad entry system will be used and the storage units are oriented toward the interior of the site with no doors being visible from the exterior. The facility will be screened from residential properties but will have visibility from adjacent properties and rights-of-way for security. Notes will be added to the CUP plan indicating the prohibited activities listed in section 12-319-4.34(i) and the requirement that the area shall be properly policed by the owner or operator for removal of trash and debris.

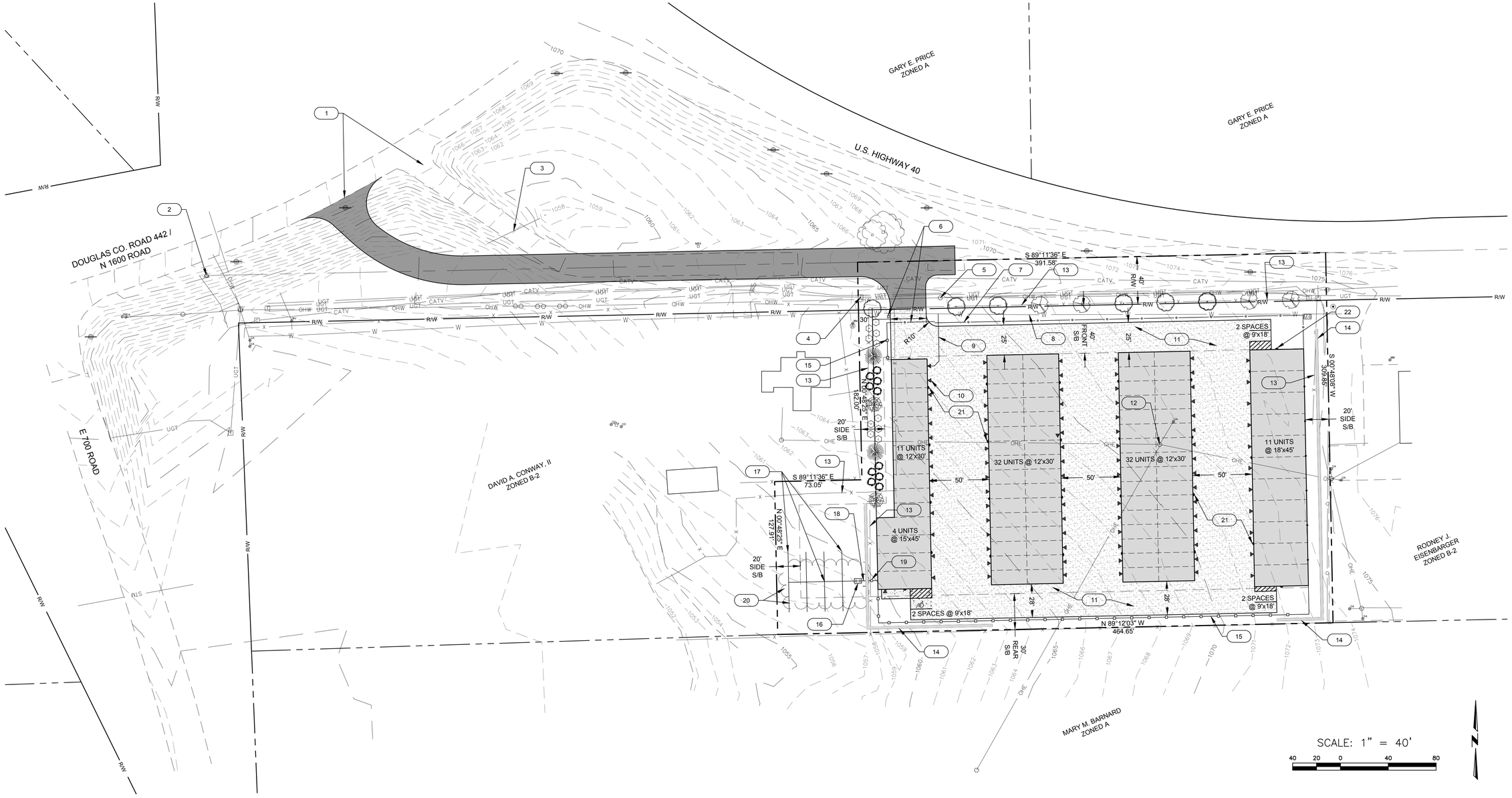
The County Engineer requested that a drainage study be provided to evaluate the impact of the increased impervious surface on drainage in the area. The applicant provided a drainage study which the County Engineer accepted.

The applicant provided a turning radius diagram showing how vehicles with boat trailers would maneuver on site. The County Engineer reviewed this exhibit and found it acceptable.

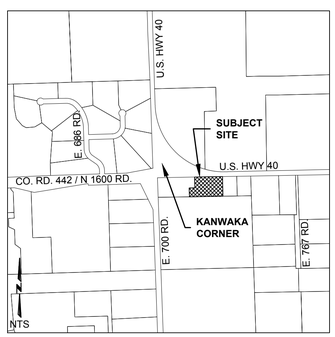
This is to be a phased development, beginning with the units on the west side of the property. The landscaping and perimeter fencing will be provided with the first phase. Parking spaces will be revised with each phase so that adequate parking is being provided for the warehouse floor area that has been constructed.

Conclusion

Approval of a Conditional Use can be tailored to address specific issues such as intensity or frequency of use, include time limitations, and provide screening requirements. The recommended conditions respond to the specific nature of this request. The storage facility, as conditioned, should be compatible with nearby land uses.



LOCATION MAP



LEGAL DESCRIPTION

A TRACT OF LAND IN THE NORTHWEST CORNER (NW 1/4) OF SECTION THIRTY-SIX (36), TOWNSHIP TWELVE (12) SOUTH, RANGE EIGHTEEN (18) EAST OF THE 6TH P.M., DOUGLAS COUNTY, KANSAS, MORE FULLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE NORTHWEST QUARTER (NW 1/4) OF SAID SECTION 36; THENCE SOUTH 89°11'36" EAST ALONG THE NORTH LINE OF THE NORTHWEST QUARTER (NW 1/4) OF SAID SECTION 36, 544.48 FEET FOR A POINT OF BEGINNING; THENCE SOUTH 89°11'36" EAST ALONG THE NORTH LINE OF THE NORTHWEST QUARTER (NW 1/4) OF SAID SECTION 36, 391.58 FEET; THENCE SOUTH 00°48'08" WEST, 309.85 FEET; THENCE NORTH 89°12'03" WEST, 464.65 FEET; THENCE NORTH 00°48'25" EAST, 127.91 FEET; THENCE SOUTH 89°11'36" EAST, 73.05 FEET; THENCE NORTH 00°48'25" EAST, 182.00 FEET TO THE POINT OF BEGINNING, ALL IN DOUGLAS COUNTY, KANSAS.

SITE SUMMARY

EXIST. CONDITIONS	AREA (SF)	PROP. CONDITIONS	AREA (SF)
TOTAL BUILDING	0	TOTAL BUILDING	38,610
TOTAL PAVEMENT	940	TOTAL PAVEMENT	4,385
TOTAL IMPERVIOUS	940	TOTAL IMPERVIOUS	42,995
TOTAL PERVIOUS	129,688	TOTAL PERVIOUS	87,633
TOTAL PROPERTY	130,628	TOTAL PROPERTY	130,628

GENERAL NOTES

1. OWNER: RYAN SPARKE, 2620 CRANLEY STREET, LAWRENCE, KANSAS 66046
2. LAND PLANNER: LANDPLAN ENGINEERING, PA, 1310 WAKARUSA DRIVE, LAWRENCE, KANSAS 66049
3. REFER TO SHEET 2 FOR PHASING PLAN.
4. TOPOGRAPHIC INFORMATION WAS OBTAINED FROM A FIELD SURVEY PERFORMED BY LANDPLAN ENGINEERNG, AUGUST 2012.
5. EXISTING LAND USE: VACANT
6. PROPOSED LAND USE: SELF-STORAGE FACILITY
7. EXISTING ZONING: B-2
8. PROPOSED ZONING: B-2
9. NO PART OF THIS SITE IS LOCATED WITHIN THE FLOODPLAIN PER FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) #20045C0151D, DATED AUGUST 5, 2010.
10. THIS SITE IS DESIGNED TO COMPLY WITH THE PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) FOR BUILDINGS AND FACILITIES, APPENDIX A TO 28 CFR PART 36.
11. ANY CONSTRUCTION OR RENOVATION WORK MUST COMPLY WITH APPLICABLE BUILDING CODES IN EFFECT AT THE TIME OF WORK.
12. NO PERSON SHALL BE ISSUED A BUILDING PERMIT WITHOUT HAVING FIRST OBTAINED FROM THE DOUGLAS COUNTY HEALTH DEPARTMENT A PERMIT TO CONSTRUCT AN ON-SITE SEWAGE MANAGEMENT SYSTEM.
13. PROPOSED BUILDINGS WILL NOT EXCEED 16 FEET IN HEIGHT.

KEYED NOTES

1. EXISTING DRIVEWAY TO BE IMPROVED PER COUNTY ROAD STANDARDS AND REALIGNED, AS SHOWN, PENDING APPROVAL BY COUNTY ENGINEER.
2. NW CORNER OF THE NW QUARTER OF SECTION 36, TOWNSHIP 12 SOUTH, RANGE 18 EAST
3. EXISTING 24-INCH CULVERT TO BE RELOCATED WITH DRIVEWAY IMPROVEMENTS.
4. EXISTING AT&T TELEPHONE PEDESTAL TO REMAIN, TYP.
5. EXISTING WESTAR UTILITY POLE TO REMAIN, TYP.
6. PROPOSED SECURITY GATE WITH KEYLESS KEYPAD ENTRY SYSTEM
7. PROPOSED SECURITY FENCE, 6-FOOT HEIGHT CHAIN LINK, TYP.
8. EXISTING RWD #1 3-INCH DUCTILE IRON WATERLINE TO REMAIN
9. PROPOSED 1-INCH DOMESTIC WATER SERVICE LINE
10. PROPOSED BUILDING ENTRY, TYP.
11. PROPOSED 4-INCH DEPTH GRAVEL SURFACE, TYP.
12. EXISTING KAW VALLEY ELECTRIC UTILITY POLE TO BE RELOCATED
13. EXISTING WIRE FENCE TO BE REMOVED, AS NECESSARY
14. PROPOSED 3-6-FOOT HEIGHT SEGMENTAL BLOCK RETAINING WALL
15. PROPOSED VIEW-REDUCING FENCE, 6-FOOT SOLID WOOD, TYP.
16. PROPOSED 1,000-GALLON CONCRETE SEPTIC TANK
17. PROPOSED CONVENTIONAL SEQUENTIAL STEP-DOWN LATERAL FIELD SYSTEM
18. PROPOSED 4-INCH SCHEDULE 40 PVC SEPTIC SYSTEM LINE
19. PROPOSED 4-INCH SEPTIC SYSTEM CLEANOUT
20. EXISTING TREES TO BE REMOVED
21. 100-WATT METAL HALIDE FIXTURE MOUNTED TO BUILDING AT 9-FEET ABOVE GROUND, TYP.

PARKING SUMMARY

REQUIRED: SELF-STORAGE FACILITY
1 SPACE / 8,000 SF FLOOR AREA + 1 SPACE / EMPLOYEE
38,610 SF / 8,000 + 1 EMPLOYEE
6 SPACES

PROVIDED: 6 SPACES, INCL 1 ADA

PLANT SCHEDULE

SYMBOL	QTY.	NAME	SIZE	COND.
		STREET TREES		
	6	CERCIS CANADENSIS VAR. TEXENSIS 'OKLAHOMA' REDBUD	2.5" CAL.	B&B
	4	CRATAEGUS CRUS-GALLI THORNLESS COCKSPUR HAWTHORN	2.5" CAL.	B&B
		CONIFEROUS TREES		
	2	JUNIPEROUS VIRGINIA 'CANAERTI' EASTERN RED CEDAR	6' HT.	B&B
	2	PICEA ABIES NORWAY SPRUCE	6' HT.	B&B
		DECIDUOUS SHRUBS		
	10	ILEX VERTICILLATA 'WINTER RED' WINTERBERRY HOLLY	5 GAL.	CONT.
		EVERGREEN SHRUBS		
	10	JUNIPERUS SABINA 'BROADMOOR' SAVIN JUNIPER	5 GAL.	CONT.

Civil Engineering
Landscape Architecture
Community Planning
Surveying

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Lawrence, KS • Kansas City, MO • Columbus, OH
The Woodlands, TX • Farmington Hills, MI

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KANWAKA CORNER SELF STORAGE
KANWAKA TOWNSHIP, KANSAS
CONDITIONAL USE PERMIT SITE PLAN

REV	DATE	DESCRIPTION
1	9/26/12	PER STAFF COMMENTS

DATE: 8/20/12
PROJECT NO.: 20121157
DESIGNED BY: LPE
DRAWN BY: BS
CHECKED BY: BS

ISSUE 0
SHEET NO. 1 OF 2 SHEETS

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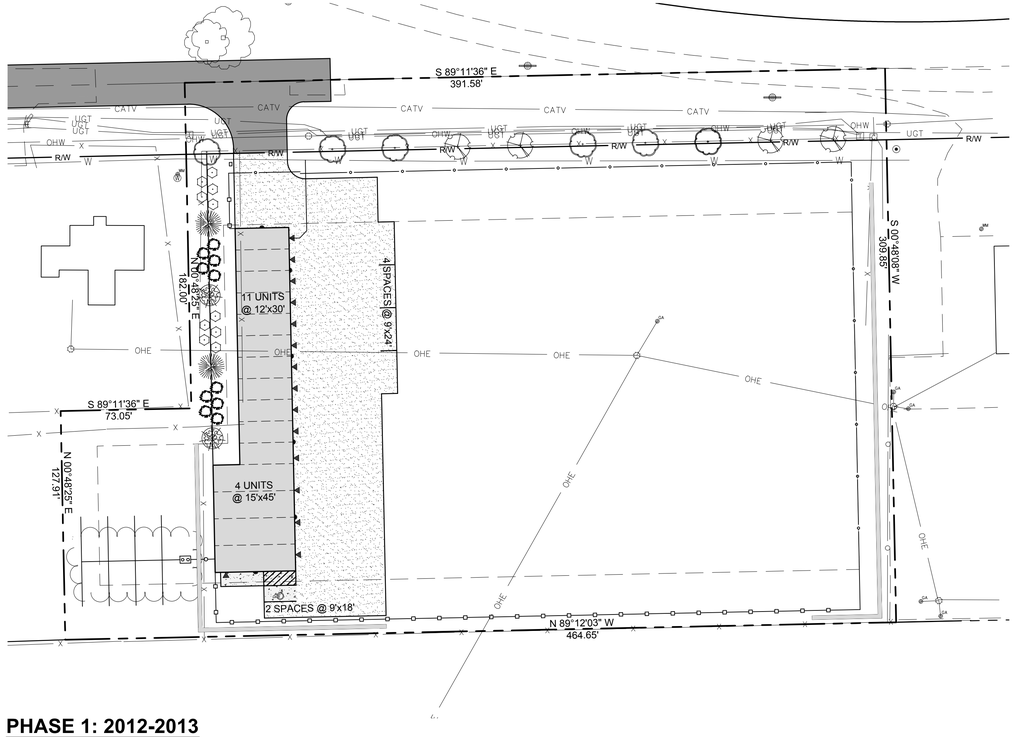
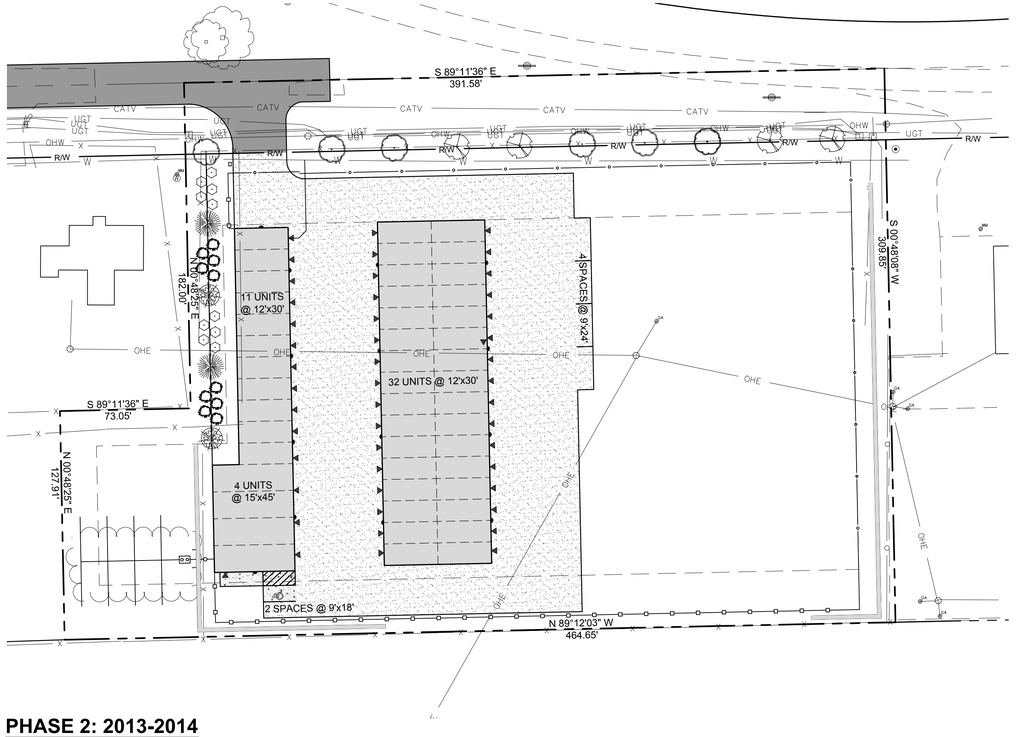
FILE NAME: Q:\20121157\CAD\Planning\CUP\121157C-CUP.dwg LAST SAVED BY: Brian Sturm SAVED DATE: 9/24/2012 3:25 PM PLOTTED: 9/24/2012 3:40 PM



PHASE 1: 2012-2013



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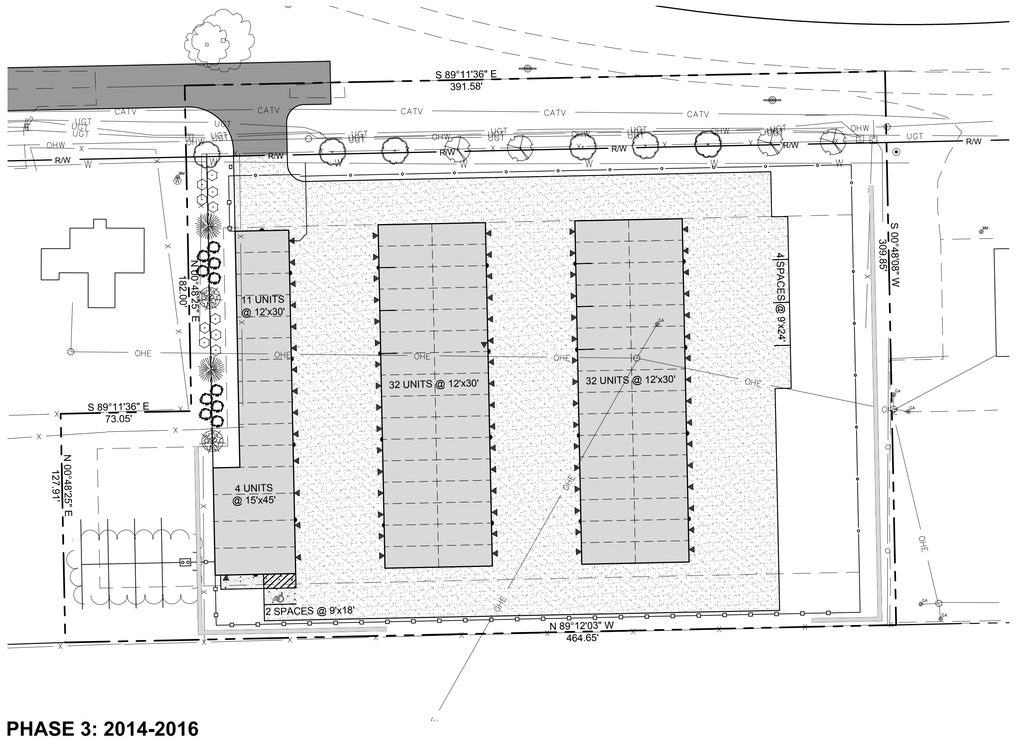

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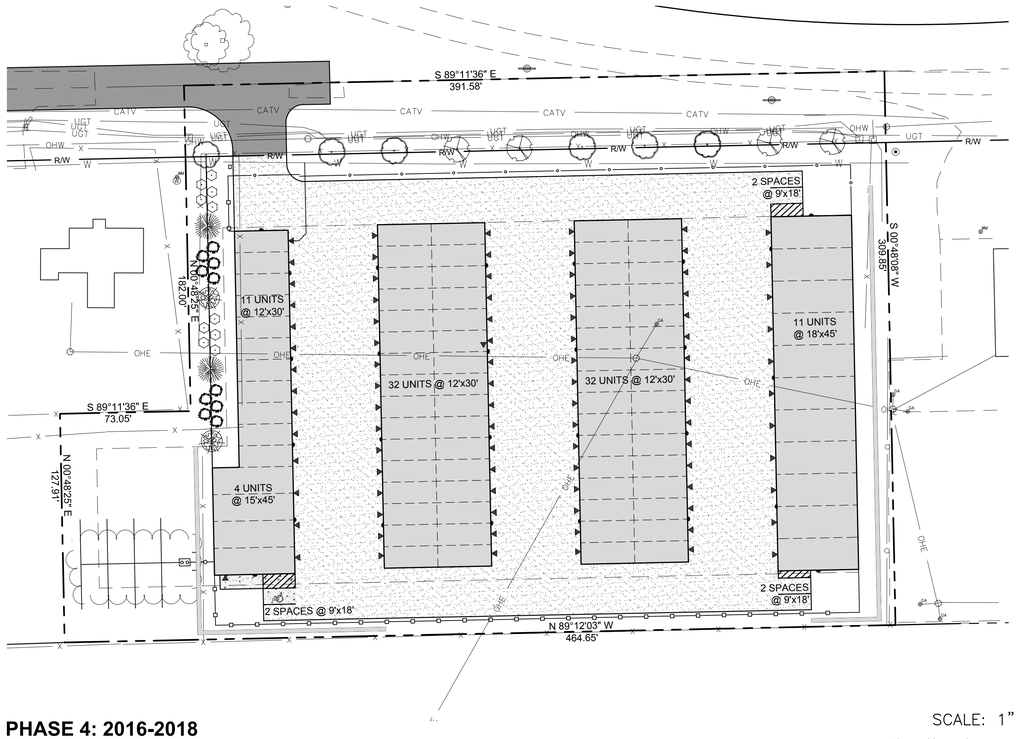

PHASE 4: 2016-2018

SCALE: 1" = 40'

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Civil Engineering
Landscape Architecture
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Surveying

Landplan Engineering, P.A.

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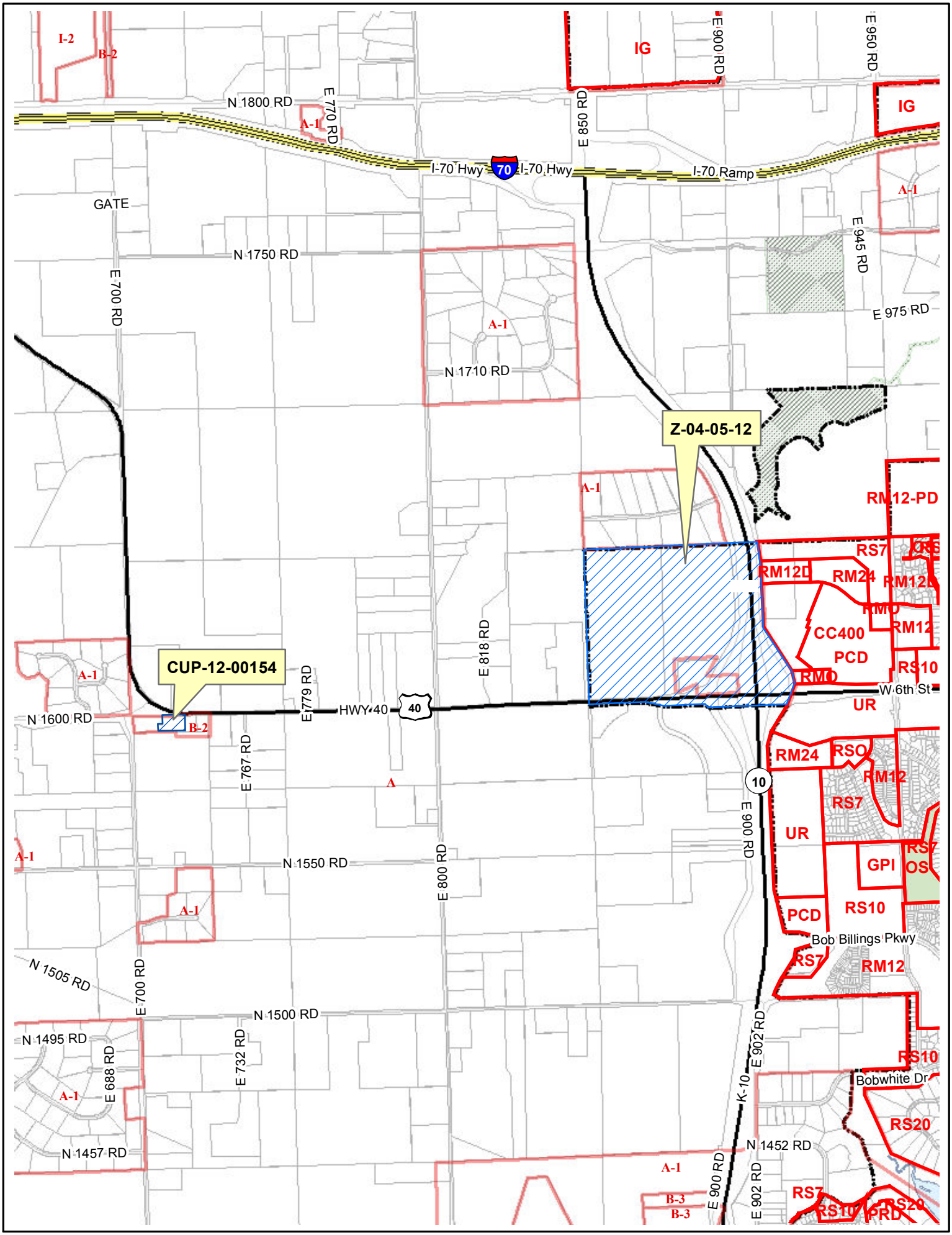
KANWAKA CORNER SELF STORAGE
KANWAKA TOWNSHIP, KANSAS
CONDITIONAL USE PERMIT PHASING PLAN

REV	DATE	DESCRIPTION
1	9/24/12	PER DEPT COMMENTS

DATE:	8/20/12
PROJECT NO.:	20121157
DESIGNED BY:	LPE
DRAWN BY:	BS
CHECKED BY:	BS

ISSUE	SHEET NO.
0	2

OF 2 SHEETS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B-2
IG
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E 770 RD
E 850 RD
E 900 RD
E 950 RD
I-70 Hwy
70
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A-1
GATE
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N 1710 RD
RM12-PD
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E 800 RD
N 1550 RD
GPI
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Bob Billings Pkwy
N 1505 RD
N 1500 RD
N 1495 RD
E 732 RD
E 688 RD
E 902 RD
K-10
Bobwhite Dr
RS20
N 1452 RD
N 1457 RD
B-3
PRD

Memorandum
City of Lawrence
Planning & Development Services

TO: **Planning Commission**

CC: **Scott McCullough, Director of Planning and Development Services**
Sheila Stogsdill, Assistant Planning Director

FROM: **Mary Miller, City/County Planner**

Date: **September 21, 2012**

RE: **ITEM NO. 1: CONDITIONAL USE PERMIT FOR PENNY SAND PIT; N 1500 RD & E 1850 RD (MKM)**
For September 24, 2012 Planning Commission meeting

Two errors were identified in the staff report for the CUP referenced above. Changes have been made and the corrected staff report placed in the Planning Commission agenda packet. The following changes were made to Section VI of the report (Page 10):

1. The applicant's response to the factor "RELATIVE GAIN TO THE PUBLIC HEALTH, SAFETY AND WELFARE BY THE DESTRUCTION OF THE VALUE OF THE PETITIONER'S PROPERTY AS COMPARED TO THE HARDSHIP IMPOSED UPON THE INDIVIDUAL LANDOWNERS" was corrected. Staff had inserted the wrong response for this question. The corrected response is:
"*No identifiable gain will result by denial of this request; no identifiable hardship will result from its approval."*

2. The first paragraph in Section VI was revised. This paragraph incorrectly noted that the subject property was located outside the Eudora Wellhead Protection Zone. The property had been identified as being within the western reaches of the Protection Zone on Page 7 of the staff report, under the heading "Proposed Uses" and in Figure 3. The revised language is:
"Evaluation of the relative gain weighs the benefits to the community-at-large vs. the benefit of the owners of the subject property. There are many factors to consider when locating a sand pit, and this location meets the geographic criteria of being outside the FAA 10,000 ft wildlife mitigation area, has good access to the arterial roadway system, and is in a lowly populated area. Denial of the request for a Conditional Use Permit would affect the individual landowner by prohibiting the use of the property for the off-river sand dredging pit."

PLANNING COMMISSION REPORT
Regular Agenda
Joint Meeting with Eudora Planning Commission

PC Staff Report
09/24/12 (Corrected)

ITEM NO. 1: CONDITIONAL USE PERMIT FOR PENNY SAND PIT; N 1500 RD & E 1850 RD (MKM)

CUP-12-00099: Consider a Conditional Use Permit for sand excavation and extraction for Penny Sand Pit, approximately 434 acres located on the NE Corner of N 1500 Road & E 1850 Road. Submitted by Landplan Engineering, for William Penny & Van LLC, property owners of record. *Joint meeting with Eudora Planning Commission.*

STAFF RECOMMENDATION: Staff recommends approval of the Conditional Use Permit for Penny Sand Pit and forwarding it to the Board of County Commissioners with a recommendation for approval based on the findings of fact found in the body of the staff report subject to the following conditions:

1) The approval is contingent upon the issuance of all State and/or Federal permits which are required for this operation including the Army Corps of Engineers.
2) An agreement designating responsibility for the ongoing maintenance of the berms to the property owner shall be executed and recorded with the Register of Deeds prior to the release of the CUP plans to the Zoning and Codes Office. A copy of the agreement shall be provided to the Planning Office for the file.
3) A copy of the easement for the off-site access drive shall be provided to the Planning Office for the file prior to the release of the CUP plans to the Zoning and Codes Office.
4) The applicant shall obtain a Flood Plain Development Permit from the Director of Zoning and Codes prior to the release of the CUP plans.
5) The reclamation plan shall be revised with the following changes prior to release of the CUP plans:
   a. The plan shall note the requirement that the lake that is being created will have a varied shoreline and will appear natural in appearance.
   b. The plan shall note that the intended use of the lake, when mining and reclamation is complete, is to be a recreational feature.
   c. The plan shall note the maximum slope of the lake shoreline for a specified depth to insure that the slopes are of a grade that it would be possible for a person or animal that accidentally entered the lake to exit.
   d. The plan shall explain the sequential nature of the reclamation process; that overburden produced in one phase will be used to reclaim previously excavated areas.
   e. The reclamation plan shall note that topsoil will be placed over the overburden in areas that are to be reclaimed as farmland, shoreline, or berms. If topsoil is to be stockpiled and stored it must be vegetated to prevent erosion.
6) The applicant shall submit a revised CUP plan with the following changes:
   a) A detailed landscaping plan for the buffer area surrounding the McElwee house will be submitted.

b) The Book and Page number of the recorded easement for the off-site access road shall be noted on the CUP plan.

c) The ownership shall be noted as Van, LLC as well as Penny's Concrete Inc. on the CUP plan.

d) The on-site residential structure on the east side of the property will be shown on the CUP plan as on the reclamation plan.

e) If stockpiling of overburden is to occur on the subject property, the CUP or operation plan should note the maximum height and approximate location. The stockpiles should be placed as far from the existing residences as possible.

f) List the following CUP conditions on the plan:

i. Hours of operation are 6:30 AM to 6:30 PM, Monday through Friday. No removal, transfer, or placement of overburden is permitted outside these operating hours; however dredging and extraction of sand may exceed these hours when necessary.

ii. The approval for this Conditional Use is valid for 30 years. An extension request for the CUP must be submitted prior to the expiration date or a new CUP application must be submitted. The Zoning and Codes office shall conduct 5 year administrative reviews to insure compliance with the CUP, operation, and reclamation plans.

iii. The only exterior lighting in the areas to be excavated will be the headlights on the dredge.

iv. The scale house, processing plant, sediment pond, and stockpile area, approved with CUP-2-2-79, will be used to serve the subject property.

v. Sales of overburden, topsoil, sand or aggregate products will occur only on the portion of the property that contains the scale house on the CUP plan.

vi. Truck traffic will utilize Noria Road (E 1750 Road), and is restricted from using N 1500 Road or E 1850 Road.

vii. The applicant shall work with the Army Corps of Engineers to determine how the existing wetlands on the property will be treated. Prior to any excavation in Phase 21, the applicant will provide documentation to the Planning Office on the wetlands indicating whether the wetlands will be maintained on site or if they will be mitigated elsewhere. If the wetlands will be maintained on site, the operation plan will be revised to include the protection measures and the property owner shall submit a revised CUP plan for administrative review/approval of the wetland setbacks. If the wetlands are to be mitigated, a revised CUP plan shall be submitted to note the removal of the wetlands.

7) The following improvements to nearby roads and intersections shall be completed per the County Engineer's approval before issuance of a permit for the Conditional Use :

a. Realignment of the entrance to the sand facility so that it opposes the Noria Road intersection at N 1500 Road.

b. Pavement of a 100 ft long section of the site access drive just north of N 1500 Road, as recommended in the TIS.

c. Reconstruction of pavement in the Noria Road (E 1750 Road)/N 1500 Road intersection. The existing surfacing is likely a crushed rock base that has been chip sealed. This will not stand up to the increased truck traffic crossing N 1500 Road.

d. Construction of an eastbound right turn lane on Route 442 (N 1400 Road) at Route 1057 (E 1900 Road). This is mentioned as a desirable improvement in the TIS. Pavement on the existing shoulder at this location is not adequate for the projected amount of truck traffic.

Reason for Request: *"The owner wishes to conduct sand excavation, extraction and processing operations on the subject property in conjunction with the existing agricultural uses."*

KEY POINTS

- Per Section 12-319-4.11 of the Zoning Regulations for the Unincorporated Territory of Douglas County, mining and excavation uses are permitted in the A and V-C Districts when approved as a Conditional Use.
- The area is encumbered with floodplain including the regulatory floodway and floodway fringe of the Kansas River.
- Previous Conditional Use Permits were approved for the river dredging operation to the north and northwest of the subject property. The Conditional Use Permits are not being combined with this request; however, the processing plant and access drive on the property with the previous Conditional Use Permits will be utilized. These previous Conditional Use Permits are discussed in more detail later in the report.

ATTACHMENTS

A – Public Communications received prior to printing of this staff report.
B – Traffic Impact Study and Addendum
C – Plans
D – Ground Water Report

DESCRIPTION OF USE

The applicant is requesting a Conditional Use Permit to allow pit dredging on the subject property. The applicant has an existing Conditional Use Permit for river dredging in the property along the river, north of the subject property [CUP-2-2-79] and a CUP was approved for river dredging on the property to the west owned by David and Carmiletta Penny. The applicant has been operating the two river dredging operations and intends to utilize the access drive which was constructed for the river dredging facilities. The intent is also to use the same processing plant, currently located in the middle of the existing stockpiles; however, it will be moved to the subject property in the location marked on the CUP plan after the first few phases. The reclamation plan indicates that portions of the property will be reclaimed for agricultural uses and the remainder will be reclaimed as a lake.

ASSOCIATED CASES/OTHER ACTION REQUIRED

- Approval of Conditional Use Permit by Board of County Commissioners.
- Conditional Use Permit Plan released to the Zoning and Codes Office.
- Issuance of permit for the Conditional Use by the Zoning and Codes Office following application and determination that all conditions have been met.

PUBLIC COMMENT RECEIVED PRIOR TO PRINTING

- August 9th phone call from Carl McElwee, adjacent property owner listing the following concerns with the project: 1) unstability of the river bank, 2) possible pollution of the aquifer, and 3) loss of prime agricultural soils.
- Staff met with Carl McElwee on August 31st to discuss his concerns with the CUP. Mr. McElwee provided a letter and reference material which is included in Attachment A.
- Petition from nearby property owners on September 17th in opposition to the sand pit.
- Letter from David Penny, president of Master's Dredging Company, requesting deferral. This letter is included in Attachment A.
- Letter from Carl McElwee on September 18th in opposition to the deferral request, Attachment A.

GENERAL INFORMATION

Current Zoning and Land Use:	V-C (County- Valley-Channel), F-W (Floodway Overlay) and F-F (Floodway Fringe Overlay) Districts; rural residential and agriculture.
Surrounding Zoning and Land Use:	To the west: V-C (Valley-Channel), and F-W (Floodway Overlay) Districts; rural residential and agriculture. To the north: V-C (Valley-Channel), and F-W (Floodway Overlay) Districts; river dredging operation approved with CUP-2-2-79 and the Kansas River. To the east: V-C (Valley-Channel), F-W (Floodway Overlay) and F-F (Floodway Fringe Overlay) Districts; rural residential and agriculture. To the south: V-C (Valley-Channel), and F-F (Floodway Fringe Overlay) Districts; rural residential and agriculture. (Figure 1)

Site Summary:	
Subject Property:	465 acres
Proposed Buildings:	No new buildings are being proposed.
Off Street Parking Required:	1 space per 2 employees. 4 employees/ 2 spaces are required.
Off Street Parking Provided:	2 spaces provided on property to north, included within CUP-2-2-79.

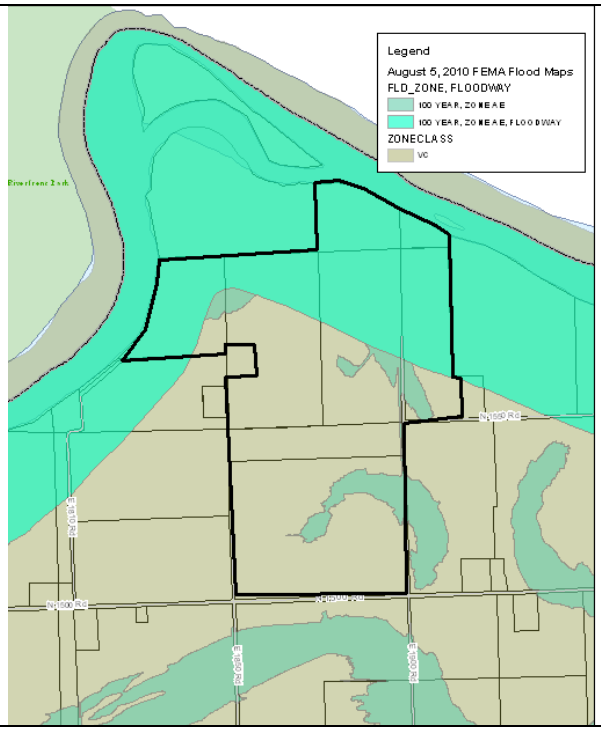


Figure 1a. Zoning in the area.

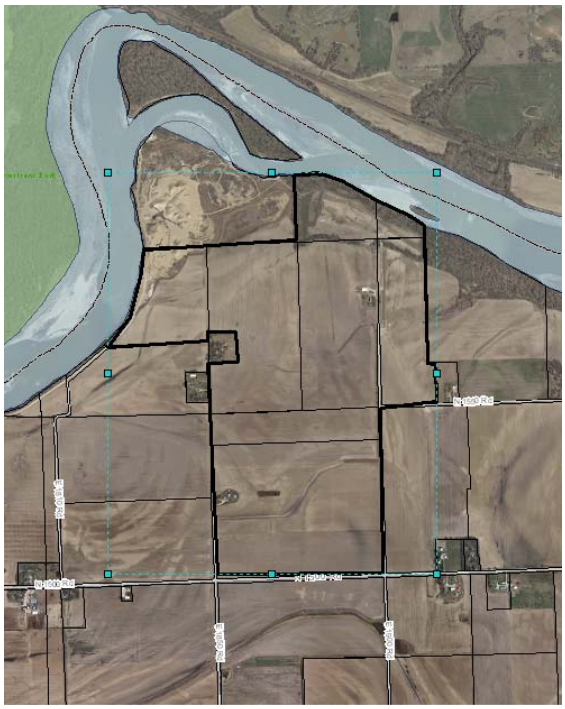


Figure 1b. Land use in the area.

I. ZONING AND USES OF PROPERTY NEARBY

The subject property contains approximately 465 acres and is located northwest of the intersection of N 1500 and E 1900 Roads in portions of Sections 25, 26, 35, and 36 in Township 12 South, Range 20 East.

The nearby area is zoned V-C (Valley Channel), a protective zoning district that was created prior to the construction of Clinton Dam and development of the FEMA Flood Insurance Rate Maps for property which was prone to flooding. The V-C District permits the following limited land uses: agricultural land uses, public or private commercial recreational facilities and structures, open space, and farm dwellings provided a minimum area of 5 acres per dwelling unit is provided. Per Section 12-319-4.05, mining, extraction, and excavation of raw materials in the V-C District require approval of a Conditional Use Permit (CUP) and approval of a reclamation plan. Land uses in the area include rural residences, agricultural land uses, and mining/excavation land uses approved with CUPs. Conditional Use Permits which have been approved in this area for sand dredging are listed below and the areas included are shown in Figure 2.

- A Conditional Use Permit application, CUP-2-2-79, for river dredging was submitted in 1979 for the area north of the subject property. Planning Commission voted to recommend approval at their April 25, 1979 meeting.
- A Conditional Use Permit application, CUP-1-3-91, was submitted in 1991 for approximately 130 acres located to the west of the subject property to permit river dredging along the shore and pit dredging on the remainder. The Planning Commission voted to recommend approval of the river dredging at their March 27, 1991 meeting but voted to recommend denial of the pit operation at their May 22, 1991 meeting. The minutes indicated the vote for denial was based primarily on concerns with the possibility of contamination of ground water and local wells and the possibility of the pit accelerating the changing of the river's course.
- Various extensions were approved for CUP-1-3-91 and a new file number, CUP-3-3-01, was assigned in 2001 for that extension. On December 17, 2001, the County Commission approved a 5 year extension of the CUP through December 31, 2006. CUP-1-3-91 expired as the Corps of Engineer permit was issued after the expiration date of Dec. 31, 2006.
- CUP-06-04-08 was submitted in 2008 to replace the expired CUP-1-3-91. Planning Commission voted to recommend approval at their August meeting. County Commission approved the CUP on September 17, 2008. The CUP will expire December 31, 2012 unless a new Army Corps of Engineers permit is obtained and approved by the Zoning and Codes Director.

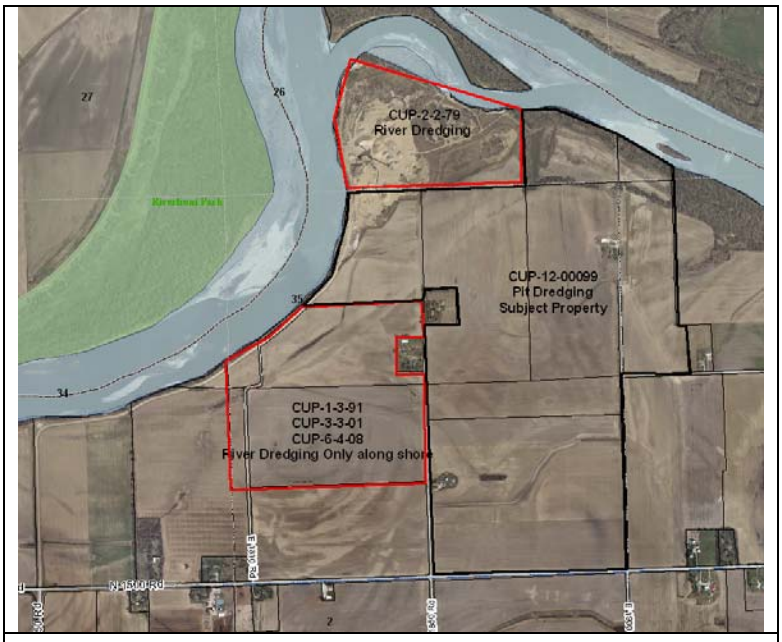


Figure 2. Approximate area included in CUPs for sand dredging in the area. Previously approved CUPs outlined in red, subject property in black.

Staff Finding – The area is zoned V-C (Valley Channel) and portions are encumbered by the Regulatory Floodway and the Regulatory Floodway Fringe. The predominate land uses in the area are agriculture, mining and extraction, and rural residential. The proposed land use, mining and excavation, is permitted in the V-C District and has been approved in the area.

II. CHARACTER OF THE AREA

The subject property is located east of the City of Lawrence and is outside of, and adjacent to, the Urban Growth Area boundary. This is an agricultural area with scattered rural residences. Natural features in the area include the Kansas River, which borders the area to the north and is the dividing line between Douglas and Leavenworth Counties; riparian woodlands along the Kansas River; floodplain; and high quality agricultural soils. The property has good access to the transportation network through N 1500 Road, which is classified as a minor collector on the Major Thoroughfares Map. N 1500 Road connects E 15th Street with County Route 1061 (E 2200 Road), both classified as minor arterials.

Staff Finding – This is predominately an agricultural area with scattered rural residences, floodplain, and natural resources in the form of sand reserves and high quality agricultural soils. N 1500 Road, a minor collector, provides a connection through the area to minor arterials to the east and west.

III. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED

Applicant's response:

> *"A Conditional Use Permit (CUP) was granted to Dunbar in 1979 for removal of sand from the river bank. The original permit covered an area approximately 114 acres gross in size which is approximately located in the northwest corner of the CUP request. The mining is a use that is allowed in V-C (Valley Channel)."*

Existing Uses

Uses allowed in the V-C District include farms, truck gardens, orchards, nurseries, grazing, hunting and fishing, public or private commercial recreation facilities and structures, preserves, reservations and other similar open uses, and farm residences when located on a minimum of 5 acres. Mining and excavation activities are permitted as a Conditional Use. A Conditional Use requires approval though a public review process. Section 12-319 of the County Zoning Regulations states:

> *"Recognizing that certain uses may be desirable when located in the community, but that these uses may be incompatible with other uses permitted in a district, certain conditional uses listed in Section 12-319-4 below, when found to be in the interest of the public health, safety, morals and general welfare of the community may be permitted, except as otherwise specified, in any district from which they are prohibited.*"

The property is partially encumbered by the Regulatory Floodway and Regulatory Floodway Fringe. Per Section 12-328 of the County Zoning Regulations, the purpose of the floodplain management regulations is to protect individuals and property from flood hazards or flooding by providing for the orderly and safe development of the floodplain for the most advantageous uses which are consistent with the health, safety, and welfare of the general public. Any development in the area requires review and issuance of a floodplain development permit by the Zoning and Codes Office.

Proposed Uses

The property has many features which suit it well for the mining and excavation use which is being requested. It is located adjacent to the Kansas River in an area with sand reserves and has good access to the major transportation network. The property is located at the western reaches of the Eudora Wellhead Protection Zone and is outside the FAA 10,000 ft Wildlife Mitigation Area. (Figure 3) Conditional Use Permits for river dredging have been approved for the property to the north and an off-site access drive was constructed to accommodate this facility. There is little residential development in the area; however, 4 residences are within very close proximity to the area proposed to be pit mined with 2 of these being located on the subject property. The area is not served by a rural water district, but relies on well water. Care must be taken through the approval and operation process to minimize any negative impacts to the nearby residences.

The subject property is located in a large contiguous area of high quality agricultural soils. (Figure 4) There is a conflict between the two natural resources in that the removal of the underground sand deposits will remove the high quality soils in this location. The fact that sand reserves are typically located near the river, and often within the floodplain makes it difficult to avoid locating in areas with high quality soils.

Staff Finding – The property is well suited to the agricultural and residential uses to which it has been restricted by the V-C Zoning District. The property is also suited to the Conditional Use of mining and excavation provided that appropriate measures are taken to minimize negative impacts on nearby residences. A policy decision for the Commission would be a decision regarding the competing natural resources in the area: high quality agricultural soils and off-river sand reserves.

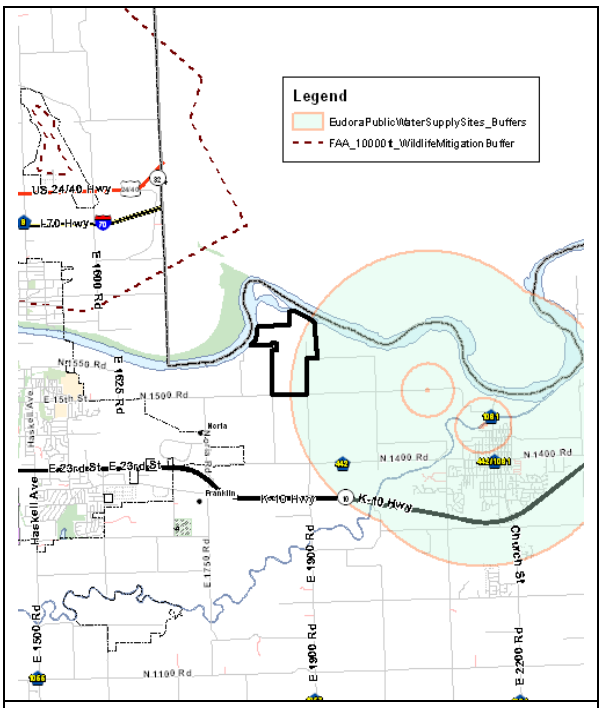


Figure 3. Eudora Wellhead Protection Zone and FAA Wildlife Mitigation Area.

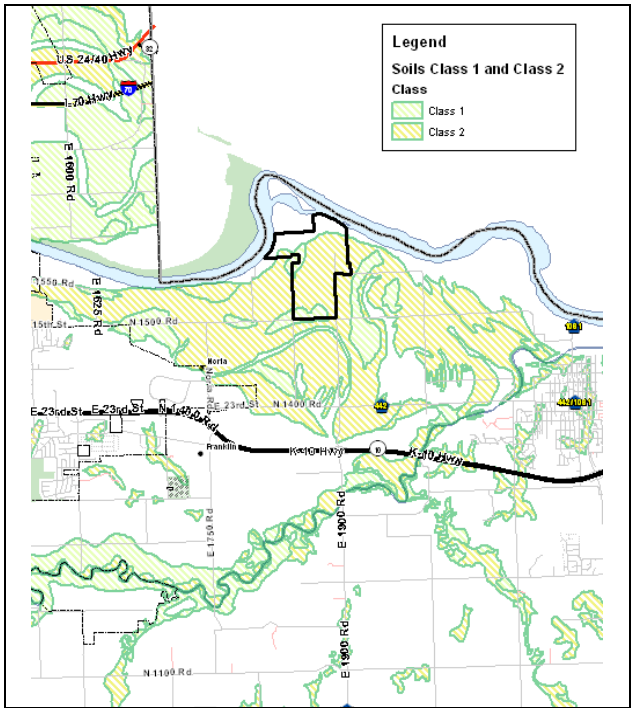


Figure 4. High Quality Agricultural Soils in the area. Subject property outlined.

IV. LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED

Staff Finding – The V-C District permits limited development of agricultural, recreational uses or farm residences. The property has been used for farming and 2 farm residences were constructed on the property in the early 1900s. There has been no other development on the subject property.

V. EXTENT TO WHICH REMOVAL OF RESTRICTIONS WILL DETRIMENTALLY AFFECT NEARBY PROPERTY

Applicant's Response:

> *"No detriment to nearby properties will occur. This CUP request maintains existing agricultural uses on the land while adding employment and revenue opportunities in northeast Douglas County. The Corps of Engineers regulate the mining activity on the river along with several other governmental agencies which require permits."*

The proposed use will produce permanent changes in the area. Agricultural uses will continue as mining occurs by phase; however, eventually all phases will be mined. The reclamation plan shows some areas being returned to farmland, particularly around the residence on the east side of the property and the area in the northwest corner of the subject property adjacent to the Kansas River and the rest being reclaimed as a lake. An access drive installed for an earlier CUP will be utilized and this will have direct access to a paved road.

Sand pits have the possibility to detrimentally affect nearby properties through the following:

- **Stockpiles**: Overburden, topsoil, and finished products of sand and aggregate will be stockpiled on the area. The placement, height, and maintenance of stockpiles to prevent dust pollution are important considerations to reduce any negative impact. The applicant indicated that overburden would be used primarily to construct the perimeter berms and for reclamation of previously excavated phases. If stockpiling of overburden is proposed on the subject property, the CUP plan should note the maximum height and location. The stockpiles should be kept as far from the existing residences as possible to reduce visual impact.
- **Ground water:** As mentioned earlier, properties in this area are not served by public water and must rely on well water. The mining will occur above and below the water table. It would be important to study any impact the mining activity could have on the quality of ground water and the quantity available to nearby wells. The applicant provided a study on the impact of the mining activity on groundwater. The study looked at wells which are registered with Division of Water Resources, Kansas Department of Agriculture. It is important to note that some wells in the area were installed prior to the requirement to register. The study was prepared by Carl E. Nuzman, P.E., P.HG, a consulting engineer and hydrogeologist. The following are excerpts taken from the study:
    a. The report provided the following information on the quantity of water available for the wells: *"A well can decrease in yield due to biological fouling and lack of property maintenance but unless the static water level has a substantial decline reducing the saturated thickness, the yield available from the aquifer remains constant."* (Page 5, Nuzman report.)
    b. And the following recommendation in relation to the McElwee well: *"The C. McElwee domestic well is up-gradient from the sand pit and down-gradient from the Kansas River. Although the property is about 5 acres in area, it is recommended that the set back of the pit mining be 300 feet from his property line. The radius of influence of the domestic well is less than 300 feet and will not be adversely affected by the sandpit."* (page 8, Nuzman report.)
    c. Regarding the impact of the sand pit on the quantity of water available for other wells in the area: "*Sand pits beneficially support the yield of wells that are down-gradient from a pit that is within the area of influence of a well."* (Page 8, Nuzman report.)

d. "*Due to the hydraulic gradient of the valley aquifer system and recharge to the aquifer from rainfall, the aquifer flow to the City wells is from the west-southwest. The Penny sand pit will be a half mile north of the capture zone of the City wells and will have no influence on the Eudora public water supply wells*." (page 7, Nuzman report)

The report recommended that a 300 ft setback be maintained between the property boundary of any residence out parcel and the active dredging of sand from the pit and concluded that the proposed sand pit lake that will be developed will have no effect on the McElwee wells, Public Wholesale Water Supply District No. 25 or the City of Eudora's wells or water supply. The applicant provided a revised CUP plan with the 300 ft setback shown.

- **River channel:** Concern was raised that allowing the pit mining to occur so close to the river could accelerate a change in the river channel, especially during flood events. The river is naturally working to change its channel in this location. Wakefield Dort, a retired KGS professor, examined the channel changes in the Kansas River and Carl McElwee provided an excerpt of one of his publications in his materials. Staff contacted a hydrologist with the USGS (United States Geological Survey) Midwest Division, Kyle E Juracek, for his opinion on the impact of the dredging operation and pit on the river channel. Mr. Juracek indicated that the location of a lake could result in channel change in the event of a flood but pointed out that the river channel may change as a result of a flooding event even without a lake in close proximity. Rip-rap including large pieces of concrete and smaller infill pieces has been placed on the Kansas River shore to stabilize it since the river dredging operation began.

- **Visual impact:** To minimize the visual impact on nearby properties, particularly the residential properties that are in close proximity to the mining area, it is necessary to establish well-landscaped buffers and to place limits on the location and height of stockpiled materials. The Operation Plan indicates that excess overburden and topsoil might be sold. To minimize activity near these residences, sales should be by delivery only or occur on the northern area where the scale house is shown on the CUP. The reclamation plan should provide details about the lake which is to be created, showing the approximate boundaries, and shape. Development of a lake that is an attractive natural feature could be a positive impact on the area.

- **Traffic:** The applicant provided a Traffic Impact Study (TIS) and addendum which are included with this report as Attachment B. The TIS estimated that on a high production day as many as 200 trucks a day could be expected (400 truck trips as these would be round trips). The increase in truck traffic that would result from the sand plant expansion would be 20 trucks a day (40 trip-ends, 20 in and 20 outbound trips). The applicant's consultant provided an amended TIS which explains that the traffic generation estimated in the original TIS assumed that the river dredging operation and the sandpit operation would be occurring concurrently. The applicant indicated that the primary reason for the expansion of the plant is to switch over the river dredging to off-river pit dredging maintaining its current rate of sand distribution at approximately 1,000 (+/-) tons on an average day. The TIS indicates that all truck traffic will utilize Noria Road, and will not use N 1500 Road; this should be listed as a condition on the CUP plan. When the sand pit dredging operation replaces the river dredging the estimated number of trucks serving the site will be around 40 trucks per day. The consultant also clarified that the 200 trucks per day estimate was based on a high productivity day, 5000 tons, which may still occur but on a very infrequent basis.

  Based on this information, traffic can be assumed to be about 40 trucks a day on an average day and up to 200 trucks a day on a high productivity day.

These documents were provided to the County Engineer for review, and also to the City Engineer as some of the roads used to access the plant lie within the City of Lawrence. The County Engineer recommended the following improvements to nearby roads and intersections to accommodate the increased traffic associated with the sand pit:

a. Realignment of the entrance to the sand facility so that it opposes the Noria Road intersection at N 1500 Road.

b. Pavement of a 100 ft long section of the site access drive just north of N 1500 Road, as recommended in the TIS.

c. Reconstruction of pavement in the Noria Road (E 1750 Road)/N 1500 Road intersection. The existing surfacing is likely a crushed rock base that has been chip sealed. This will not stand up to the increased truck traffic crossing N 1500 Road.

d. Construction of an eastbound right turn lane on Route 442 (N 1400 Road) at Route 1057 (E 1900 Road). This is mentioned as a desirable improvement in the TIS. Pavement on the existing shoulder at this location is not adequate for the projected amount of truck traffic.

These changes shall be noted as conditions of approval which must be met before the Conditional Use Permit is issued.

- **Activity:** A sand pit operation includes the removal of overburden with heavy equipment, the dredging of sand, processing and sale of the sand/aggregate products, and reclamation activities. These activities could have an impact on surrounding properties due to lighting or noise. The operation plan indicates that typical hours of operation will be Monday through Friday from 6:30 AM to 6:30 PM. There may be extenuating circumstances which would require operation on Saturdays or for dredging to occur beyond the regular hours of operation due to the nature of the construction business. The operation of the dredge should be low impact as the 4 headlights that are on the dredge provide the only lighting when operating at night and the dredge operates relatively quietly. It should be noted as a condition of approval that no removal, transfer, or placement of overburden which requires heavy equipment would be permitted outside these operating hours. This will serve to keep the higher intensity uses within the regular business hours.

Staff Finding –Potential negative impacts the proposed use could have on nearby properties include the noise and activity associated with the mining, reduced visual appeal created by stockpiles of overburden or topsoil, impacts on well water, and traffic. Conditions should be placed the CUP to minimize potential negative impacts on nearby properties.

VI. RELATIVE GAIN TO THE PUBLIC HEALTH, SAFETY AND WELFARE BY THE DESTRUCTION OF THE VALUE OF THE PETITIONER'S PROPERTY AS COMPARED TO THE HARDSHIP IMPOSED UPON THE INDIVIDUAL LANDOWNERS

Applicant's Response:
"*No identifiable gain will result by denial of this request; no identifiable hardship will result from its approval."*

Evaluation of the relative gain weighs the benefits to the community-at-large vs. the benefit of the owners of the subject property. There are many factors to consider when locating a sand pit, and this location meets the geographic criteria of being outside the FAA 10,000 ft wildlife mitigation area, has good access to the arterial roadway system, and is in a lowly populated area. Denial of the

request for a Conditional Use Permit would affect the individual landowner by prohibiting the use of the property for the off-river sand dredging pit.

Denial of the CUP request may benefit the area property owners by preventing the proposed mining activity and possible negative impacts. Denial may benefit the public by retaining the high quality soils. Denial may also detrimentally affect the public in that it will prohibit production of sand and aggregate materials from a local source. With the recent move away from river dredging, appropriate locations for pit mining must be found.

Staff Finding – Denial of the CUP would result in a hardship to the applicant and public in that it would prohibit the applicant from operating a sand pit to produce sand and aggregate products from local reserves. Denial of the CUP may benefit the public at large by maintaining the high quality soils which are present. To weigh the benefit the denial of the CUP would have on the public, protection of high quality soils, versus the impact it would have, loss of potential sand and aggregate production from a local source, it is necessary to choose between these two natural resources in this location.

VII. CONFORMANCE WITH THE COMPREHENSIVE PLAN

The subject property is not located within an identified urban growth area. The comprehensive plan recommends that agricultural uses continue to be the predominant land use within the areas of the county beyond the designated urban growth areas. Uses permitted in the rural area should continue to be limited to those which are compatible with agricultural production and uses. The mining activity and the resultant lake would be compatible with agricultural production and uses.

Chapter 16 Policy 2.7 "*Encourage the protection of High Quality Agricultural Land in Douglas County for current and future agricultural use.*" (page 16-15, *Horizon 2020)*
This policy contains the following 4 steps to encourage the protection of High Quality Agricultural Land:

- Including the protection of High Quality Agricultural Land as a key assumption in the sector planning process.
- Establishing tools to protect High Quality Agricultural Land for farming and make its protection economically feasible for the land owner.
- Maintaining an inventory of High Quality Agricultural Land in Douglas County and track the amount lost to urbanization.
- Encourage and develop policies that support agri- and eco-tourism.

Chapter 16: *Resource Management*
"This section encourages the responsible use of marketable natural resources within Douglas County through proper extraction and reclamation methods. They are essential to sustainable development activity, primarily in the form of low cost raw materials, such as sand, gravel, timber, oil, gas, and stone, etc." (page 16-21, *Horizon 2020*)

The Comprehensive Plan recommends both the encouragement of the protection of High Quality Agricultural Land and the responsible use of marketable natural resources.

Staff Finding – The proposed use is in general conformance with the recommendations in the Comprehensive Plan; however, it is proposing the use of marketable natural resources rather than the protection of High Quality Agricultural Land.

STAFF REVIEW

As discussed earlier, there are two approved Conditional Use Permits for river dredging in this area, CUP-2-2-79 and CUP-06-04-08. CUP-06-04-08 replaced an expired Conditional Use Permit, CUP-1-3-91, which had requested both river and pit mining for the area to the west of the subject property (Figure 2). The river dredging request was approved but the pit dredging request was denied. CUP-2-2-79 was approved for the property to the north of the subject property. The processing plant, scale house and stockpiles are currently located on this property. The scale house and stockpiles would remain in this location; however, the processing plant would be located to the east onto the property within the current CUP in later phases of excavation. An easement was dedicated in 1979 for the access drive and this access drive will continue to provide access for the subject property. A copy of this easement shall be provided to the Planning Office for the file.

Most of the neighbor's concerns were addressed in an earlier section of this report dealing with possible negative impacts to surrounding properties; however, another concern was raised regarding the perpetual maintenance of the berms in the future to insure that stormwater runoff does not enter the lake. Staff recommends that an agreement placing the responsibility for the perpetual maintenance of the berms on the property owner should be executed and recorded with the Register of Deeds prior to the release of the CUP permit.

Wetlands are present on the subject property as shown on the CUP plan. The applicant's intention is to either protect the wetlands or mitigate them off-site; however, the decision has not been made at this time. The applicant shall work with the Army Corps of Engineers to determine how the existing wetlands on the property will be treated. Prior to any excavation occurring in the phase adjacent to the phase containing the wetlands, the applicant should provide documentation to the Planning Office indicating the plans for the wetlands, whether they will be maintained on site or if they will be mitigated elsewhere. If the wetlands are to be maintained, the operation plan should be revised to include the protection measures and the revised plan should be submitted to the Planning Office for administrative approval of the wetland setbacks and protection measures.

The applicant indicated that their long term plan for the area is to reclaim the areas to farmland as shown on the reclamation plan and to create a lake for recreational use in the remainder. A note should be added to the reclamation plan which indicates that the lake will be contoured with a more natural shape than the rectangular shape shown on the plan and to note the intended use following reclamation.

The previously approved CUP restricted sand pit access on E 1810 Road to employees and required customers and commercial trucks to use the established access drive. A note to this effect should be included on the CUP plan.

Due to the nature of mining and excavation uses, the approval time frames are typically for 30 years. This allows time for the mining, excavation and reclamation of the land. An extension request may be submitted to the Planning Office for public hearing before the Planning Commission and action by the County Commission. The Zoning and Codes office shall conduct 5 year reviews to insure compliance with the CUP, operation, and reclamation plans.

The applicant explained the mining process will begin with excavation of the overburden in Phase 1 and the dredge will be moved in for removal of sand when possible. A picture of the dredge and the processing plant is included in Figure 5. The mine is to be sequentially reclaimed which means that that earlier phases will be in the reclamation process as later phases are being excavated. The first few phases are planned to be reclaimed as farm land so overburden from later phases will be placed in the area to be reclaimed. Topsoil will then be applied and vegetation planted. As they move

through the phases the overburden will be excavated and placed within the previously created pit. Overburden will also be used to create the perimeter berms which will keep stormwater runoff from surrounding areas from entering the lake. This is an important step is preventing pollution of ground water. There may be some incidental sales of excess overburden or topsoil but this would occur on the property with the scale house. All stockpiling of finished material will occur on the area designated on CUP-2-2-79. A note should be added to the plan that states that the area shown on CUP-2-2-79 with the scale house, processing plant, sediment pond, and stockpile area will also be used to serve the subject property and CUP.

Figure 5a. Picture of processing plant which will remain on the north portion of the property.

Figure 5b. Picture of dredge which will be used for mining operations.

Public Communications

Public Communications included with this staff report in Attachment A include a letter from adjacent land owner, Carl McElwee, expressing his concerns with the possible impact the proposal may have on the area; a petition signed by neighbors in opposition to the project; a request for deferral from adjacent property owner, Dave Penny, and a letter of opposition to the deferral request from Carl McElwee. The concerns raised in Carl McElwee's letter have been discussed throughout this staff report. Staff does not typically make recommendations when deferrals are requested, but the letters have been provided for the Commission's consideration.

Joint Hearing

County Resolution No 80-5 established the policy that a joint hearing be held for requests within 3 miles of the incorporated cities in Douglas County so that the County Commission would have the benefit of both Planning Commissions' recommendations. The subject property is approximately 2 miles west of the Eudora City Limits; therefore, a joint meeting is being held between the Lawrence/Douglas-County Metropolitan Planning Commission and the City of Eudora Planning Commission and their recommendations will be forwarded to the Board of County Commissioners.

Conclusion

Approval of a Conditional Use can be tailored to address specific issues such as intensity or frequency of use, include time limitations, and provide screening requirements. The recommended conditions respond to the specific nature of this request. The sand pit, as conditioned, should be compatible with nearby land uses.

Aug. 30, 2012

Lawrence Douglas County
Metropolitan Planning Office
6 East 6th Street,
P.O. Box 708,
Lawrence, KS 66044

Planning Staff:

My name is Carl McElwee and I live at 1564 E. 1850 Rd. I have lived at this location since 1975 (37 years this November). I am writing this letter to object to the Conditional Use Permit (CUP) that Penny Sand Co. has applied for near my house. This CUP asks permission to surround my house on 3 sides with a pit mining operation for sand removal. This would completely change my immediate surroundings which I have enjoyed for so long. If allowed this CUP would subject me and my family to dramatically increased industrial activity, including noise, dust, and environment destruction. This will undoubtedly dramatically affect my property values.

The affected area has some interesting Douglas County history associated with it. It was obtained very early by the Altenbernd family. Penny Sand has acquired much of the land as elder Altenbernds have died. On the land currently owned by Penny and covered under this CUP there exist two historic houses. One is an early stone homestead house and one is a classic two story farm stead that dates to approximately 1910. There is no mention of what will become of these structures in the CUP. I hope they will be preserved and that this CUP will not be allowed to detract from their historic value. My house was also built by an Altenbernd. As best we can tell it was built in about 1919 and is a classic Craftsman Bungalow style. My wife and I have lived here 37 years and raised our two children here. We do not want to see this environment affected by an ugly and destructive sand mining operation.

This will create a huge strip mining operation that will severely impact the local environment. Naturally, I am opposed to the CUP because of the impact on my property. However, I would like to lay out some scientific reasons why this CUP should be denied. I am a retired Geology Professor from KU and have spent a 35 year career there studying groundwater. I have worked extensively at a research site in the Kansas River Valley just northeast of the Lawrence Airport. So I am qualified to comment on the scientific aspects of the situation.

My scientific bases for opposing this CUP are as follows:

(1) The river bank in the vicinity of this proposed pit mining operation is unstable and has moved considerably over recent times, as shown by the work of Dr. Dort of the KU Geology Department. I have included copies of pertinent pages of his work. It shows that this area is unstable and the river is trying to make a straighter course, cutting off the existing meander. If pit mining is allowed in this area, in times of flood the chances of a dramatic river channel change is magnified greatly. An open pit with a small buffer

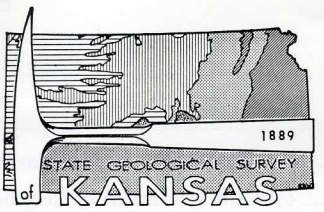
region from the river in the vicinity of this unstable bend would make it easy for the flooding river to make a sudden change in direction.

(2) On this proposed 434 acre pit mining site, the majority of the area is covered by some of the highest quality soils as defined by the US Department of Agriculture. I have included a USDA Soil Report and some pages from the 1977 Douglas County Soils Survey to support this. It seems very short sighted to produce sand for short term gain and lose the potential for significant food and fiber production indefinitely. You will notice that the USDA report shows this area as being rated as poor for sand production. This is probably because of the large amount of overburden (unusable soil, silt and clay) that must be removed. I have included three well drilling logs that show 23-24 feet of soil, silt and clay exist in the vicinity of my property. Removing this much overburden will create a very environmentally difficult situation. The spoil piles must be dealt with, not allowing runoff into the river. At the same time surface runoff must not be allowed into the pit because of possible pollution of the aquifer. There is great potential for operational missteps to create environmental problems. We have all seen the detrimental effects of strip mining elsewhere; I hope we can avoid them here.

(3) Opening this pit operation will expose one of the most prolific aquifers in this region to potential pollution. The very sand that they desire to excavate is the material that forms this prolific aquifer. I have included a few pages from a Kansas Geological Survey Bulletin by Fader that shows the characteristics of this aquifer. In general, groundwater in the aquifer moves down the valley from West to East. This aquifer is a magnificent resource that must be protected and preserved for the future. It is capable of producing vast amounts of water for irrigation and public water supply. In the future water may be one of our most valued resources. The alluvial material (loose material, soil, silt, clay, sand) in the river valley varies in depth, but about 70 feet is a good average number. The better sand is near the bottom, so the mining will proceed to the bedrock (harder material). The better sand near the bottom is also the main aquifer of the river valley. The overlying soil, silt, and clay protect the aquifer from surface pollutants. By removing this overburden the aquifer is exposed to potential pollution from surface runoff and anything that is spilled into the pit. In particular, my well would be very close to the proposed pit mine and could be affected by the operation, as could several other neighboring house wells. Just down the valley about 1 5/8 miles lies the Eudora Public Water Supply Well Field (See enclosed map); it could also be affected by the proposed pit mining operation. I do not believe that Penny Sand Co. can guarantee that no pollution will occur. Penny Sand Co will tell us that they will engineer solutions that will prevent any pollution or problems; however, I do not think the risk of a potential engineering failure is appropriate. After the 30 year CUP has finished the pit will remain, who will continue to maintain the site and guarantee aquifer integrity?

Thank you for your consideration. If I may answer any questions, please contact me.

Carl McElwee
1564 E. 1850 Rd.
Lawrence, KS 66046 785-843-4164 cmcelwee@ku.edu



BULLETIN 206, PART 2

Ground Water in the Kansas River Valley Junction City to Kansas City, Kansas

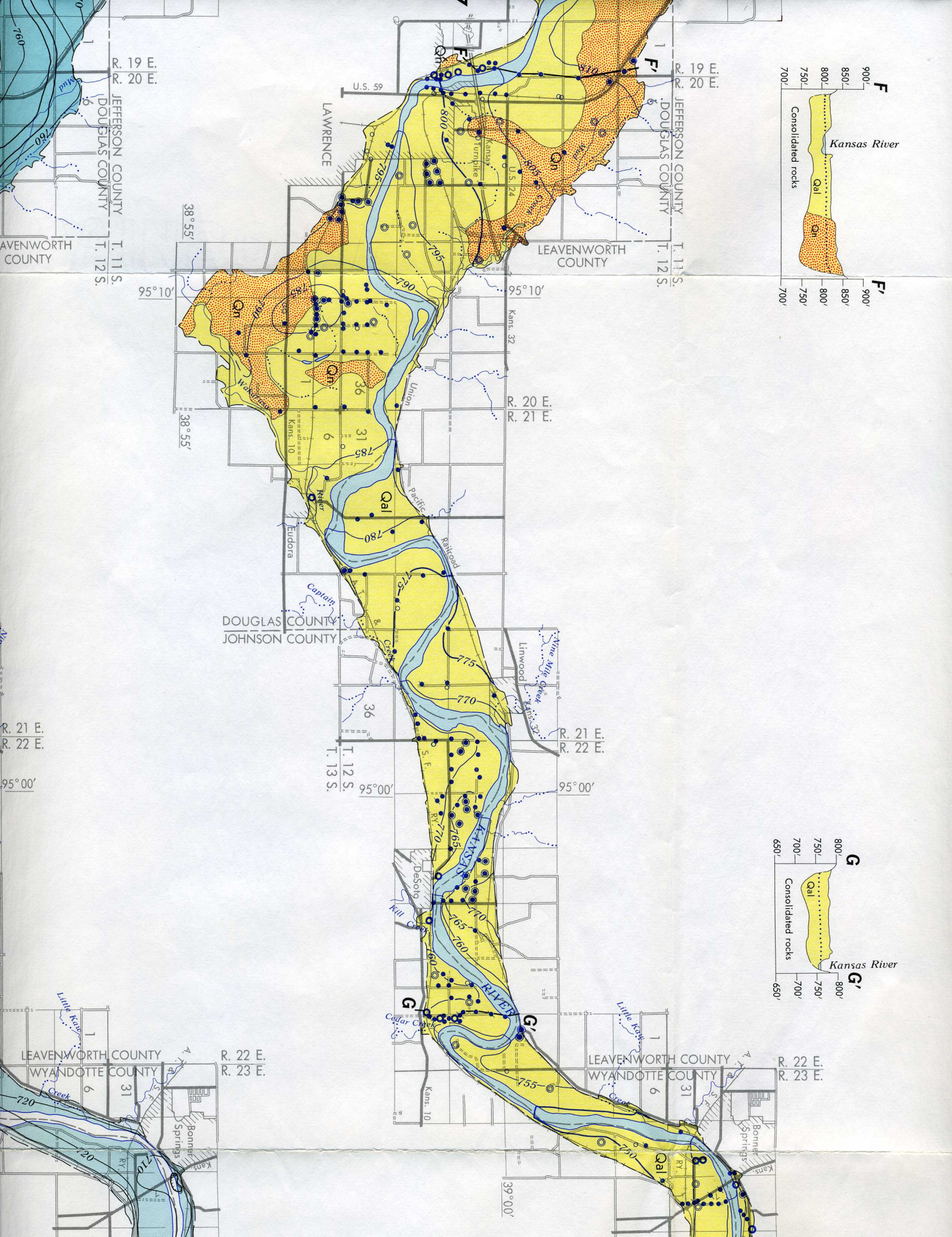
By

Stuart W. Fader

Prepared by the State Geological Survey of Kansas and the United States Geological Survey, with the cooperation of the Division of Water Resources of the Kansas State Board of Agriculture and the Division of Environmental Health of the Kansas State Department of Health.

Printed by authority of the State of Kansas
Distributed from Lawrence

UNIVERSITY OF KANSAS PUBLICATIONS
JANUARY 1974


F
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900'
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750'
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Consolidated rocks
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Kansas River
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R. 23 E.
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DOUGLAS COUNTY
LEAVENWORTH COUNTY
WYANDOTTE COUNTY
JOHNSON COUNTY
LAWRENCE
U.S. 59
U.S. 24
Kansas Turnpike
Kans. 32
Kans. 10
Kans. 7
Union Pacific Railroad
Santa Fe Railroad
Eudora
Linwood
Bonner Springs
DeSoto
Wakarusa River
Kansas River
Kill Creek
Cedar Creek
Captain Creek
Little Kaw Creek
Nine Mile Creek
95°10'
95°00'
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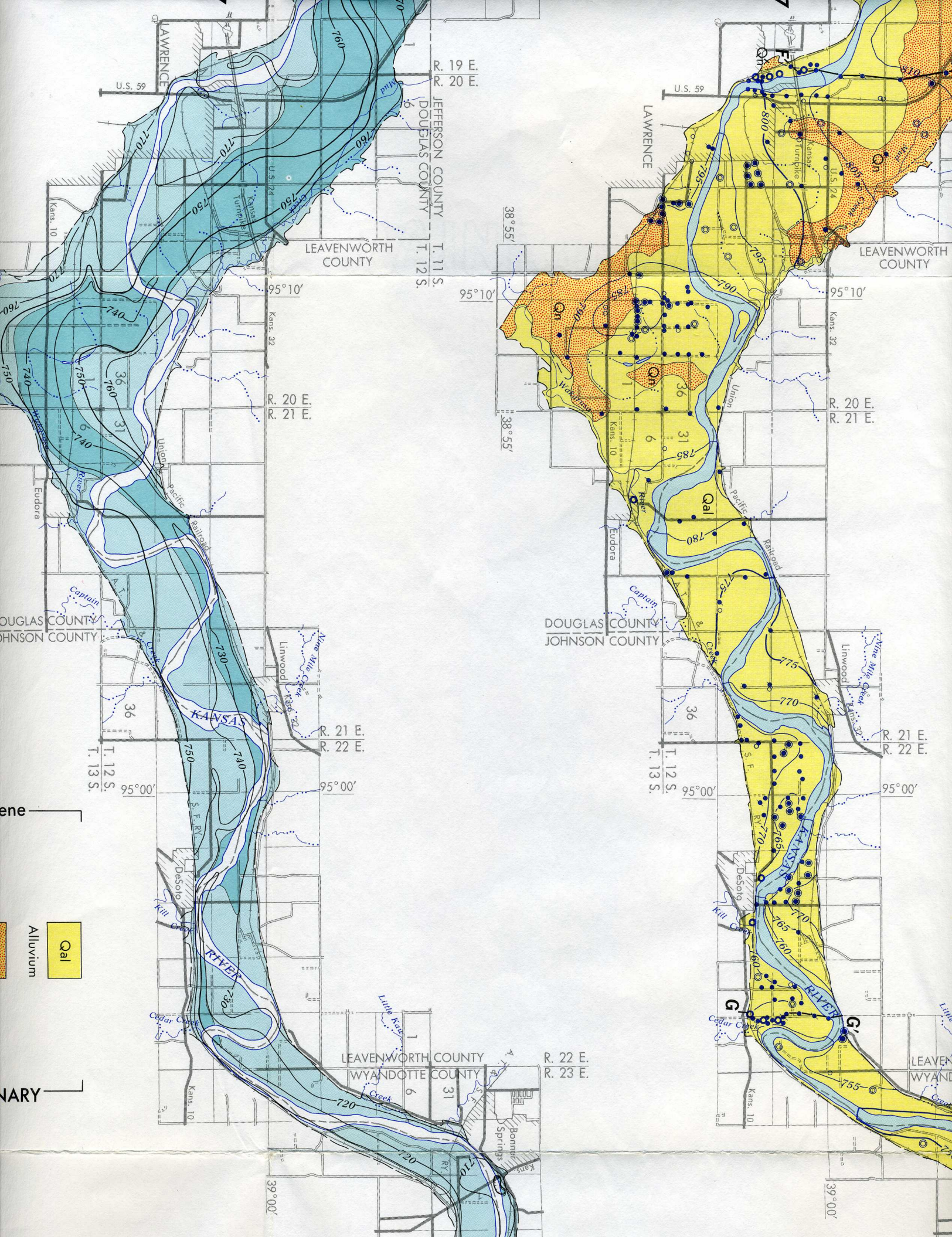
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Eudora
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Union Pacific Railroad
A. T. & S. F. Ry.
Captain Creek
DOUGLAS COUNTY
JOHNSON COUNTY
Nine Mile Creek
Linwood
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S. F. RY.
DeSoto
Kill Creek
Cedar Creek
Little Kaw
WYANDOTTE COUNTY
Bonner Springs
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38°55′
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Alluvium
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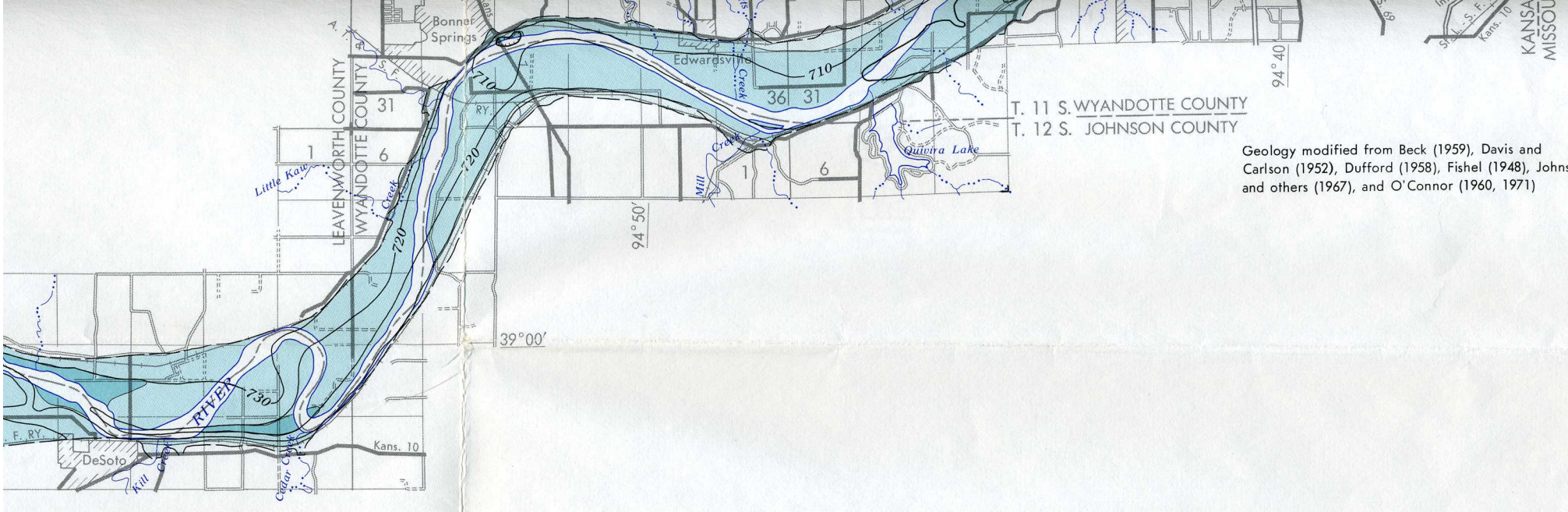


Geology modified from Beck (1959), Davis and Carlson (1952), Dufford (1958), Fishel (1948), Johnson and others (1967), and O'Connor (1960, 1971)

EXPLANATION

QUATERNARY

Pleistocene

Qal — Alluvium

Qn — Newman terrace deposits

Qb — Buck Creek terrace deposits

Contact
Dashed where inferred on geologic sections

E———E′
Trace of geologic section
Datum for geologic sections is mean sea level and vertical exaggeration x 40

Boundary of project area

785
Water-table contour
Shows altitude of water table, March 1967.
Dashed where approximately located.
Interval 5 feet. Datum is mean sea level

Water table
Shown on geologic sections

Irrigation well

Public supply well

Industrial well

Domestic or stock well

Test hole

Observation well

Stream-gaging station

Saturated thickness, in feet

Less than 20

20-40

More than 40

760
Bedrock contour
Shows altitude of bedrock surface.
Dashed where approximately located.
Interval 10 feet. Datum is mean sea level

APPROXIMATE MEAN DECLINATION, 1972

STATEMENT

March 24, 2004

Carl McElwee

1564 E 1850 Rd Lawrence, Ks. 66046

STRADER DRILLING COMPANY, INC.

Phone: 785-364-3011 — 12302 246th Road
HOLTON, KANSAS 66436

NOTICE: We do not make installment or credit sales. All accounts are due upon receipt of billing. A delinquency charge of 1½% per month (18% per year) will be added to accounts not paid within 30 days from invoice date.

3-16-04

1st 40'		1200.00
8' add'l @	13.00	104.00
24 bags hole plug	10.00	240.00
well seal & vent		37.00
tax on 677.00		42.65
	total	1623.65

0-2 top soil
2-11 clay brown/silty
11-24 clay brown
24-34 fine san brown
34-38 fine/course sand med pea bronw
38-42 fine/course sand med pea br/gr/grn
42-42½ clay grey
42½-48 fine sand br/gr/grn/boulders

48' 12" drilling
50' 5" casing
15' screen 33'-48' — .025 slot
37 GPM - SWL 29'
HP 3'-30'

Drill Logs

1 April 76

Carl McElwee's 5 acres

SE Corner

0-5	black soil
5-23	gray brown clay
23-28	med coarse sand
28-38	coarse sand
38-42	green sand
42	gray clay stringer?
42-50	green sand
50	hard - (boulders?)
50-66	green sand
66	light brown limestone

300' N of SE corner

0-4	black soil
4-23	brown clay
23-38	pink-brown sand
38-54	greens sand
54	crunchy (boulders?)
54-65	green sand
65	light brown limestone

SOIL SURVEY OF

Douglas County, Kansas

United States Department of Agriculture
Soil Conservation Service
In cooperation with
Kansas Agricultural Experiment Station

TABLE 2.—*Yields per acre of crops and pasture*

[All yields were estimated for a high level of management in 1974. Only arable soils are listed]

Soil name and map symbol	Corn	Grain sorghum	Soybeans	Wheat	Alfalfa hay	Smooth bromegrass
	Bu	*Bu*	*Bu*	*Bu*	*Ton*	*AUM* [1]
Eudora:						
Et	110	112	45	50	5.6	6.5
Ev[2]	100	100	40	43	5.0	6.2
Ew[2]	105	106	42	47	5.5	6.3
Gymer:						
Gm	90	94	38	42	4.3	5.5
Gy	83	90	35	40	4.0	6.1
Judson: Ju	109	111	44	52	5.6	7.0
Kennebec: Kb	103	98	40	42	5.5	6.5
Kimo: Km	85	90	38	40	4.5	5.5
Leanna: Le	80	85	32	36	4.0	7.0
Martin:						
Mb	80	85	35	40	3.9	5.5
Mc	75	80	31	38	3.6	5.5
Mh[2]	50	59	24	26	2.9	4.5
Mo[2]	68	78	30	37	3.4	5.0
Morrill:						
Mr	80	85	32	40	4.0	6.5
Ms	68	75	28	37	3.5	6.0
Oska: Oe	67	79	32	38	3.4	5.4
Pawnee:						
Pb	73	80	34	38	3.8	6.0
Pc	68	75	30	35	3.6	5.5
Ph	44	55	23	26	2.7	4.5
Reading: Re	103	106	44	50	5.6	6.5
Sarpy: Sb[2]	70	80	30	35	5.0	3.9
Sharpsburg:						
Sc	95	95	38	42	4.7	6.8
Sd	90	90	36	41	4.5	6.5
Sibleyville:						
Sh	62	73	25	34	3.6	6.0
So	52	57	21	28	3.0	5.0
Ss[2]	54	60	22	29	3.2	4.5
St[2], Sv[2]						5.2
Thurman: Tc	60	60	22	32	3.0	5.0
Vinland: Vc[2]	48	55	23	27	2.2	4.0
Wabash:						
Wc	82	88	37	38	4.0	6.0
Wh	65	65	31	32	3.0	5.5
Woodson:						
Wo	65	75	28	34	3.5	5.0
Ws	65	75	24	32	3.5	5.0
Wx	50	55	20	25	2.3	4.5

[1] Animal-unit-month (AUM) is a term used to express the carrying capacity of pasture. It is the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for a period of 30 days.

[2] This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

R. 20 E.
R. 21 E.
N
1 Mile
5000 Feet
Scale 1:20000
(Joins sheet 9)
(Joins sheet 1)
(Joins sheet 3)
(Joins sheet 16)
240 000 FEET
270 000 FEET
2 810 000 FEET
KANSAS RIVER
LEAVENWORTH COUNTY
ATCHISON
TOPEKA
25
26
28
33
35
36
Sb
Ro
Ew
Ev
Et
Sv
Gy
Sw
Pc
Ws
Mo
Km

United States Department of Agriculture

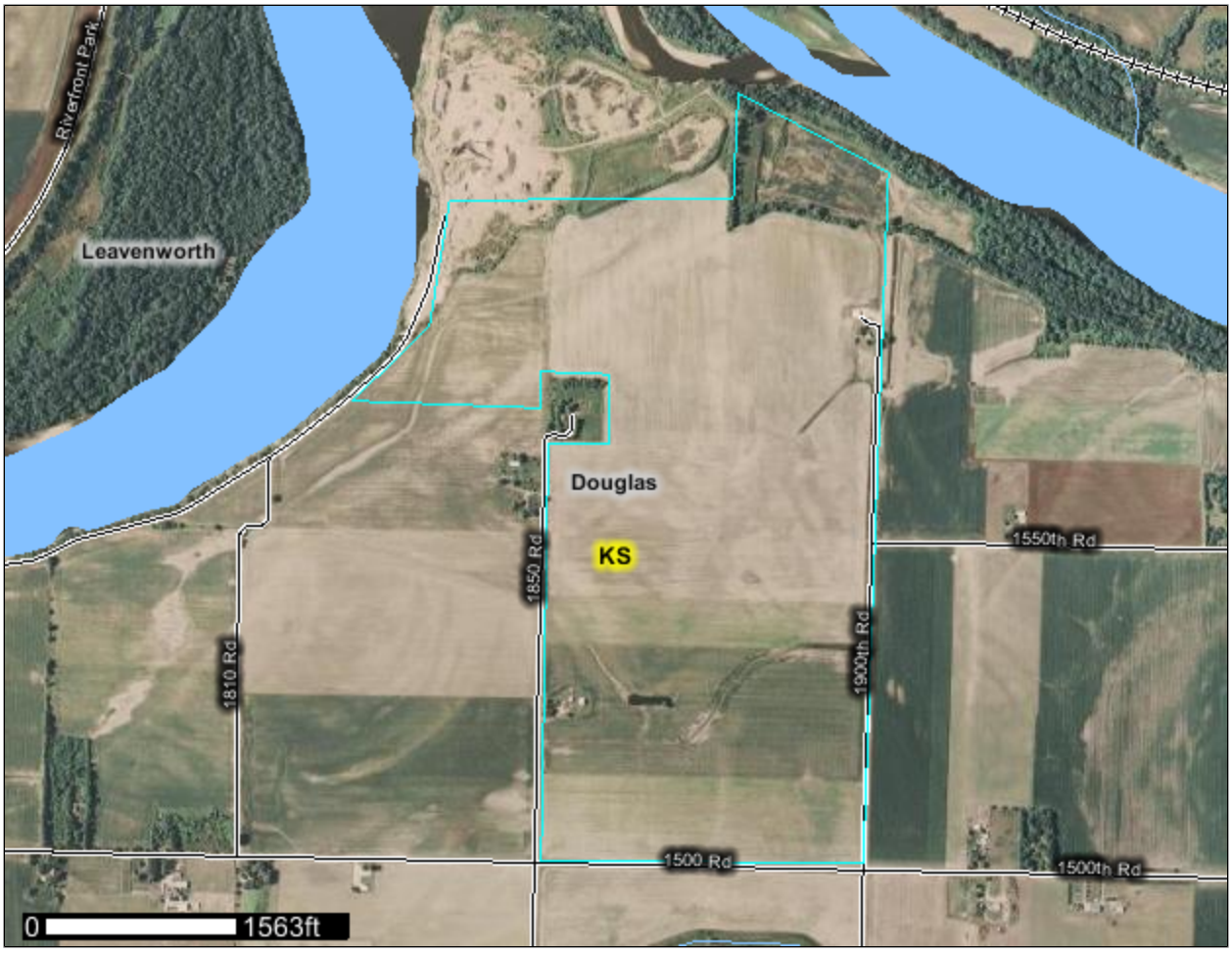
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Douglas County, Kansas

Sand Pit Site



August 22, 2012

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (Sand Pit Site)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:10,100 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 15N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Douglas County, Kansas
Survey Area Data: Version 8, Nov 30, 2010

Date(s) aerial images were photographed: 6/15/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Sand Pit Site)

Douglas County, Kansas (KS045)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
7035	Eudora-Bismarckgrove fine sandy loams, overwash, occasionally flooded	61.6	16.5%
7089	Stonehouse-Eudora fine sandy loams, overwash, occasionally flooded	12.1	3.2%
7123	Eudora silt loam, rarely flooded	48.9	13.1%
7127	Eudora-Kimo complex, overwash, rarely flooded	240.6	64.5%
9995	Sand Pits	10.0	2.7%
Totals for Area of Interest		**373.1**	**100.0%**

Map Unit Descriptions (Sand Pit Site)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic

classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Douglas County, Kansas

7035—Eudora-Bismarckgrove fine sandy loams, overwash, occasionally flooded

Map Unit Setting

Elevation: 750 to 980 feet
Mean annual precipitation: 31 to 47 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 175 to 215 days

Map Unit Composition

Eudora and similar soils: 55 percent
Bismarckgrove and similar soils: 25 percent
Minor components: 0 percent

Description of Eudora

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water capacity: High (about 11.1 inches)

Interpretive groups

Land capability (nonirrigated): 2w
Ecological site: Loamy Lowland (PE 30-37) (R106XY013KS)

Typical profile

0 to 7 inches: Fine sandy loam
7 to 14 inches: Silt loam
14 to 40 inches: Silt loam
40 to 48 inches: Silt loam
48 to 80 inches: Very fine sandy loam

Description of Bismarckgrove

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water capacity: High (about 10.6 inches)

Interpretive groups

Land capability (nonirrigated): 2w
Ecological site: Loamy Lowland (PE 30-37) (R106XY013KS)

Typical profile

0 to 6 inches: Fine sandy loam
6 to 14 inches: Silty clay loam
14 to 19 inches: Silty clay loam
19 to 29 inches: Silt loam
29 to 44 inches: Silt loam
44 to 80 inches: Stratified loamy fine sand to fine sandy loam

Minor Components

Aquolls

Percent of map unit: 0 percent
Landform: Depressions, drainageways, hillslopes
Down-slope shape: Concave
Across-slope shape: Concave

7089—Stonehouse-Eudora fine sandy loams, overwash, occasionally flooded

Map Unit Setting

Elevation: 750 to 980 feet
Mean annual precipitation: 31 to 47 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 175 to 215 days

Map Unit Composition

Stonehouse and similar soils: 50 percent
Eudora and similar soils: 30 percent
Minor components: 0 percent

Description of Stonehouse

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water capacity: Low (about 5.4 inches)

Interpretive groups

Land capability (nonirrigated): 4s
Ecological site: Sandy Lowland (PE 30-37) (R106XY023KS)

Typical profile

0 to 9 inches: Fine sandy loam
9 to 23 inches: Loamy fine sand
23 to 31 inches: Stratified loamy sand
31 to 45 inches: Stratified fine sand
45 to 71 inches: Stratified sandy loam
71 to 80 inches: Stratified loamy fine sand

Description of Eudora

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water capacity: High (about 11.1 inches)

Interpretive groups

Land capability (nonirrigated): 2w
Ecological site: Loamy Lowland (PE 30-37) (R106XY013KS)

Typical profile

0 to 7 inches: Fine sandy loam
7 to 14 inches: Silt loam
14 to 40 inches: Silt loam
40 to 48 inches: Silt loam
48 to 80 inches: Very fine sandy loam

Minor Components

Aquolls

Percent of map unit: 0 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Concave

7123—Eudora silt loam, rarely flooded

Map Unit Setting

Elevation: 800 to 1,050 feet
Mean annual precipitation: 31 to 47 inches
Mean annual air temperature: 52 to 55 degrees F
Frost-free period: 175 to 215 days

Map Unit Composition

Eudora and similar soils: 85 percent
Minor components: 0 percent

Description of Eudora

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water capacity: High (about 11.8 inches)

Interpretive groups

Land capability (nonirrigated): 1
Ecological site: Loamy Lowland (PE 30-37) (R106XY013KS)

Typical profile

0 to 7 inches: Silt loam
7 to 14 inches: Silt loam
14 to 40 inches: Silt loam
40 to 48 inches: Silt loam
48 to 80 inches: Very fine sandy loam

Minor Components

Aquolls, ponded

Percent of map unit: 0 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave

Aquolls

Percent of map unit: 0 percent
Landform: Depressions, drainageways, hillslopes
Down-slope shape: Concave
Across-slope shape: Concave

7127—Eudora-Kimo complex, overwash, rarely flooded

Map Unit Setting

Elevation: 400 to 1,200 feet
Mean annual precipitation: 31 to 47 inches
Mean annual air temperature: 52 to 59 degrees F
Frost-free period: 175 to 215 days

Map Unit Composition

Eudora and similar soils: 60 percent
Kimo and similar soils: 30 percent
Minor components: 5 percent

Description of Eudora

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water capacity: Very high (about 12.2 inches)

Interpretive groups

Land capability (nonirrigated): 2w
Ecological site: Loamy Lowland (PE 30-37) (R106XY013KS)

Typical profile

0 to 12 inches: Silt loam
12 to 72 inches: Silt loam

Description of Kimo

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey over loamy alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 22 to 26 inches
Frequency of flooding: Rare
Frequency of ponding: Occasional
Available water capacity: High (about 11.4 inches)

Interpretive groups

Land capability (nonirrigated): 2w
Ecological site: Loamy Lowland (PE 30-37) (R106XY013KS)

Typical profile

0 to 6 inches: Silty clay loam
6 to 28 inches: Silty clay
28 to 60 inches: Silt loam

Minor Components

Wabash

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Other vegetative classification: CLAY LOWLAND (PE30-37) (106XY004KS_1)

9995—Sand Pits

Map Unit Setting

Mean annual precipitation: 31 to 47 inches
Frost-free period: 175 to 215 days

Map Unit Composition

Pits, sand: 100 percent

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Construction Materials

This folder contains a collection of tabular reports that present soil interpretations related to sources of construction materials. The reports (tables) include all selected map units and components for each map unit, limiting features and interpretive ratings. Construction materials interpretations are tools designed to provide guidance to users in selecting a site for potential source of various materials. Individual soils or groups of soils may be selected as a potential source because they are close at hand, are the only source available, or they meets some or all of the physical or chemical properties required for the intended application. Example interpretations include roadfill, sand and gravel, topsoil and reclamation material.

Source of Sand and Gravel (Sand Pit Site)

This table gives information about the soils as potential sources of gravel and sand. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. Only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness. The ratings are for the whole soil, from the surface to a depth of about 6 feet.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

Information in this table is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this table. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Report—Source of Sand and Gravel (Sand Pit Site)

[Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.00 to 0.99. The larger the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel]

Source of Sand and Gravel– Douglas County, Kansas					
Map symbol and soil name	**Pct. of map unit**	**Potential as a source of gravel**		**Potential as a source of sand**	
		Rating class and limiting features	**Value**	**Rating class and limiting features**	**Value**
7035—Eudora-Bismarckgrove fine sandy loams, overwash, occasionally flooded					
Eudora	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bismarckgrove	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Source of Sand and Gravel– Douglas County, Kansas					
Map symbol and soil name	Pct. of map unit	Potential as a source of gravel		Potential as a source of sand	
		Rating class and limiting features	Value	Rating class and limiting features	Value
7089—Stonehouse-Eudora fine sandy loams, overwash, occasionally flooded					
Stonehouse	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.13
Eudora	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
7123—Eudora silt loam, rarely flooded					
Eudora	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
7127—Eudora-Kimo complex, overwash, rarely flooded					
Eudora	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kimo	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
9995—Sand Pits					
Pits, sand	100	Not rated		Not rated	

Source of Sand and Gravel (Sand Pit Site)

This table gives information about the soils as potential sources of gravel and sand. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. Only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness. The ratings are for the whole soil, from the surface to a depth of about 6 feet.

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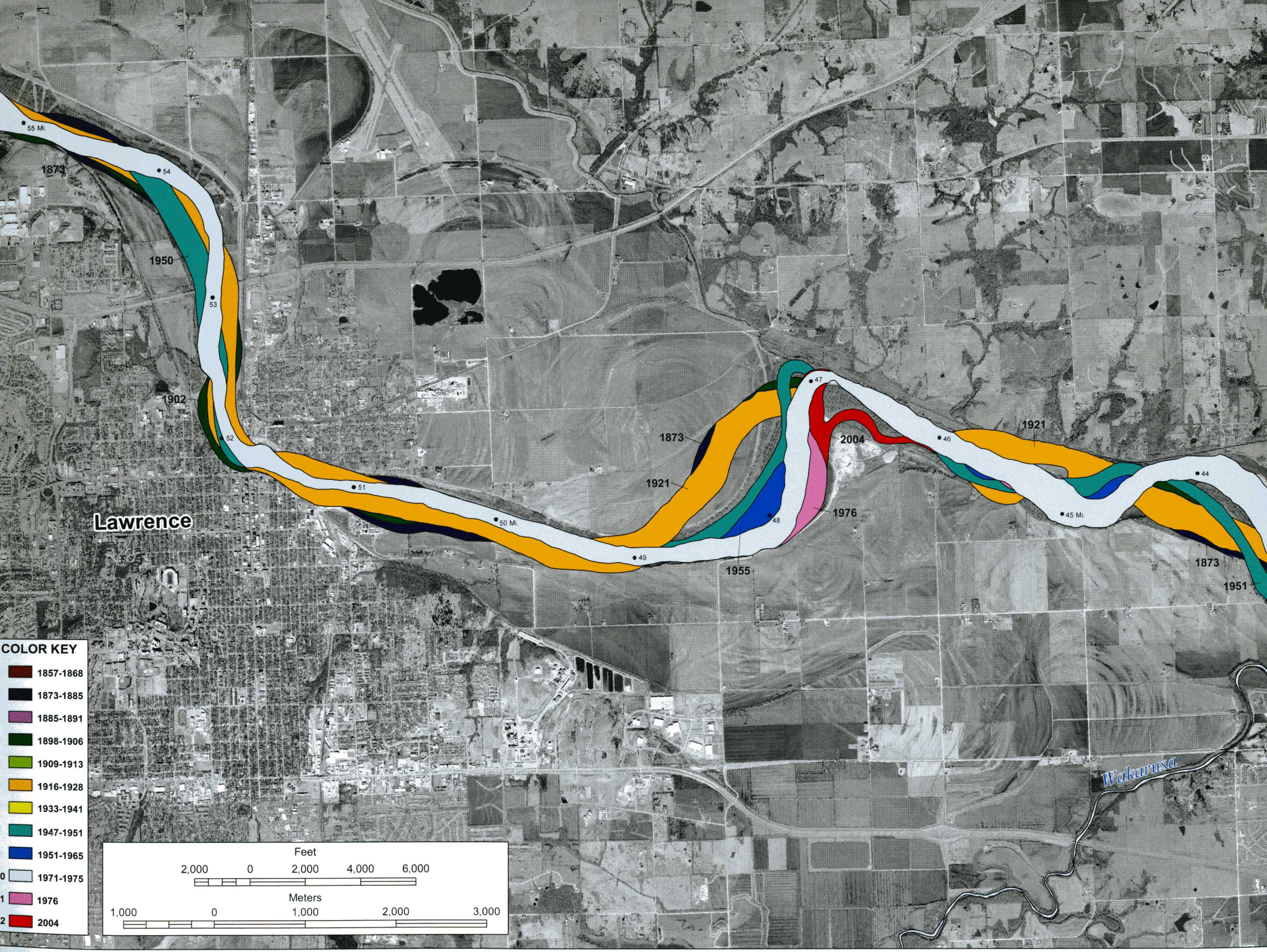
1564 E 1850 Rd, Lawrence, KS
1-5/8mi
Eudora Well Field
© 2012 Google
Google earth
Imagery Date: 5/30/2011
1991
38°57'39.00" N 95°07'50.91" W elev 811 ft
Eye alt 17376 ft

HISTORICAL
CHANNEL CHANGES
OF THE
KANSAS RIVER
AND ITS MAJOR TRIBUTARIES

WAKEFIELD DORT, JR.

SPECIAL PUBLICATION NUMBER 42

AMERICAN GEOGRAPHICAL SOCIETY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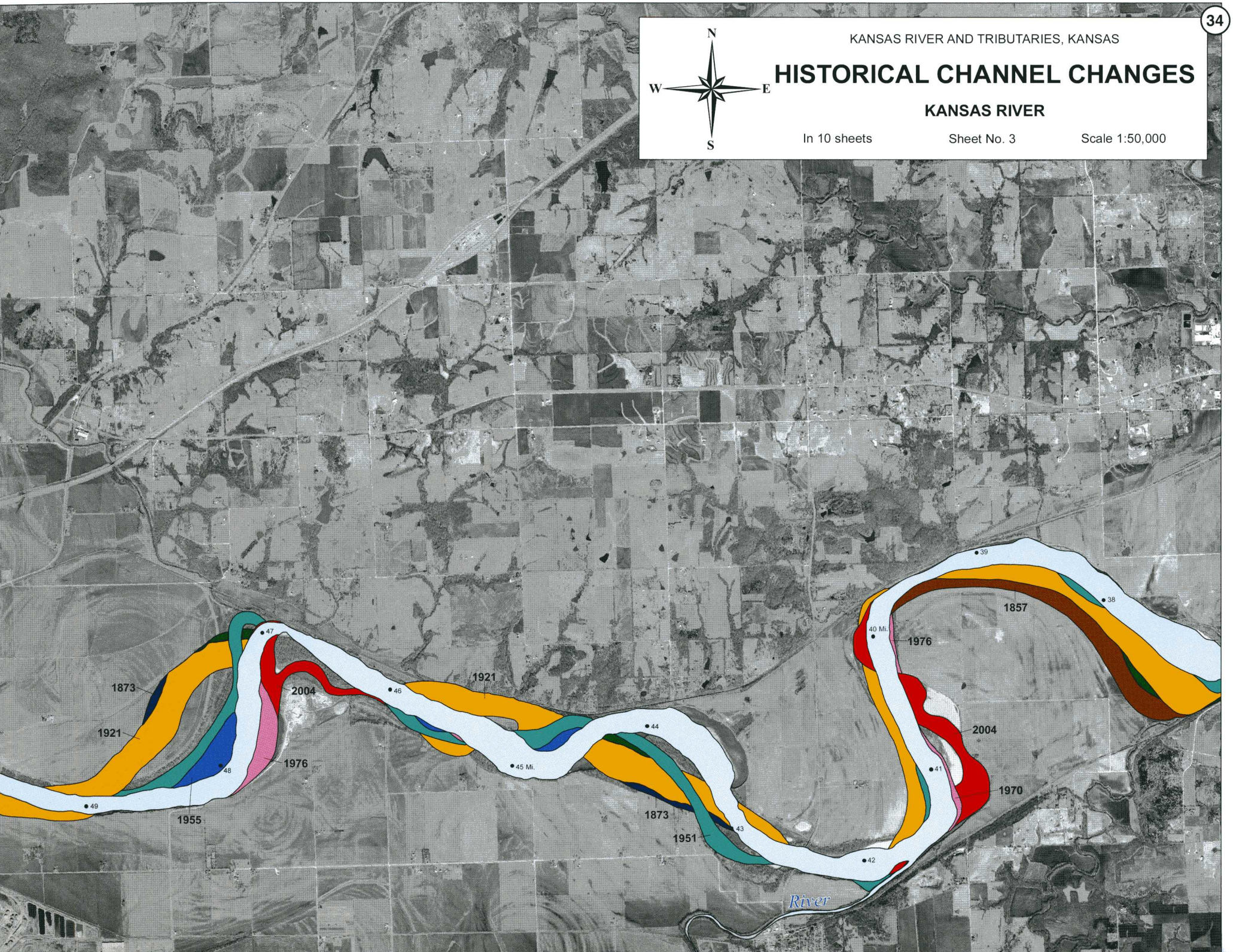
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KANSAS RIVER AND TRIBUTARIES, KANSAS
HISTORICAL CHANNEL CHANGES
KANSAS RIVER
In 10 sheets
Sheet No. 3
Scale 1:50,000
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40 Mi.
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38

Sept. 9, 2012

Lawrence Douglas County
Metropolitan Planning Office
6 East 6th Street,
P.O. Box 708,
Lawrence, KS 66044

Planning Staff:

As interested property owners, we are writing this letter to object to the Conditional Use Permit (CUP) that Penny Sand Co. has applied for near 1500N and 1850E. This CUP asks permission for a pit mining operation for sand removal. This would completely change the agricultural setting of the area. If allowed, this CUP would subject the area to dramatically increased industrial activity, including noise, dust, and environment destruction. We ask that you deny the CUP for the following reasons:

(1)The affected area has some interesting Douglas County history associated with it and contains some historic houses.

(2) The river bank in the vicinity of this proposed pit mining operation is unstable and has moved considerably over recent times. If pit mining is allowed in this area, in times of flood the chances of a dramatic river channel change is magnified greatly.

(3) On this proposed 434 acre pit mining site, the majority of the area is covered by some of the highest quality soils as defined by the US Department of Agriculture. It seems very short sighted to produce sand for short term gain and lose the potential for significant food and fiber production indefinitely.

(4)There is a large amount of overburden (unusable soil, silt and clay) that must be removed (typically 23-24 feet). Removing this much overburden will create an environmental nightmare

(5) Opening this pit operation will expose one of the most prolific aquifers in this region to potential pollution. This aquifer is a magnificent resource that must be protected and preserved for the future.

(6)Several neighboring house wells could be affected by this pit. Just down the valley about 1 5/8 miles lies the Eudora Public Water Supply Well Field; it could also be affected by the proposed pit mining operation.

Thank you for your consideration of our concerns.

Penny Sand Pit Petition

Name	Address	Phone Number	email
Print: Carl McElwee	1564 E. 1850 Rd.	785	cmcelwee@ku.edu
Signature: Carl McElwee	Lawrence, KS 66046	843-4164	
Print: MARGERY McELWEE	1564 E 1850 Rd	785	
Signature: Margery McElwee	Lawrence KS 66046	843-4164	
Print: Rick Gaebler	1555 E 1850 Rd	785-393-	
Signature: Rick Gaebler	Lawrence KS	9028	
Print: Esther McCabria	1455 E 1900 Rd	542	BMccabria@aol.com
Signature: E. McCabria	Eudora, KS 66025	2492	
Print: Robert McCabria	1455 E 1900 Rd	542	"
Signature: Robert E McCabria	Eudora, KS 66025	2492	
Print: Scott	1964 N 1550 Rd	785	Scothjackson
Signature: Scott Jackson	Eudora 66025	331 6561	1964@yahoo.com
Print: Bruce Perkins	Eudor 66025	785	BrucePerkins55@
Signature: Bruce Perkins		764 6295	Gmail.com
Print: Philip R Ernst	826 Mass, Lawrence	843-2313	
Signature: Ernst			
Print: NORMA L. SCHMILZ	1610 E. GLENN DR.		
Signature: Norma L. Schmilz	LAWRENCE, KS 66044	843-0943	
Print: AL W DEATHE	1918 N 1500 RD		AWDVKD@
Signature: Al W Deathe	EUDORA KS	542-2352	SUNFLOWER.COM
Print: ViAnn K. Deathe	1918 N 1500 Rd		
Signature: ViAnn K Deathe	Eudora, KS 66025	542-2352	

Penny Sand Pit Petition

Name	Address	Phone Number	email
Print: Gregory Shype Signature: Gregory Shype	1394 E 1900 Rd Eudora, Ks 66025	785-542-227[illegible]	KSwikes@hotmail.com
Print: Virginia S. Strong Signature: Virginia S. Strong	3712 Trail Rd. Lawrence, Ks 66049	785 843-2293	
Print: DAVID VERTAČNIK Signature: David Vertačnik	1403E 1850 Road Lawrence, KS	785 842-4428	davidve ku.edu
Print: Wendy Leet Vertacnik Signature: Wendy Leet Vertacnik	1403 E. 1850 Rd Lawrence. KS 66046	785-842.4428	vertacnike sunflower.com
Print: Dr Karen Johnston Signature: K Johnston	1928 N 1500 Rd Eudora KS 66025	785 393 2933	drkarenjohnston@gmail.com
Print: Linda Knabe Signature: Linda Knabe	39460 W 145th ST Eudora, Ks 66025	785 542 2228	knabefarms@wildblue.net
Print: Richard Knabe Signature: Richard Knabe	Same		
Print: PETER SHENOUDA Signature: Peter Shenouda	1411 E. 1850 Road lawrence, KS 66046	785-856-3999	pshenouda@hotmail.com
Print: Building Blocks Daycare Signature: ~~Steve Boyer~~	1411 E. 1850 Road lawrence, KS 66046	785-856-3999	buildingblocks@sunflower.com
Print: Steve BOYER Signature: Steve Boyer	Eudora K.S. 2027 N 1500 RD	785-218-2491	
Print: Nancy Jackson Signature: Nancy Jackson	1964 N 1550th Rd Eudora, KS 66025	785-331-8743	nancyjackson66@gmail.com

The Master's Dredging Company, Inc.

Dredging Contractors
P.O. Box 9, Lawrence, KS 66044
(913) 583-3335

September 12, 2012

RECEIVED
SEP 13 2012
City County Planning Office
Lawrence, Kansas

Mr. Bruce Liese
Chairman, Lawrence-Douglas County Planning Commission
6 East 6th Street
Lawrence, Kansas 66044

Dear Mr. Liese,

We have a CUP for a sand plant operation approved in 1991 on land about 1.5 miles northeast of the intersection of Noria Road and North 1500 Road. At the time of the 1991 approval of our CUP we had applied for both a Kansas River operation and a sand pit operation on the land where our sand plant was located. At the time, the zoning board did not feel that there was a need for both operations and gave me a choice between the two. I choose the river operation. Under a sand plant lease arrangement, Pennys Concrete has been producing sand from our river permit for over 17 years.

With a pending Corps of Engineer decision to halt both ours and Pennys' river permits, Pennys Concrete (1) terminated their lease agreement with us and (2) applied for zoning of an off-river sand pit operation. In light of this we are renewing our CUP zoning application for an off-river sand pit on land immediately adjacent to the Pennys Concrete's application for a CUP permit for off river sand pit operation. We are presently applying for a CUP for an off-river sand pit operation.

In light of the fact that Pennys Concrete and we have nearly identical CUP applications on adjacent lands, I would like to request that the zoning board defer consideration of Pennys Concrete's application and that the zoning board would consider both Pennys' and our CUP applications concurrently. I would appreciate your passing on this request to the rest of your zoning board, the planning staff, and county commissioners. If you have any questions, feel free to email me at (davidpenny@theaquaticgroup.com) or call me: 913-583-3335 (office, but please do not leave a message) or 785-218-8800 (cell, leave a message if you do not get me).

Sincerely,

David Penny
President

Sept. 18, 2012

Lawrence Douglas County
Metropolitan Planning Office
6 East 6th Street,
P.O. Box 708,
Lawrence, KS 66044

Planning Commission:

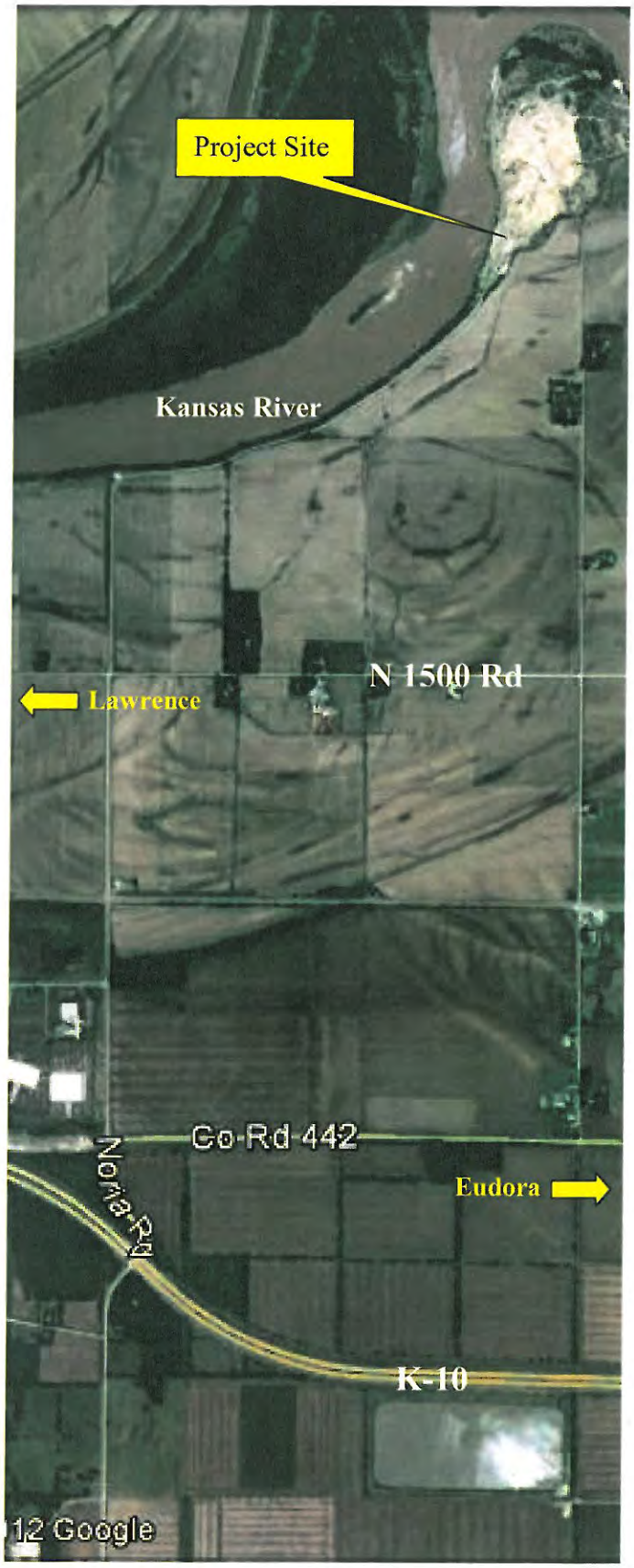
I would like to object to the request in David Penny's letter from The Masters Dredging Company, Inc. to defer consideration of the Penny Sand CUP from the Sept. 24 meeting. I and other land owners have worked to prepare for that meeting and would like to see our concerns addressed in a timely manner.

I have a long scheduled previous commitment Oct 15-25 and will be out of town. I ask the Planning Commission to please not schedule any meetings on this issue during my absence.

Thank you for your consideration. If I may answer any questions, please contact me.

Sincerely,

Carl McElwee
1564 E. 1850 Rd.
Lawrence, KS 66046 785-843-4164 cmcelwee@ku.edu



Traffic Impact Study

for

Penny Sand Plant Expansion

1-1/2 mile Northeast of the Intersection of Noria Road and N 1500 Road

Douglas County, Kansas

Prepared
for
Landplan Engineering, PA

Prepared
By

MGineering Solutions
Serving Communities Through Excellence
Kansas - Missouri - Michigan - California

MEHRDAD GIVECHI
LICENSED
7/23/12
14522
KANSAS
PROFESSIONAL ENGINEER

Mehrdad Givechi, PE, PTOE

July 2012

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Appendix II Results of Volume/Capacity Analysis Using Synchro 7 Software

Appendix III Summary of Traffic Counts (all vehicles including trucks)

Appendix IV Guidelines for Right-Turn and Left-Turn Treatments at Unsignalized Intersections

Introduction

Proposed Development

The existing "Penny Sand Extraction" facility - located next to Kansas River approximately 1-1/2 miles northeast of the intersection of Noria Road (E 1750 Rd.) and N 1500 Road in Douglas County, Kansas – comprises approximately 114 acres. Under the proposed plan, the site will be expanded to include an additional sand excavation area of approximately 351 acres for a total site area of approximately 465 acres (See Location Map, Figure 1 of Appendix I). Access to the site, as shown on the Site Plan (Figure 2 of Appendix I), will remain unchanged at its current location at the intersection of Noria Road and N 1500 Road (i.e. north leg of the intersection).

The facility will be open for operation on weekdays and some Saturdays (approximately 250 days a year) between the hours of 6:30 a.m. and 6:30 p.m., staffed by as many as four (4) employees.

According to the Horizon 2020 (Map 4-2), the site is FEMA designated "Floodway" and "Floodway Fringe".

Existing Nearby Developments

Currently, the vast majority of the land in the proximity of the site is undeveloped with the exception of

- "East Hills Business Park" located on the west side of Noria Road approximately 2/3 miles south of N 1500 Road; and
- A few scattered residential dwelling units in the study area.

Purpose

The purpose of this study is to:

1. Evaluate the existing operating conditions of traffic along the anticipated route that site-generated trucks will utilize to access the site including the intersections of
    a. Noria Road and N 1500 Road;
    b. Noria Road and DG CO 442 (Old K-10);
    c. DG CO 442 (Old K-10) and DG CO 1057 (E 1900 Rd); and

d. The interchange of K-10 and DG CO 1057 (E 1900 Rd).

2. Assess impact of the trips generated by the proposed expansion of the sand facility on the above mentioned intersections and roadway network; and
3. Recommend off-site improvements needed (if any) as the result of this expansion.

Data Collection and Summary

In order to assess the impact of traffic generated by the expansion of the existing sand facility in the study area, field observations and traffic counts (including truck traffic) were conducted. The following paragraphs summarize the results of data collection efforts for this project.

Roadway Network Geometric & Operating Characteristics

In the vicinity of the development site, as illustrated in Figure 3 of Appendix I,

- N. 1500 Road is a two-way, two lane roadway that runs east/west approximately 1.4 miles south of the development site. This roadway extends west and becomes 15th Street at approximately 1-3/4 miles west of Noria Road as it enters the city limits of Lawrence. Some of the other roadway characteristics for N 1500 Road include:
    - Asphalt pavement with uneven surface west of E 1810 Road turning into gravel road east of there.
    - No shoulders.
    - An active railroad crossing (with gate and signal) approximately 1.3 miles west of Noria Road (just west of E 1625 Road).
    - Posted speed limit of 40 mph, changing to 30 mph west of E 1625 Road where railroad crossing is located.
    - Posted weight limit sign of “5 Tons” for commercial vehicles for both directions of travel.
    - East of Noria Road, it is designated as “Rural Minor Collector” on the County’s T2030 Major Thoroughfare Map. This designation changes to “Minor Arterial” for the segment west of Noria Road.
    - West of Noria Road, it serves as a commuter route between Lawrence and both, Eudora and “East Hills Business Park”.

- Noria Road (E. 1750 Road) is a two-way, two lane roadway that runs north/south along east side of “East Hills Business Park” connecting N 1500 Road to DG CO 442 (Old K-10) and K-10 Highway. Some of the other characteristics of this roadway include:
    - An active railroad crossing (with gate and signal) approximately 1/2 mile south of Noria Road.
    - Concrete pavement with 6’ paved shoulders north of the railroad track. Asphalt pavement with 4’ shoulders south of the railroad track.
    - Posted speed limit of 45 mph between Noria Road and DG CO 442 (old K-10), with an advisory speed limit sign of 35 mph along the curve south of DG CO 442.
    - Designated as “Minor Arterial” on the County’s T2030 Major Thoroughfare Map.
    - It serves as a commuter route between Lawrence and both Eudora and “east Hills Business Park”.
- DG CO 442 (Old K-10) is a two-way, two lane roadway that runs east/west approximately 1 mile south of Noria Road and goes through city of Eudora to the east. Other roadway characteristics include:
    - Asphalt pavement with uneven surface and unpaved 4’-6’ shoulders.
    - Posted speed limit of 45 mph within the city limits (near Noria Road), changing to 55 mph in the county (west of Eudora).
    - Between Noria Road and Eudora, it is designated as “Minor Arterial” on the County’s T2030 Major Thoroughfare Map.
    - West of Eudora, this roadway serves as a commuter route between Eudora and both, Lawrence and “East Hills Business Park”.
- DG CO 1057 is a two-way, two lane roadway running north/south crossing DG CO 442 at approximately 1.5 miles east of Noria Road providing a main connection to K-10 Highway. Other roadway characteristics include:
    - Asphalt pavement with unpaved 2’-4’ shoulders.
    - Posted speed limit of 45 mph.
    - Designated as “Minor Arterial” on the County’s T2030 Major Thoroughfare Map.

- All intersections in the study area have one lane on each approach except for the:
    - Intersection of DG CO 1057 and DG CO 442, which has a dedicated northbound right-turn lane with approximately 175' of storage and a dedicated westbound left-turn lane with approximately 110' of storage; and
    - Intersection of Noria Road and DG CO 442, which has a dedicated westbound right-turn lane with 175' of storage; and a channelized northbound right turnout.

Manual Traffic Counts

Currently, the "East Hills Business Park" is the main trip generator in the study area and will most likely dictate the time periods during which traffic on the adjacent roadway network reaches its peak. As part of this study, therefore, vehicular turning movement counts (including truck traffic) were conducted at the intersections under study during the time periods when shift changes for the "East Hills Business Park" occur.

Currently the shifts change at 6:30, 7:00 and 7:30 in the morning and 2:30, 3:00 and 3:30 in the afternoon. Therefore, for the purpose of this analysis, turning movement counts were conducted from 6:00 to 9:00 a.m. and 2:00 to 5:00 p.m. on typical weekdays (July 11th, 12th and 17th, 2012). The results, as summarized in Appendix III and illustrated in Figures 4 and 5 of Appendix I, indicate that

- Morning peak occurs between 7:30 and 8:30 a.m. for all vehicles including truck traffic; and
- Afternoon peak occurs between 4:00 and 5:00 p.m. for all vehicles, and between 3:00 and 4:00 p.m. for truck traffic.
- At the intersection of Noria Road and N 1500 Road, the predominant movements are eastbound right-turn and northbound left-turn with no truck traffic on N 1500 Road.
- At the intersection of Noria Road and DG CO 442, the predominant movements are southbound left-turn and westbound right-turn. The predominant truck movements,

however, are northbound through (31% to 46%) and southbound left-turn (7% to 16%).

- At the intersection of DG CO 442 and DG CO 1057, the predominant movements are eastbound and westbound through. The predominant truck movements, however, are eastbound right-turn (19% to 31%) and northbound right-turn (unusually high at 27% to 60%).
- At the interchange of K-10 and DG CO 1057, the predominant movements are southbound right-turn (at the north ramps) and eastbound left-turn (at the south ramps). The predominant truck movements, however, are southbound left-turn (20% to 32%) and eastbound left-turn (unusually high at 25% to 34%), both at the south ramps.
- Field observations indicate that loaded trucks, leaving the existing sand plant, take Noria Road south to DG CO 442 (Old K-10), then east to DG CO 1057, then south to K-10 interchange, then east to their destinations. After their delivery, the trucks head back to the sand plant using K-10 Highway, then north on Noria Road straight to the plant entrance off of N 1500 Road.

NOTES:

1. *During the time period traffic counts were being conducted for this study, there was a paving project near Eudora that generated a large number of truck traffic. Loaded trucks, carrying asphalt material, got to the job site from west using K-10 Highway to access DG CO 1057 at the interchange, then head north to DG CO 442 (Old K-10), then east to Eudora. Empty trucks left the job site using Church Street south to K-10 Highway, then west to the asphalt plant. This construction activity resulted in an skew in the normal truck traffic pattern in the study area, which caused the heavy truck movement for the eastbound left-turn movement at the interchange and northbound right-turn movement at the intersection of DG Co 1057 and DG CO 442.*
2. *DG CO 1057, approximately ½ mile south of the K-10 interchange, has been closed to traffic for a bridge replacement project. This also affected the through traffic on DG CO 1057 south of the interchange.*

Evaluation of the Existing Operating Conditions

A volume/capacity analysis (using methodologies outlined in the *2000 Highway Capacity Manual (HCM) published by the Transportation Research Board*) was conducted to determine the level-of-service (LOS) for all movements at the intersections under study during the afternoon peak-hour of a typical weekday.

Level-of-service, as defined in the HCM, describes the quality of traffic operating condition and ranges from "A" to "F", with LOS "A" representing the best (most desirable with minimum delay) conditions and LOS "F" the worst (severely congested with excessive delays). The following chart outlines the level-of-service criteria for unsignalized and signalized intersections.

Level-Of-Service	Control Delay for Unsignalized Intersections (seconds/vehicle)	Control Delay for Signalized Intersections (seconds/vehicle)
A	0 – 10	0 – 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80

The results of analysis, as shown in Appendix II and summarized in Figure 6 of Appendix I, indicate that, under the existing conditions, all movements at all intersections in the study area operate at LOS "B" or higher during both morning and afternoon peak-hours of a typical weekday.

Trip Generation Analysis

Typically, trips generated by a proposed development are estimated using trip generation rates suggested by the *Institute of Transportation Engineers, Trip Generation Manual, 8th Edition*. Since the Manual does not have information for land use type "Sand Plant", the following procedure was used for analysis:

- For the sand processing component of this development, the number of trucks generated by this site was estimated based on the following assumptions:
    - With the proposed new expansion, the plant is anticipated to distribute as much as 5,000 tons of sand on a most productive day.
    - 80% of trucks serving the site will be Tractor Trailers each with a maximum load capacity of 25-30 tons. The remaining 20% will be tandem trucks each hauling between 15 and 18 tons. This is equivalent to an average truck load of approximately 25 tons.
    - Assuming a high productive day (5,000 tons of distribution), the estimated number of trucks serving the site will be around 200 trucks/day, which equates to a total of 400 trip-ends (two-way trips) per day.
    - Hauling time varies for different plants. Truckers going to the same plant have different lap times. The only time that trucks tend to arrive somewhat simultaneously is first thing in the morning when a plant opens. Their departure from the plant, however, is not simultaneous due to individual loading times. Other times throughout the day, truck traffic to/from the plant is spread out randomly over the 12-hours of operation (6:30 a.m. to 6:30 p.m.). For analysis purposes, it is assumed that peak-hour truck traffic will be approximately 12% of the daily truck traffic, which is approximately 48 trip-ends (24 inbound and 24 outbound) during the morning peak-hour of operation.
    - To account for the existing traffic in/out of the site (i.e. current operation of the sand plant), a truck count survey was conducted during the time period when turning movement counts were being conducted. The results, as summarized in Figure 5 of Appendix I, indicate that the existing sand processing facility generates 8 trip-ends (4 inbound and 4 outbound)

during the morning peak-hour, and 9 trip-ends (5 inbound and 4 outbound) during the afternoon peak-hour.

- For the office component of this development, no increase in number of employees are anticipated, hence no additional trips will be generated by the office component.

Using above mentioned assumptions, the ***net increase*** in number of trips resulted by the proposed sand plant expansion will be approximately 40 trip-ends (20 inbound and 20 outbound) during both morning and afternoon peak-hours of a typical weekday - all truck traffic.

Analysis Time Period

An overview of the existing traffic volumes in the study area and their peak characteristics, in conjunction with estimated trips generated from the proposed development, indicate that the most critical peak period will likely occur during *morning peak-hour* of a typical weekday. Therefore, the morning peak-hour is selected as the analysis time period for this study. In addition, afternoon peak-hour is also analyzed.

Trip Distribution and Assignment Analysis

As mentioned earlier, field observations indicate that all truck traffic generated by the existing sand operation head south on Noria Road, thence east on DG CO 442, thence south on DG CO 1057 to access K-10 Highway and head east. Based on the information provided by the applicant, the vast majority of the new trips generated by the site expansion will also follow the same patterns. Figures 7 and 8 of Appendix I illustrate trip distribution patterns and assignment for the site-generated trips, respectively. Note that a small portion of the trips (~ 5%) are assigned to go west on K-10 (at the interchange) to represent occasional trips to the west.

Impact Assessment

Volume/Capacity Analysis

An evaluation of the "Existing + Proposed Development" traffic conditions (using HCS2000 methodology mentioned earlier) indicates that LOS for all movements at all intersections under study remain unchanged at "B" or higher during both morning and afternoon peak-hours of a typical weekday. The results, as shown in Appendix II and illustrated in Figures 9 and 10 of Appendix I, indicate that traffic generated from the proposed facility expansion will not have a negative impact on the capacity of the roadway networks in the study area.

Dedicated Turn-Lane Analysis

Using the guidelines for both right-turn and left-turn treatments at unsignalized intersections (as listed in Appendix IV) indicate that, from traffic volume stand point, no new dedicated turn lanes are required at any intersections in the study area.

Under the existing conditions, during the critical analysis period (morning peak-hour of a typical weekday), approximately 17% of the eastbound traffic at the intersection of DG CO 442 and DG CO 1057 consists of heavy trucks - all of which negotiate right turn at this location. The proposed expansion for the sand plant will significantly increase the heavy truck traffic for this movement to as high as ~42% of the total eastbound movement. Because of their low power/acceleration ratio, not having a dedicated eastbound right-turn lane may interfere with the through traffic creating a safety concern. It is, therefore, desirable (as a safety measure) that a dedicated eastbound right-turn lane be provided at this location to keep the large number of heavy trucks out of the main traffic flow on DG CO 442.

Summary & Recommendations

The results of this impact analysis indicate that the proposed “Penny Sand Plant Expansion” will have minimal impact on the capacity of the roadway network in the study area with no degradation of level-of-service at any locations under study (LOS of “B” or higher).

From safety stand point, however, the following improvements are desirable:

1. Pave a 100’ long section of the site access, just north of N 1500 Road, to keep gravel from being tracked, by site-generated trucks, onto the intersection.
2. Provide a dedicated eastbound right-turn lane on DG CO 442 (Old K-10) at its intersection with DG CO 1057 (E 1900 Rd). The minimum storage length for this turn lane should be 150’ in order to accommodate two (2) tractor trailer and two passenger cars. This is a desirable safety measure to keep loaded heavy trucks (having low power/acceleration ratio) out of the main traffic flow. Under the existing conditions, there is a 12’ wide paved area for a length of approximately 140’ that is not marked as a traffic lane rather has white crosshatch pavement marking along its entire length. This area can potentially be utilized to create the subject right-turn lane.
3. Pavement condition along certain segments of the roadway network in the study area should be evaluated to determine if it can withstand the increase in heavy truck traffic resulted by the proposed sand plant expansion.

APPENDIX I

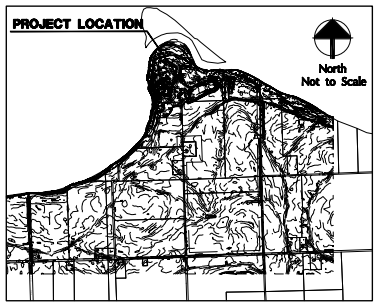
Results of Trip Distribution and Assignment Analysis

Intersections under study

Figure 1

Location Map

Location Map



Legal Description

General Notes

OWNER: PENNY'S CONCRETE, INC.
ATTN: BILL PENNY
800 EAST 8TH STREET,
LAWRENCE, KS 66044

1. LAND PLANNER/ ENGINEER: LANDPLAN ENGINEERING, P.A.
1310 WAKARUSA DRIVE
LAWRENCE, KS 66049
2. TOPOGRAPHIC INFORMATION OBTAINED FROM 2006 CITY OF LAWRENCE LIDAR AERIAL DATA.
3. EXISTING LAND USE: AGRICULTURAL& SAND EXTRACTION
4. PROPOSED LAND USE: SAND EXCAVATION, EXTRACTION & PROCESSING; AGRICULTURAL
5. EXISTING ZONING: A – VC
6. PROPOSED ZONING: A – VC
7. THIS SITE IS LOCATED WITHIN THE FLOODPLAIN PER FEMA MAP #20045C0203D, DATED AUGUST 5, 2010.
8. THIS SITE HAS BEEN DESIGNED TO COMPLY WITH THE PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) FOR BUILDINGS AND FACILITIES, APPENDIX A TO 28 CFR PART 36.
9. PHASE BOUNDARIES ARE ONLY AN APPROXIMATION DUE TO VARIABILITY OF UNDERGROUND DEPOSITS. SEQUENCES OF EXCAVATION MAY VARY.

Site Summary

GROSS CUP/SITE AREA:	20261272 SF / 465.13 AC
PUBLIC RIGHTS-OF-WAY:	0 SF / 0.00 AC
NET CUP/SITE AREA:	XX SF / XX AC
SAND EXCAVATION & AGRI AREA:	XX / XX AC
SAND/GRAVEL PROCESSING AREA:	XX / XX AC
SCALE HOUSE & MATERIALS LAB:	XX SF
SAND/GRAVEL PROCESSING PLANT:	XX SF

Parking Summary

REQUIRED = 1 SPACE/2 EMPLOYEES; 4 TOTAL EMPLOYEES = 2 SPACES
PROVIDED = 8 SPACES

SCALE: 1" = 400'

400 200 0 400 800

Access Road

Penny Sand Lawrence Facility

Douglas County, Kansas

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Landplan Engineering, P.A.
Lawrence, KS • Kansas City, MO • Manhattan, KS
Ida Rollins, MO • The Woodlands, TX

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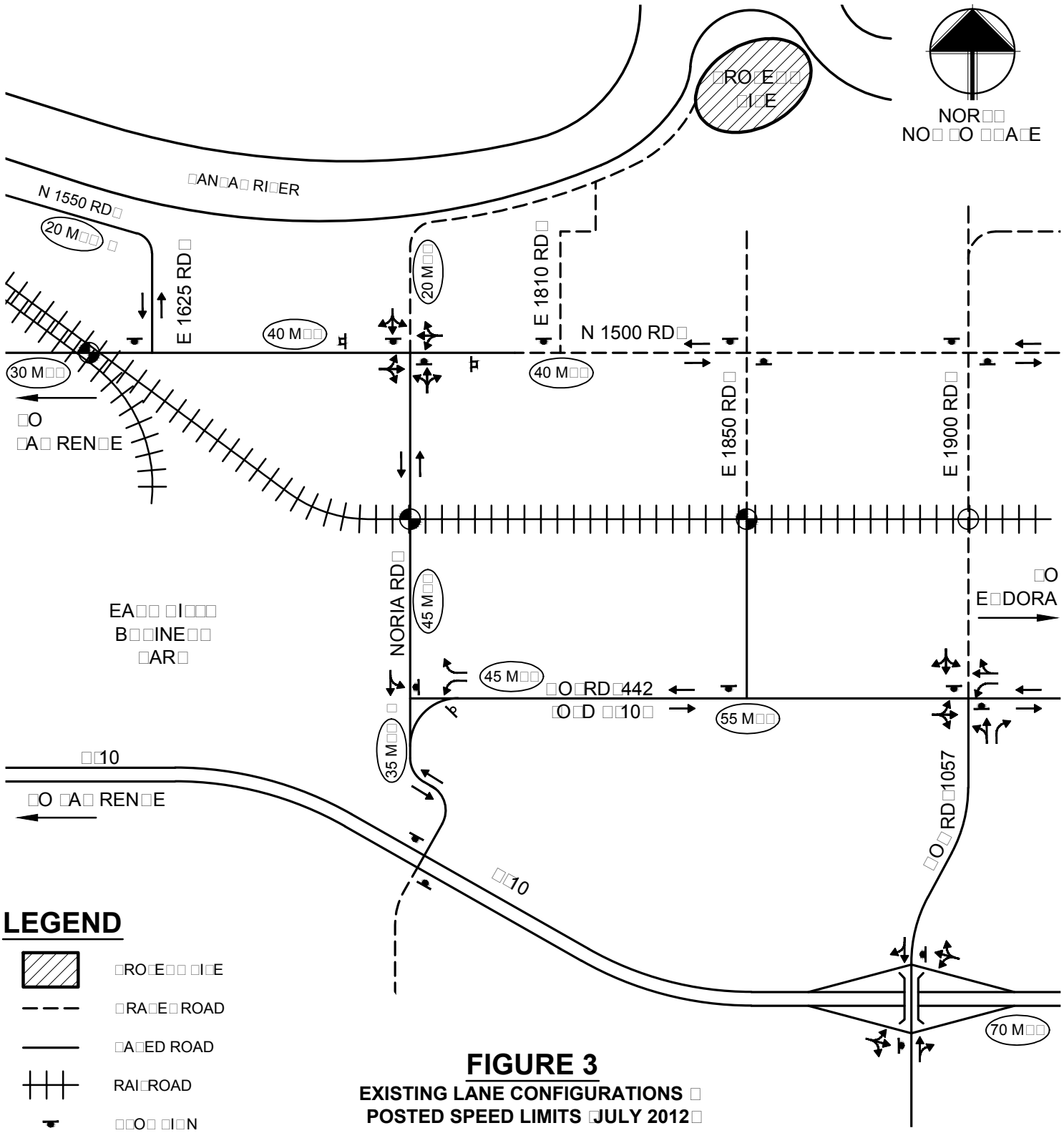
PENNY SAND FACILITY
CONDITIONAL USE PERMIT
CUP SITE PLAN

REV	DATE	DESCRIPTION

DATE:	7.2.12
PROJECT NO.:	20121146
DESIGNED BY:	CLM
DRAWN BY:	CLM
CHECKED BY:	CLM

ISSUE: A
SHEET NO.: C-001
OF 2 SHEETS

FILE NAME: G:\20121146\CAD\Planning\CUP\121146C-CUP.dwg LAST SAVED BY: CL Maurer SAVED DATE: 7/9/2012 9:04 AM PLOTTED: 7/9/2012 9:08 AM



LEGEND

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FIGURE 3

EXISTING LANE CONFIGURATIONS □
POSTED SPEED LIMITS □JULY 2012□

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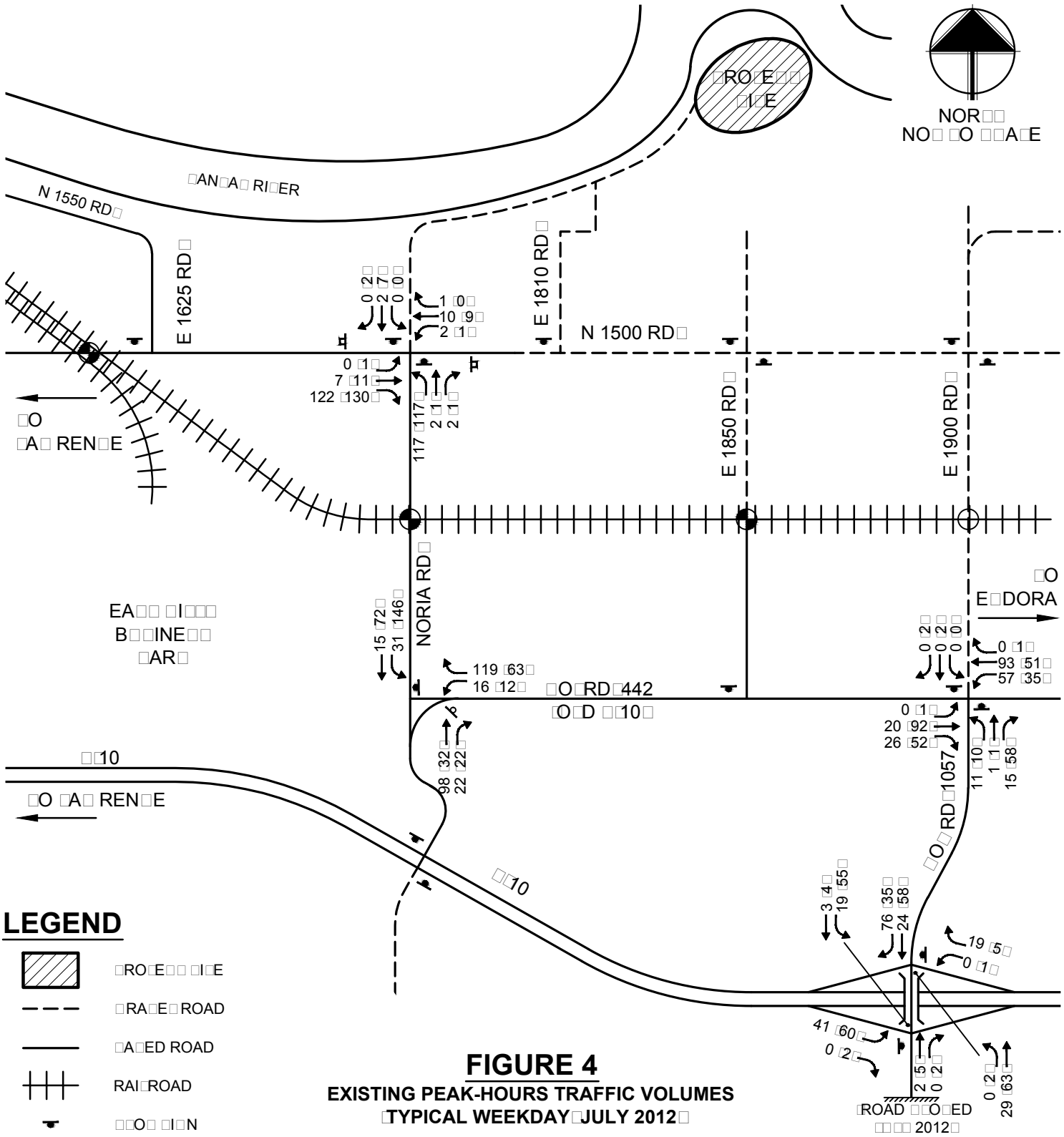

LEGEND

- PROPOSED SITE
- RAILROAD
- PAVED ROAD
- RAILROAD
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION
- STOP SIGN INTERSECTION
- AVENUE RR CROSSING WITH GATE & SIGNAL
- AVENUE RR CROSSING WITHOUT GATE
- AM (PM) PEAK HOUR VOLUMES
  - 4:00 - 5:00 PM
  - 7:30 - 8:30 AM

FIGURE 4

EXISTING PEAK-HOURS TRAFFIC VOLUMES

TYPICAL WEEKDAY JULY 2012

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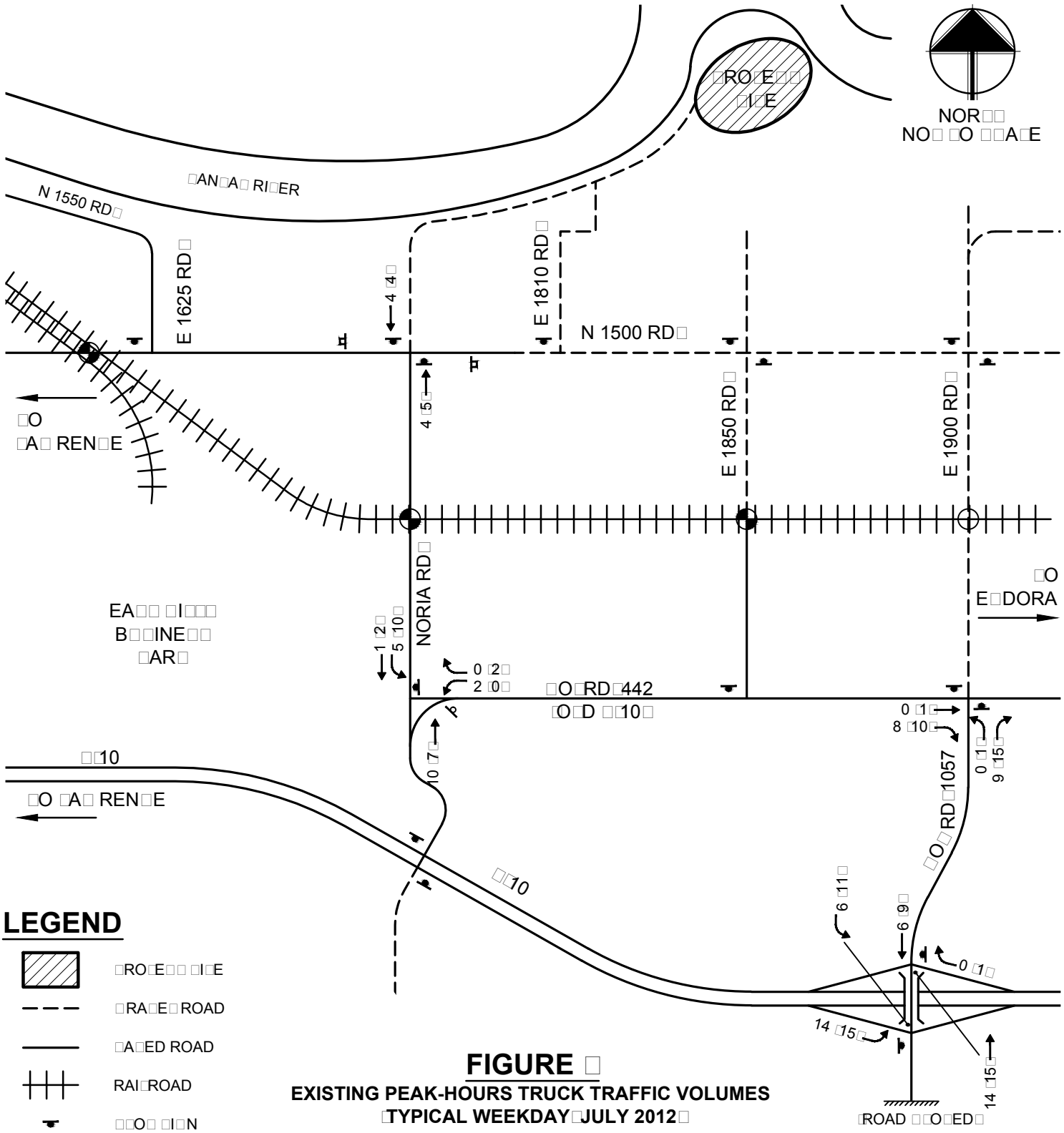

LEGEND

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- A M M
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  - 7 30 8 30

FIGURE

EXISTING PEAK-HOURS TRUCK TRAFFIC VOLUMES
TYPICAL WEEKDAY JULY 2012

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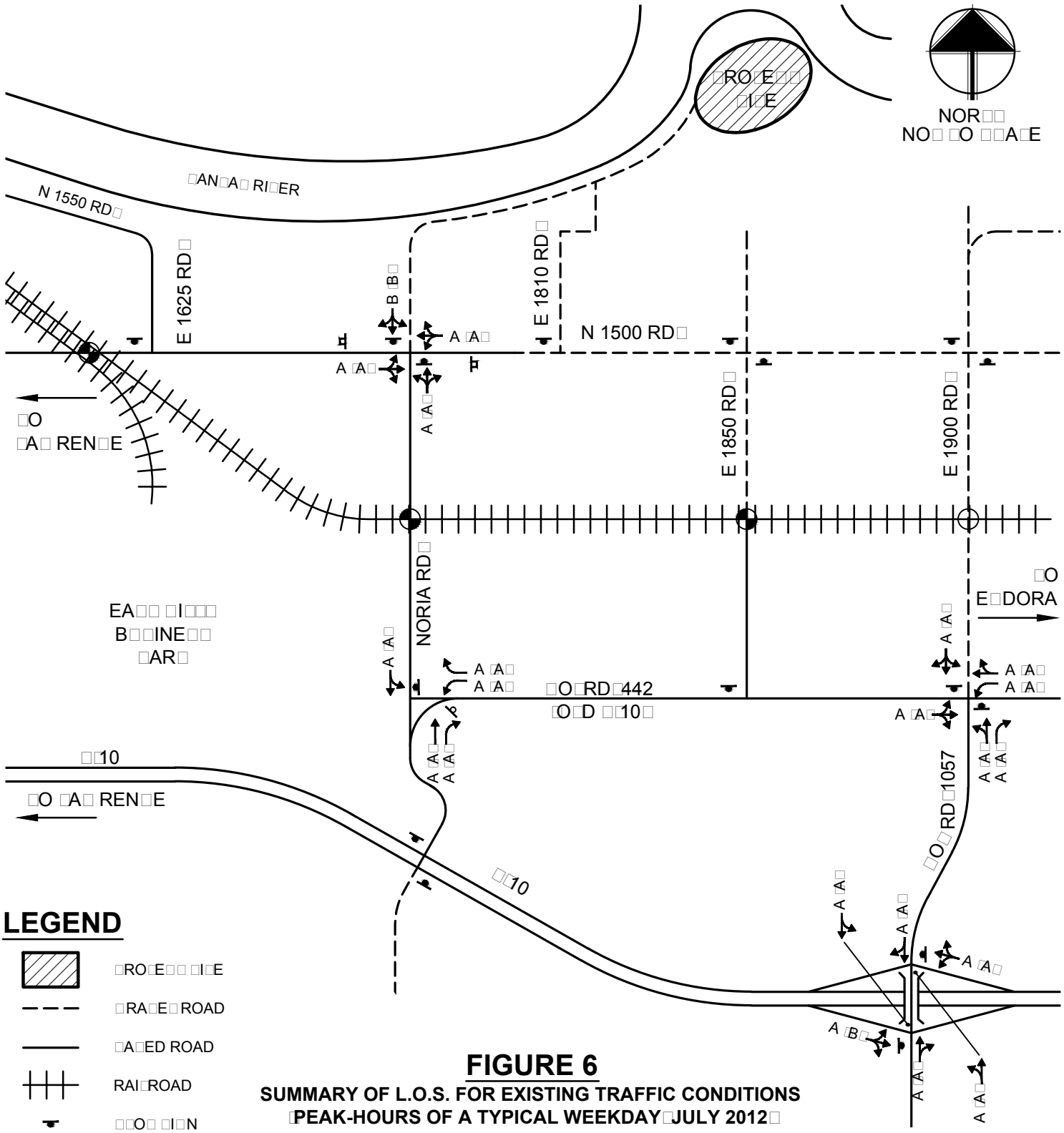

FIGURE 6

SUMMARY OF L.O.S. FOR EXISTING TRAFFIC CONDITIONS
PEAK-HOURS OF A TYPICAL WEEKDAY JULY 2012

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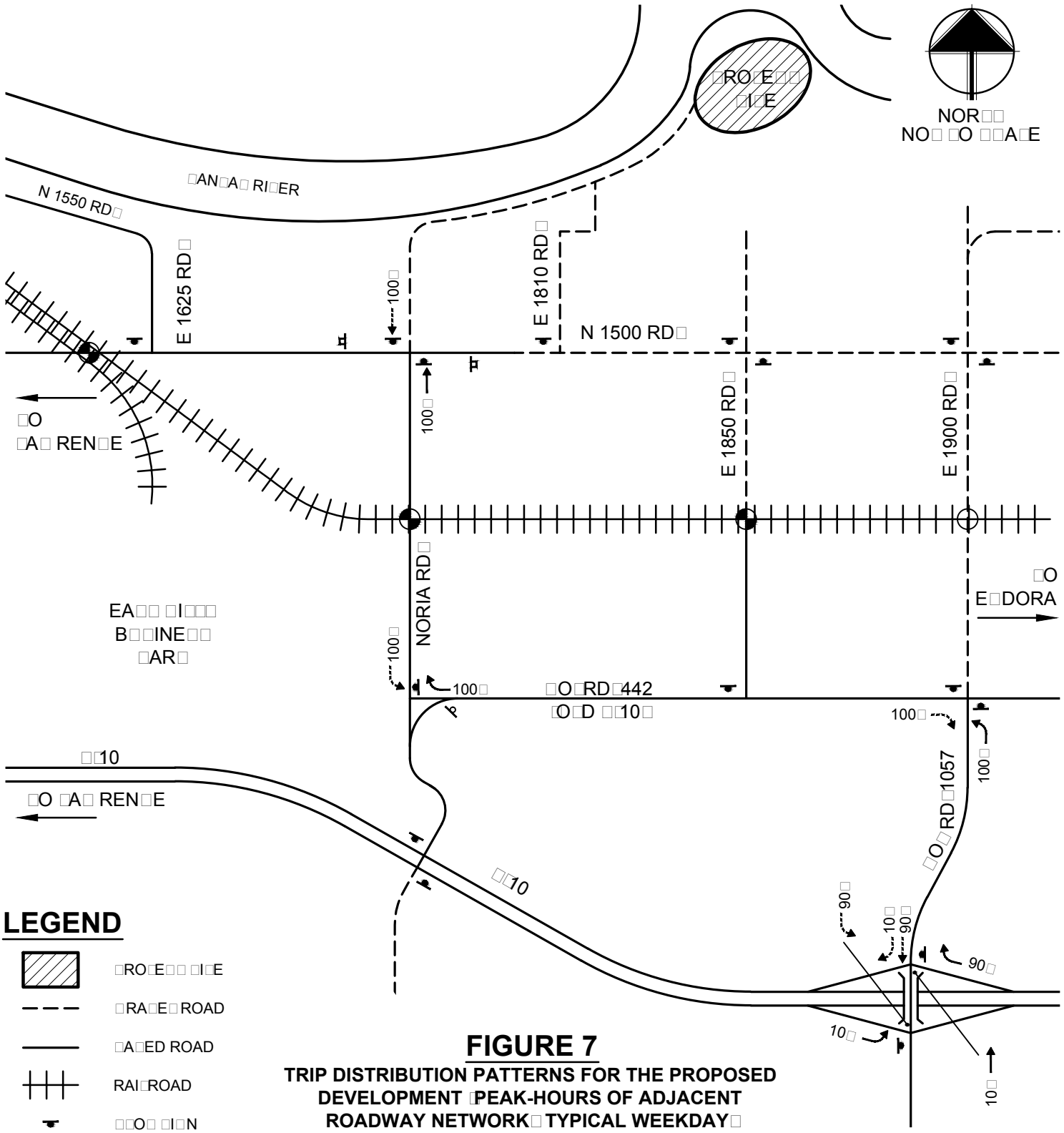

LEGEND

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FIGURE 7

TRIP DISTRIBUTION PATTERNS FOR THE PROPOSED DEVELOPMENT PEAK-HOURS OF ADJACENT ROADWAY NETWORK TYPICAL WEEKDAY

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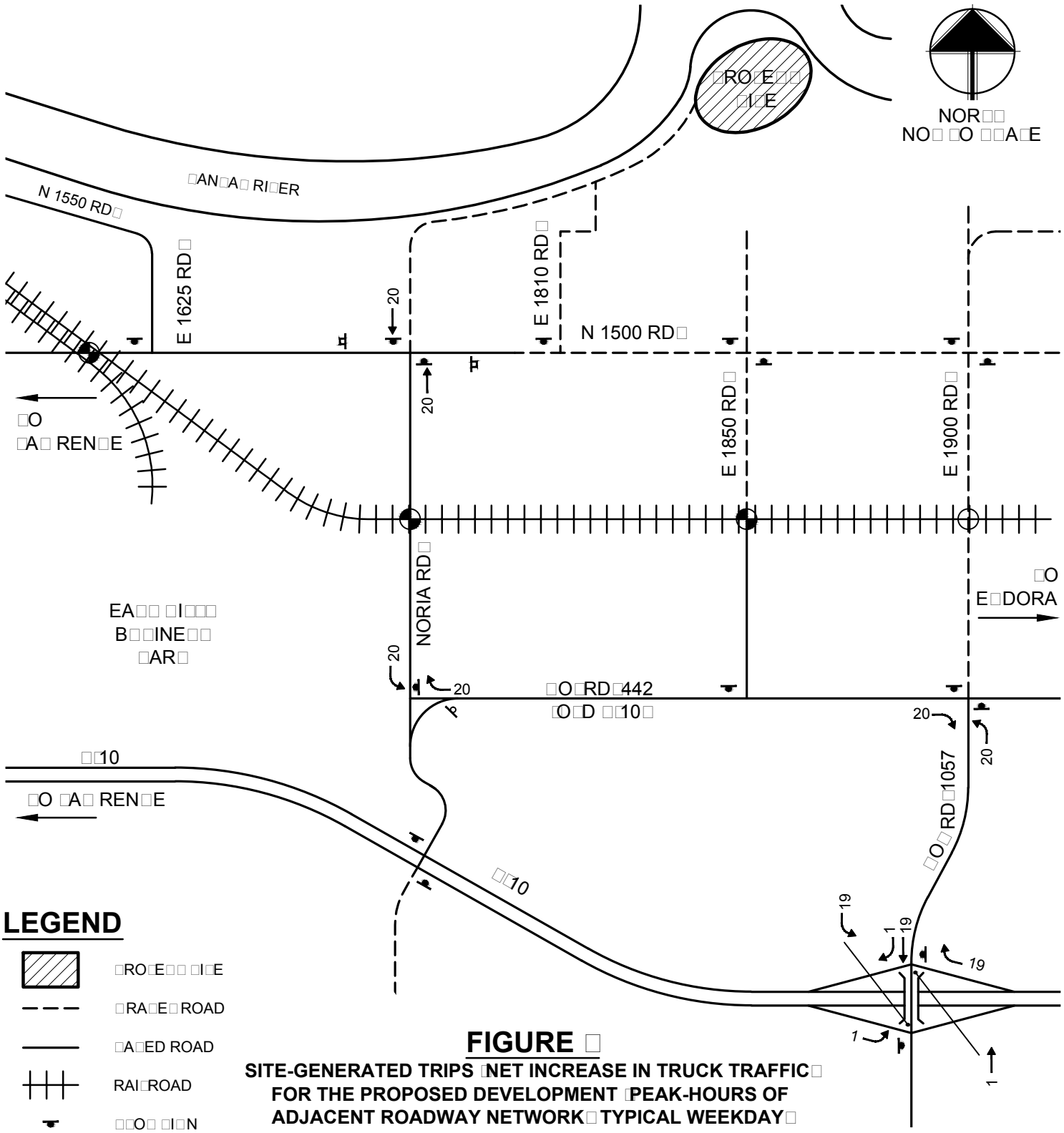

FIGURE

SITE-GENERATED TRIPS NET INCREASE IN TRUCK TRAFFIC FOR THE PROPOSED DEVELOPMENT PEAK-HOURS OF ADJACENT ROADWAY NETWORK TYPICAL WEEKDAY

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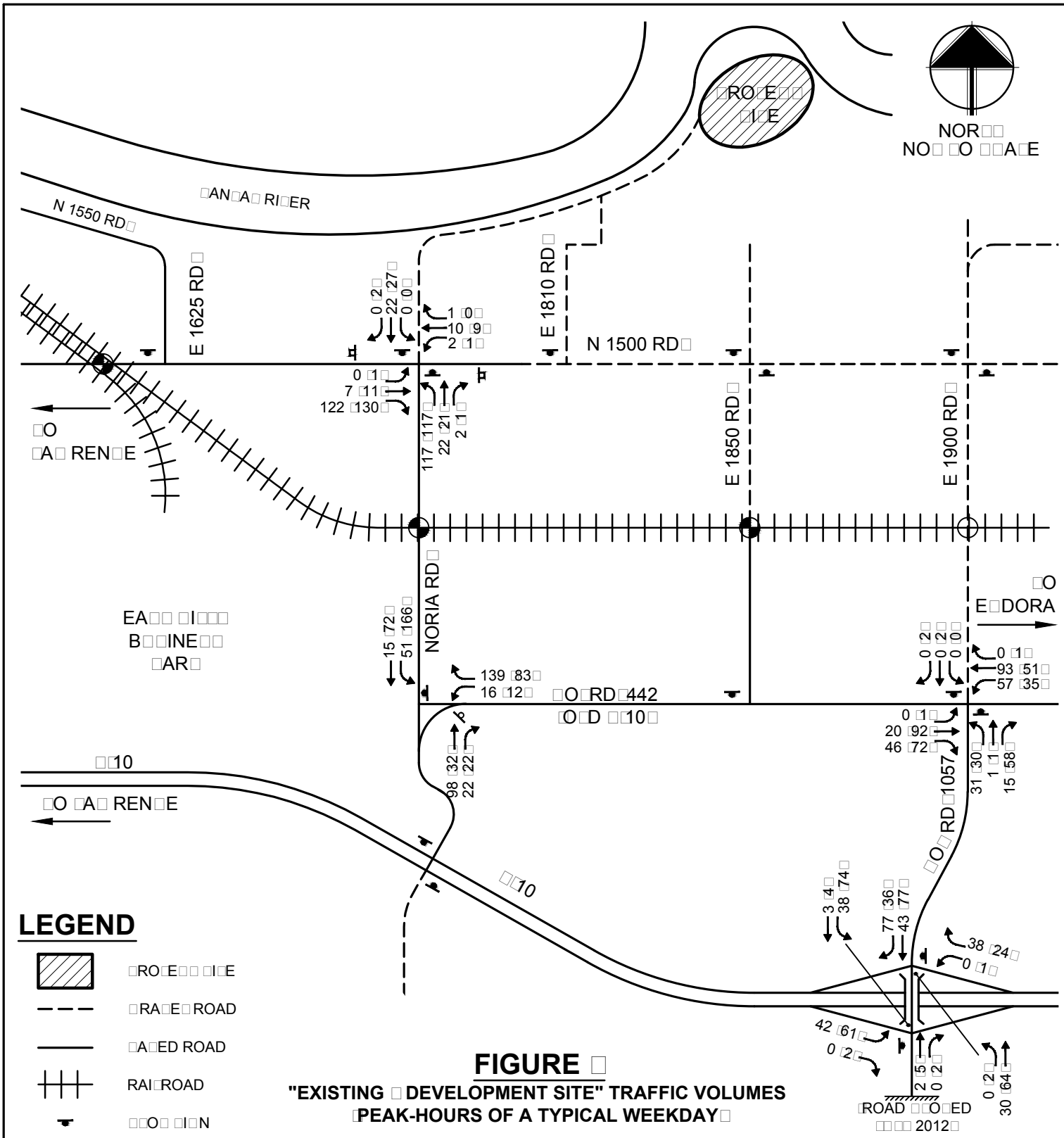

LEGEND

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- A I E RR RO IN A E I NA
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- A M M

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FIGURE

"EXISTING DEVELOPMENT SITE" TRAFFIC VOLUMES
PEAK-HOURS OF A TYPICAL WEEKDAY

ROAD O ED
2012

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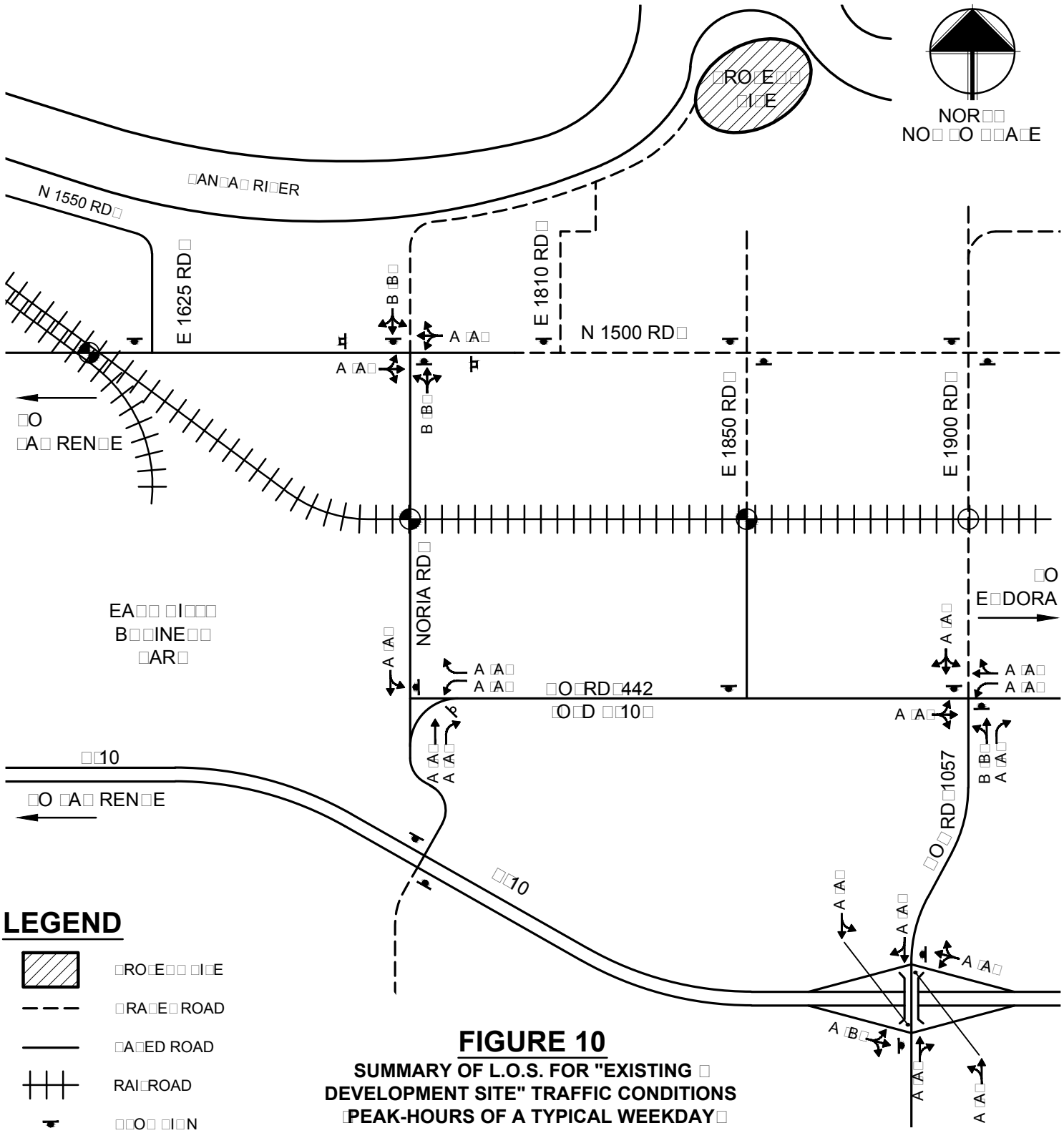

LEGEND

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- IE D I N
- EI IMI I N
- A I E RR RO IN A E I NA
- A I E RR RO IN RO B

A M M

FIGURE 10

SUMMARY OF L.O.S. FOR "EXISTING DEVELOPMENT SITE" TRAFFIC CONDITIONS PEAK-HOURS OF A TYPICAL WEEKDAY

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APPENDIX II

Results of Highway Capacity Analysis

Using

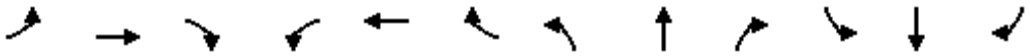
Synchro 7 Software

EXISTING CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	7	122	2	10	1	117	2	2	0	2	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	8	133	2	11	1	127	2	2	0	2	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	12			140			91	90	74	93	156	11
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	12			140			91	90	74	93	156	11
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	7.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.9	3.3
p0 queue free %	100			100			86	100	100	100	100	100
cM capacity (veh/h)	1607			1443			890	799	988	886	588	1069

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	140	14	132	2
Volume Left	0	2	127	0
Volume Right	133	1	2	0
cSH	1607	1443	890	588
Volume to Capacity	0.00	0.00	0.15	0.00
Queue Length 95th (ft)	0	0	13	0
Control Delay (s)	0.0	1.2	9.7	11.1
Lane LOS		A	A	B
Approach Delay (s)	0.0	1.2	9.7	11.1
Approach LOS			A	B

Intersection Summary				
Average Delay	4.6			
Intersection Capacity Utilization	28.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	11	130	1	9	0	117	1	1	0	7	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.876						0.999			0.973	
Flt Protected					0.995			0.953				
Satd. Flow (prot)	0	1632	0	0	1853	0	0	1760	0	0	1025	0
Flt Permitted					0.995			0.953				
Satd. Flow (perm)	0	1632	0	0	1853	0	0	1760	0	0	1025	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		742			793			5163			445	
Travel Time (s)		16.9			18.0			117.3			10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	100%	2%	2%	100%	2%
Adj. Flow (vph)	1	12	141	1	10	0	127	1	1	0	8	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	154	0	0	11	0	0	129	0	0	10	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	16	119	98	22	31	15
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	129	107	24	34	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		7				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	190	107			107	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	190	107			107	
tC, single (s)	6.5	6.2			4.3	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.3	
p0 queue free %	98	86			98	
cM capacity (veh/h)	758	948			1401	

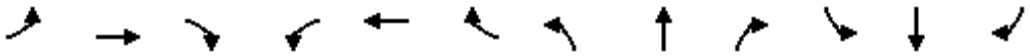
Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total	147	107	24	50
Volume Left	17	0	0	34
Volume Right	129	0	24	0
cSH	1075	1700	1700	1401
Volume to Capacity	0.14	0.06	0.01	0.02
Queue Length 95th (ft)	12	0	0	2
Control Delay (s)	9.5	0.0	0.0	5.2
Lane LOS	A			A
Approach Delay (s)	9.5	0.0		5.2
Approach LOS	A			

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	12	63	32	22	146	72
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	68	35	24	159	78
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		7				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	430	35			35	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	430	35			35	
tC, single (s)	6.4	6.5			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.6			2.3	
p0 queue free %	98	93			90	
cM capacity (veh/h)	522	959			1545	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total	82	35	24	237
Volume Left	13	0	0	159
Volume Right	68	0	24	0
cSH	1141	1700	1700	1545
Volume to Capacity	0.07	0.02	0.01	0.10
Queue Length 95th (ft)	6	0	0	9
Control Delay (s)	9.5	0.0	0.0	5.4
Lane LOS	A			A
Approach Delay (s)	9.5	0.0		5.4
Approach LOS	A			

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	28.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	20	26	57	93	0	11	1	15	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	22	28	62	101	0	12	1	16	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									7			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	101			50			261	261	36	270	275	101
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	101			50			261	261	36	270	275	101
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			96			98	100	98	100	100	100
cM capacity (veh/h)	1491			1557			671	618	1025	651	607	954

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	50	62	101	29	0
Volume Left	0	62	0	12	0
Volume Right	28	0	0	16	0
cSH	1491	1557	1700	1500	1700
Volume to Capacity	0.00	0.04	0.06	0.02	0.00
Queue Length 95th (ft)	0	3	0	1	0
Control Delay (s)	0.0	7.4	0.0	9.4	0.0
Lane LOS		A		A	A
Approach Delay (s)	0.0	2.8		9.4	0.0
Approach LOS				A	A

Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	19.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	92	52	35	51	1	10	1	58	0	2	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	100	57	38	55	1	11	1	63	0	2	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									7			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	57			157			265	263	128	295	291	56
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	57			157			265	263	128	295	291	56
tC, single (s)	4.1			4.1			7.2	6.5	6.5	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.5	3.5	4.0	3.3
p0 queue free %	100			97			98	100	93	100	100	100
cM capacity (veh/h)	1548			1423			654	624	861	596	603	1011

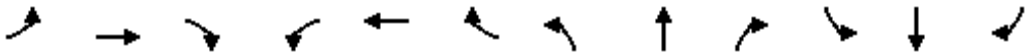
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	158	38	57	75	4
Volume Left	1	38	0	11	0
Volume Right	57	0	1	63	2
cSH	1548	1423	1700	1025	755
Volume to Capacity	0.00	0.03	0.03	0.07	0.01
Queue Length 95th (ft)	0	2	0	6	0
Control Delay (s)	0.1	7.6	0.0	9.7	9.8
Lane LOS	A	A		A	A
Approach Delay (s)	0.1	3.1		9.7	9.8
Approach LOS				A	A

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	28.7%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	19	0	29	0	0	24	76
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	21	0	32	0	0	26	83
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	120	99	67	99	140	32	109			32		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	120	99	67	99	140	32	109			32		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	98	100			100		
cM capacity (veh/h)	839	791	996	883	751	1042	1482			1581		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	21	32	109
Volume Left	0	0	0
Volume Right	21	0	83
cSH	1042	1482	1700
Volume to Capacity	0.02	0.00	0.06
Queue Length 95th (ft)	2	0	0
Control Delay (s)	8.5	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.5	0.0	0.0
Approach LOS	A		

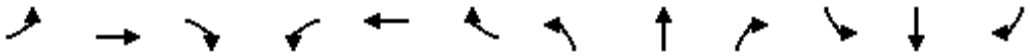
Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	15.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	1	0	5	2	63	0	0	58	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	1	0	5	2	68	0	0	63	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	160	155	82	155	174	68	101			68		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	160	155	82	155	174	68	101			68		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.4	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	100	100	100	100	100	99	100			100		
cM capacity (veh/h)	800	736	978	811	718	947	1491			1533		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	7	71	101
Volume Left	1	2	0
Volume Right	5	0	38
cSH	921	1491	1700
Volume to Capacity	0.01	0.00	0.06
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.9	0.2	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	0.2	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	15.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	41	0	0	0	0	0	0	2	0	19	3	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	0	0	0	0	0	0	2	0	21	3	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	47	47	3	47	47	2	3			2		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	47	47	3	47	47	2	3			2		
tC, single (s)	7.4	6.5	6.2	7.1	6.5	6.2	4.1			4.4		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.3	2.2			2.5		
p0 queue free %	95	100	100	100	100	100	100			99		
cM capacity (veh/h)	871	833	1081	944	833	1082	1619			1444		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	45	2	24
Volume Left	45	0	21
Volume Right	0	0	0
cSH	871	1700	1444
Volume to Capacity	0.05	0.00	0.01
Queue Length 95th (ft)	4	0	1
Control Delay (s)	9.4	0.0	6.5
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	6.5
Approach LOS	A		

Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	60	0	2	0	0	0	0	5	2	55	4	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	0	2	0	0	0	0	5	2	60	4	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	130	132	4	133	130	7	4			8		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	130	132	4	133	130	7	4			8		
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1			4.3		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.4		
p0 queue free %	92	100	100	100	100	100	100			96		
cM capacity (veh/h)	768	729	1079	812	730	1076	1617			1503		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	67	8	64
Volume Left	65	0	60
Volume Right	2	2	0
cSH	775	1700	1503
Volume to Capacity	0.09	0.00	0.04
Queue Length 95th (ft)	7	0	3
Control Delay (s)	10.1	0.0	7.0
Lane LOS	B		A
Approach Delay (s)	10.1	0.0	7.0
Approach LOS	B		

Intersection Summary				
Average Delay	8.1			
Intersection Capacity Utilization	20.0%	ICU Level of Service	A	
Analysis Period (min)	15			

EXISTING + DEVELOPMENT TRAFFIC CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	7	122	2	10	1	117	22	2	0	22	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	8	133	2	11	1	127	24	2	0	24	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	12			140			102	90	74	104	156	11
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	12			140			102	90	74	104	156	11
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	7.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.9	3.3
p0 queue free %	100			100			85	97	100	100	96	100
cM capacity (veh/h)	1607			1443			851	799	988	853	588	1069

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	140	14	153	24
Volume Left	0	2	127	0
Volume Right	133	1	2	0
cSH	1607	1443	844	588
Volume to Capacity	0.00	0.00	0.18	0.04
Queue Length 95th (ft)	0	0	17	3
Control Delay (s)	0.0	1.2	10.2	11.4
Lane LOS		A	B	B
Approach Delay (s)	0.0	1.2	10.2	11.4
Approach LOS			B	B

Intersection Summary				
Average Delay	5.6			
Intersection Capacity Utilization	29.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	11	130	1	9	0	117	21	1	0	27	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	12	141	1	10	0	127	23	1	0	29	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	10			153			114	97	83	109	167	10
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	10			153			114	97	83	109	167	10
tC, single (s)	4.1			4.1			7.1	7.5	6.2	7.1	7.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.9	3.3	3.5	4.9	3.3
p0 queue free %	100			100			85	96	100	100	95	100
cM capacity (veh/h)	1610			1427			828	640	977	844	579	1072

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	154	11	151	32
Volume Left	1	1	127	0
Volume Right	141	0	1	2
cSH	1610	1427	793	598
Volume to Capacity	0.00	0.00	0.19	0.05
Queue Length 95th (ft)	0	0	17	4
Control Delay (s)	0.1	0.8	10.6	11.4
Lane LOS	A	A	B	B
Approach Delay (s)	0.1	0.8	10.6	11.4
Approach LOS			B	B

Intersection Summary				
Average Delay	5.7			
Intersection Capacity Utilization	29.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	16	139	98	22	51	15
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	151	107	24	55	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		7				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	234	107			107	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	234	107			107	
tC, single (s)	6.5	6.2			4.3	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.3	
p0 queue free %	98	84			96	
cM capacity (veh/h)	704	948			1401	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total	168	107	24	72
Volume Left	17	0	0	55
Volume Right	151	0	24	0
cSH	1057	1700	1700	1401
Volume to Capacity	0.16	0.06	0.01	0.04
Queue Length 95th (ft)	14	0	0	3
Control Delay (s)	9.6	0.0	0.0	6.0
Lane LOS	A			A
Approach Delay (s)	9.6	0.0		6.0
Approach LOS	A			

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	12	83	32	22	166	72
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	90	35	24	180	78
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		7				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	474	35			35	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	474	35			35	
tC, single (s)	6.4	6.5			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.6			2.3	
p0 queue free %	97	91			88	
cM capacity (veh/h)	485	959			1545	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total	103	35	24	259
Volume Left	13	0	0	180
Volume Right	90	0	24	0
cSH	1097	1700	1700	1545
Volume to Capacity	0.09	0.02	0.01	0.12
Queue Length 95th (ft)	8	0	0	10
Control Delay (s)	9.6	0.0	0.0	5.6
Lane LOS	A			A
Approach Delay (s)	9.6	0.0		5.6
Approach LOS	A			

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	20	46	57	93	0	31	1	15	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	22	50	62	101	0	34	1	16	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									7			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	101			72			272	272	47	280	297	101
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	101			72			272	272	47	280	297	101
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.5	4.0	3.3
p0 queue free %	100			96			95	100	98	100	100	100
cM capacity (veh/h)	1491			1528			660	609	1011	640	590	954

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	72	62	101	51	0
Volume Left	0	62	0	34	0
Volume Right	50	0	0	16	0
cSH	1491	1528	1700	967	1700
Volume to Capacity	0.00	0.04	0.06	0.05	0.00
Queue Length 95th (ft)	0	3	0	4	0
Control Delay (s)	0.0	7.5	0.0	10.1	0.0
Lane LOS		A		B	A
Approach Delay (s)	0.0	2.8		10.1	0.0
Approach LOS				B	A

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	19.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	92	72	35	51	1	30	1	58	0	2	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	100	78	38	55	1	33	1	63	0	2	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)									7			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	57			178			276	274	139	305	312	56
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	57			178			276	274	139	305	312	56
tC, single (s)	4.1			4.1			7.2	6.5	6.5	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.5	3.5	4.0	3.3
p0 queue free %	100			97			95	100	93	100	100	100
cM capacity (veh/h)	1548			1398			643	616	849	585	586	1011

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total	179	38	57	97	4
Volume Left	1	38	0	33	0
Volume Right	78	0	1	63	2
cSH	1548	1398	1700	1303	742
Volume to Capacity	0.00	0.03	0.03	0.07	0.01
Queue Length 95th (ft)	0	2	0	6	0
Control Delay (s)	0.1	7.6	0.0	10.0	9.9
Lane LOS	A	A		B	A
Approach Delay (s)	0.1	3.1		10.0	9.9
Approach LOS				B	A

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	31.0%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	38	0	30	0	0	43	77
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	41	0	33	0	0	47	84
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	162	121	89	121	163	33	130			33		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	162	121	89	121	163	33	130			33		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	96	100			100		
cM capacity (veh/h)	771	769	970	854	729	1041	1455			1579		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	41	33	130
Volume Left	0	0	0
Volume Right	41	0	84
cSH	1041	1455	1700
Volume to Capacity	0.04	0.00	0.08
Queue Length 95th (ft)	3	0	0
Control Delay (s)	8.6	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.6	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	17.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	1	0	24	2	64	0	0	77	36
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	1	0	26	2	70	0	0	84	39
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	203	177	103	177	197	70	123			70		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	203	177	103	177	197	70	123			70		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.4	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	100	100	100	100	100	97	100			100		
cM capacity (veh/h)	733	715	952	784	698	945	1464			1531		

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	27	72	123
Volume Left	1	2	0
Volume Right	26	0	39
cSH	938	1464	1700
Volume to Capacity	0.03	0.00	0.07
Queue Length 95th (ft)	2	0	0
Control Delay (s)	9.0	0.2	0.0
Lane LOS	A	A	
Approach Delay (s)	9.0	0.2	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	16.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	0	0	0	0	0	0	2	0	38	3	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	46	0	0	0	0	0	0	2	0	41	3	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	88	88	3	88	88	2	3			2		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	88	88	3	88	88	2	3			2		
tC, single (s)	7.4	6.5	6.2	7.1	6.5	6.2	4.1			4.4		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.5	4.0	3.3	2.2			2.5		
p0 queue free %	94	100	100	100	100	100	100			97		
cM capacity (veh/h)	808	779	1081	878	779	1082	1619			1444		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	46	2	45
Volume Left	46	0	41
Volume Right	0	0	0
cSH	808	1700	1444
Volume to Capacity	0.06	0.00	0.03
Queue Length 95th (ft)	4	0	2
Control Delay (s)	9.7	0.0	7.0
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	7.0
Approach LOS	A		

Intersection Summary				
Average Delay	8.2			
Intersection Capacity Utilization	18.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	61	0	2	0	0	0	0	5	2	74	4	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	0	2	0	0	0	0	5	2	80	4	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	172	173	4	174	172	7	4			8		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	172	173	4	174	172	7	4			8		
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1			4.3		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.4		
p0 queue free %	91	100	100	100	100	100	100			95		
cM capacity (veh/h)	712	682	1079	755	683	1076	1617			1503		

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	68	8	85
Volume Left	66	0	80
Volume Right	2	2	0
cSH	720	1700	1503
Volume to Capacity	0.10	0.00	0.05
Queue Length 95th (ft)	8	0	4
Control Delay (s)	10.5	0.0	7.2
Lane LOS	B		A
Approach Delay (s)	10.5	0.0	7.2
Approach LOS	B		

Intersection Summary				
Average Delay	8.3			
Intersection Capacity Utilization	21.1%	ICU Level of Service	A	
Analysis Period (min)	15			

APPENDIX III

Summary of Peak-Hours Traffic Counts

- All Vehicles
- Trucks Only

Turning Movement Counts
(All Vehicles)

Intersection of Noria Rd & N 1500 Rd
Morning Peak-Hours
Sunny, Hot

File Name : Noria & N 1500 -eam
Site Code : 1
Start Date : 7/11/2012
Page No : 1

Groups Printed- Unshifted

	Sand Plant Driveway From North					N 1500 Rd From East					Noria Rd From South					N 1500 Rd From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
06:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	6	0	6	11	0	0	0	11	18
06:15 AM	0	0	0	0	0	0	1	0	0	1	0	1	10	0	11	21	2	0	0	23	35
06:30 AM	0	0	0	0	0	0	1	1	0	2	0	1	21	0	22	19	1	1	0	21	45
06:45 AM	0	1	0	0	1	0	1	0	0	1	1	0	20	0	21	32	3	0	0	35	58
Total	1	1	0	0	2	0	3	1	0	4	1	2	57	0	60	83	6	1	0	90	156
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	18	0	18	11	0	0	0	11	30
07:15 AM	0	0	0	0	0	1	1	0	0	2	0	0	32	0	32	20	1	0	0	21	55
07:30 AM	0	0	0	0	0	0	4	0	0	4	0	1	26	0	27	26	0	0	0	26	57
07:45 AM	0	1	0	0	1	0	1	1	0	2	0	0	40	0	40	49	3	0	0	52	95
Total	0	1	0	0	1	1	7	1	0	9	0	1	116	0	117	106	4	0	0	110	237
08:00 AM	0	0	0	0	0	0	3	0	0	3	1	1	27	0	29	19	2	0	0	21	53
08:15 AM	0	1	0	0	1	1	2	1	0	4	1	0	24	0	25	28	2	0	0	30	60
08:30 AM	0	1	0	0	1	0	1	0	0	1	1	3	18	0	22	18	2	0	0	20	44
08:45 AM	0	3	0	0	3	0	1	0	0	1	0	0	20	0	20	19	0	0	0	19	43
Total	0	5	0	0	5	1	7	1	0	9	3	4	89	0	96	84	6	0	0	90	200
Grand Total	1	7	0	0	8	2	17	3	0	22	4	7	262	0	273	273	16	1	0	290	593
Apprch %	12.5	87.5	0	0		9.1	77.3	13.6	0		1.5	2.6	96	0		94.1	5.5	0.3	0		
Total %	0.2	1.2	0	0	1.3	0.3	2.9	0.5	0	3.7	0.7	1.2	44.2	0	46	46	2.7	0.2	0	48.9	

Turning Movement Counts
(All Vehicles)

Intersection of Noria Rd & N 1500 Rd
Morning Peak-Hours
Sunny, Hot

File Name : Noria & N 1500 -eam
Site Code : 1
Start Date : 7/11/2012

	Sand Plant Driveway From North					N 1500 Rd From East					Noria Rd From South					N 1500 Rd From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	0	4	0	0	4	0	1	26	0	27	26	0	0	0	26	57
07:45 AM	0	1	0	0	1	0	1	1	0	2	0	0	40	0	40	49	3	0	0	52	95
08:00 AM	0	0	0	0	0	0	3	0	0	3	1	1	27	0	29	19	2	0	0	21	53
08:15 AM	0	1	0	0	1	1	2	1	0	4	1	0	24	0	25	28	2	0	0	30	60
Total Volume	0	2	0	0	2	1	10	2	0	13	2	2	117	0	121	122	7	0	0	129	265
% App. Total	0	100	0	0		7.7	76.9	15.4	0		1.7	1.7	96.7	0		94.6	5.4	0	0		
PHF	.000	.500	.000	.000	.500	.250	.625	.500	.000	.813	.500	.500	.731	.000	.756	.622	.583	.000	.000	.620	.697

Turning Movement Counts
(All Vehicles)

Intersection of Noria Rd & N 1500 Rd
Afternoon Peak-Hours
Sunny, Hot

File Name : Noria & N 1500 -epm
Site Code : 1
Start Date : 7/11/2012
Page No : 1

Groups Printed- Unshifted

	Sand Plant Driveway From North					N 1500 Rd From East					Noria Rd From South					N 1500 Rd From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
02:00 PM	1	2	0	0	3	0	2	0	0	2	0	0	19	0	19	13	3	1	0	17	41
02:15 PM	0	1	0	0	1	0	0	0	0	0	1	1	9	0	11	19	2	0	0	21	33
02:30 PM	0	0	0	0	0	0	2	1	0	3	1	1	15	0	17	24	3	0	0	27	47
02:45 PM	0	1	0	0	1	0	1	0	0	1	1	0	16	0	17	16	3	0	0	19	38
Total	1	4	0	0	5	0	5	1	0	6	3	2	59	0	64	72	11	1	0	84	159
03:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	29	0	30	19	0	0	0	19	50
03:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	28	0	28	17	2	0	0	19	49
03:30 PM	0	1	0	0	1	0	3	1	0	4	0	3	52	0	55	26	4	0	0	30	90
03:45 PM	0	1	0	0	1	0	2	0	0	2	0	2	20	0	22	25	2	0	0	27	52
Total	0	3	0	0	3	0	7	1	0	8	0	6	129	0	135	87	8	0	0	95	241
04:00 PM	0	5	0	0	5	0	0	0	0	0	0	0	27	0	27	23	4	1	0	28	60
04:15 PM	1	0	0	0	1	0	4	0	0	4	0	0	14	0	14	35	4	0	0	39	58
04:30 PM	0	2	0	0	2	0	2	0	0	2	1	1	53	0	55	25	1	0	0	26	85
04:45 PM	1	0	0	0	1	0	3	1	0	4	0	0	23	0	23	47	2	0	0	49	77
Total	2	7	0	0	9	0	9	1	0	10	1	1	117	0	119	130	11	1	0	142	280
Grand Total	3	14	0	0	17	0	21	3	0	24	4	9	305	0	318	289	30	2	0	321	680
Apprch %	17.6	82.4	0	0		0	87.5	12.5	0		1.3	2.8	95.9	0		90	9.3	0.6	0		
Total %	0.4	2.1	0	0	2.5	0	3.1	0.4	0	3.5	0.6	1.3	44.9	0	46.8	42.5	4.4	0.3	0	47.2	

Turning Movement Counts
(All Vehicles)

Intersection of Noria Rd & N 1500 Rd
Afternoon Peak-Hours
Sunny, Hot

File Name : Noria & N 1500 -epm
Site Code : 1
Start Date : 7/11/2012

	Sand Plant Driveway From North					N 1500 Rd From East					Noria Rd From South					N 1500 Rd From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	5	0	0	5	0	0	0	0	0	0	0	27	0	27	23	4	1	0	28	60
04:15 PM	1	0	0	0	1	0	4	0	0	4	0	0	14	0	14	35	4	0	0	39	58
04:30 PM	0	2	0	0	2	0	2	0	0	2	1	1	53	0	55	25	1	0	0	26	85
04:45 PM	1	0	0	0	1	0	3	1	0	4	0	0	23	0	23	47	2	0	0	49	77
Total Volume	2	7	0	0	9	0	9	1	0	10	1	1	117	0	119	130	11	1	0	142	280
% App. Total	22.2	77.8	0	0		0	90	10	0		0.8	0.8	98.3	0		91.5	7.7	0.7	0		
PHF	.500	.350	.000	.000	.450	.000	.563	.250	.000	.625	.250	.250	.552	.000	.541	.691	.688	.250	.000	.724	.824

Turning Movement Counts
(All Vehicles)

Intersection of Noria Rd & DG CO 442
Morning Peak-Hours
Sunny, Hot

File Name : CR 442 & Noria-eam
Site Code : 2
Start Date : 7/12/2012
Page No : 1

Groups Printed- Unshifted

	Noria Rd From North					DG CO 442 From East					Noria Rd From South					From West					
Start Time		Thru	Left		App. Total	Right		Left		App. Total	Right	Thru			App. Total					App. Total	Int. Total
06:00 AM	0	4	2	0	6	13	0	1	0	14	1	6	0	0	7	0	0	0	0	0	27
06:15 AM	0	3	3	0	6	11	0	0	0	11	1	9	0	0	10	0	0	0	0	0	27
06:30 AM	0	3	5	0	8	22	0	2	0	24	5	16	0	0	21	0	0	0	0	0	53
06:45 AM	0	0	8	0	8	27	0	2	0	29	8	28	0	0	36	0	0	0	0	0	73
Total	0	10	18	0	28	73	0	5	0	78	15	59	0	0	74	0	0	0	0	0	180
07:00 AM	0	5	8	0	13	23	0	4	0	27	4	17	0	0	21	0	0	0	0	0	61
07:15 AM	0	0	11	0	11	29	0	2	0	31	5	17	0	0	22	0	0	0	0	0	64
07:30 AM	0	3	4	0	7	42	0	5	0	47	2	16	0	0	18	0	0	0	0	0	72
07:45 AM	0	4	6	0	10	25	0	7	0	32	8	37	0	0	45	0	0	0	0	0	87
Total	0	12	29	0	41	119	0	18	0	137	19	87	0	0	106	0	0	0	0	0	284
08:00 AM	0	2	10	0	12	26	0	3	0	29	7	25	0	0	32	0	0	0	0	0	73
08:15 AM	0	6	11	0	17	26	0	1	0	27	5	20	0	0	25	0	0	0	0	0	69
08:30 AM	0	10	4	0	14	18	0	6	0	24	2	14	0	0	16	0	0	0	0	0	54
08:45 AM	0	6	6	0	12	5	0	8	0	13	1	17	0	0	18	0	0	0	0	0	43
Total	0	24	31	0	55	75	0	18	0	93	15	76	0	0	91	0	0	0	0	0	239
Grand Total	0	46	78	0	124	267	0	41	0	308	49	222	0	0	271	0	0	0	0	0	703
Apprch %	0	37.1	62.9	0		86.7	0	13.3	0		18.1	81.9	0	0		0	0	0	0		
Total %	0	6.5	11.1	0	17.6	38	0	5.8	0	43.8	7	31.6	0	0	38.5	0	0	0	0	0	

Turning Movement Counts
(All Vehicles)

Intersection of Noria Rd & DG CO 442
Morning Peak-Hours
Sunny, Hot

File Name : CR 442 & Noria-eam
Site Code : 2
Start Date : 7/12/2012

	Noria Rd From North					DG CO 442 From East					Noria Rd From South					From West					
Start Time		Thru	Left		App. Total	Right		Left		App. Total	Right	Thru			App. Total					App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	3	4	0	7	42	0	5	0	47	2	16	0	0	18	0	0	0	0	0	72
07:45 AM	0	4	6	0	10	25	0	7	0	32	8	37	0	0	45	0	0	0	0	0	87
08:00 AM	0	2	10	0	12	26	0	3	0	29	7	25	0	0	32	0	0	0	0	0	73
08:15 AM	0	6	11	0	17	26	0	1	0	27	5	20	0	0	25	0	0	0	0	0	69
Total Volume	0	15	31	0	46	119	0	16	0	135	22	98	0	0	120	0	0	0	0	0	301
% App. Total	0	32.6	67.4	0		88.1	0	11.9	0		18.3	81.7	0	0		0	0	0	0		
PHF	.000	.625	.705	.000	.676	.708	.000	.571	.000	.718	.688	.662	.000	.000	.667	.000	.000	.000	.000	.000	.865

Turning Movement Counts
(All Vehicles)

Intersection of DG CO 442 & Noria Rd
Afternoon Peak-Hours
Sunny, Hot

File Name : CR 442 & Noria-epm
Site Code : 2
Start Date : 7/12/2012
Page No : 1

Groups Printed- Unshifted

	Noria Road From North					DG CO 442 From East					Noria Road From South					From West					
Start Time		Thru	Left		App. Total	Right		Left		App. Total	Right	Thru			App. Total					App. Total	Int. Total
02:00 PM	0	9	9	0	18	16	0	7	0	23	7	2	0	0	9	0	0	0	0	0	50
02:15 PM	0	6	14	0	20	14	0	3	0	17	7	10	0	0	17	0	0	0	0	0	54
02:30 PM	0	12	18	0	30	14	0	6	0	20	6	4	0	0	10	0	0	0	0	0	60
02:45 PM	0	5	19	0	24	8	0	8	0	16	5	7	0	0	12	0	0	0	0	0	52
Total	0	32	60	0	92	52	0	24	0	76	25	23	0	0	48	0	0	0	0	0	216
03:00 PM	0	5	32	0	37	9	0	4	0	13	5	3	0	0	8	0	0	0	0	0	58
03:15 PM	0	3	16	0	19	19	0	6	0	25	2	12	0	0	14	0	0	0	0	0	58
03:30 PM	0	24	30	0	54	11	0	3	0	14	5	7	0	0	12	0	0	0	0	0	80
03:45 PM	0	7	23	0	30	7	0	5	0	12	5	8	0	0	13	0	0	0	0	0	55
Total	0	39	101	0	140	46	0	18	0	64	17	30	0	0	47	0	0	0	0	0	251
04:00 PM	0	24	34	0	58	20	0	4	0	24	5	4	0	0	9	0	0	0	0	0	91
04:15 PM	0	13	33	0	46	19	0	4	0	23	5	11	0	0	16	0	0	0	0	0	85
04:30 PM	0	23	36	0	59	13	0	2	0	15	8	9	0	0	17	0	0	0	0	0	91
04:45 PM	0	12	43	0	55	11	0	2	0	13	4	8	0	0	12	0	0	0	0	0	80
Total	0	72	146	0	218	63	0	12	0	75	22	32	0	0	54	0	0	0	0	0	347
Grand Total	0	143	307	0	450	161	0	54	0	215	64	85	0	0	149	0	0	0	0	0	814
Apprch %	0	31.8	68.2	0		74.9	0	25.1	0		43	57	0	0		0	0	0	0		
Total %	0	17.6	37.7	0	55.3	19.8	0	6.6	0	26.4	7.9	10.4	0	0	18.3	0	0	0	0	0	

Turning Movement Counts
(All Vehicles)

Intersection of DG CO 442 & Noria Rd
Afternoon Peak-Hours
Sunny, Hot

File Name : CR 442 & Noria-epm
Site Code : 2
Start Date : 7/12/2012

	Noria Road From North					DG CO 442 From East					Noria Road From South					From West					
Start Time		Thru	Left		App. Total	Right		Left		App. Total	Right	Thru			App. Total					App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	24	34	0	58	20	0	4	0	24	5	4	0	0	9	0	0	0	0	0	91
04:15 PM	0	13	33	0	46	19	0	4	0	23	5	11	0	0	16	0	0	0	0	0	85
04:30 PM	0	23	36	0	59	13	0	2	0	15	8	9	0	0	17	0	0	0	0	0	91
04:45 PM	0	12	43	0	55	11	0	2	0	13	4	8	0	0	12	0	0	0	0	0	80
Total Volume	0	72	146	0	218	63	0	12	0	75	22	32	0	0	54	0	0	0	0	0	347
% App. Total	0	33	67	0		84	0	16	0		40.7	59.3	0	0		0	0	0	0		
PHF	.000	.750	.849	.000	.924	.788	.000	.750	.000	.781	.688	.727	.000	.000	.794	.000	.000	.000	.000	.000	.953

Turning Movement Counts
(All Vehicles)

Intersection of CO Rd 442 & CO Rd 1057
Morning Peak-Hours
Sunny, Hot
Other:

File Name : CR 442 & CR 1057-eam
Site Code : 3
Start Date : 7/17/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 Rd From North					DG CO 442 From East					DG CO 1057 From South					DG CO 442 From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
06:00 AM	1	0	0	0	1	0	15	6	0	21	2	0	2	0	4	5	2	0	0	7	33
06:15 AM	0	0	0	0	0	0	14	8	0	22	2	0	0	0	2	1	3	0	0	4	28
06:30 AM	0	0	0	0	0	0	37	15	0	52	2	0	1	0	3	10	3	0	0	13	68
06:45 AM	0	0	0	0	0	0	15	15	0	30	5	1	2	0	8	5	4	0	0	9	47
Total	1	0	0	0	1	0	81	44	0	125	11	1	5	0	17	21	12	0	0	33	176
07:00 AM	0	0	0	0	0	0	18	11	0	29	3	0	3	0	6	8	11	0	0	19	54
07:15 AM	0	0	0	0	0	0	23	16	0	39	5	0	5	0	10	3	2	0	0	5	54
07:30 AM	0	0	0	0	0	0	16	8	0	24	5	1	10	0	16	6	3	0	0	9	49
07:45 AM	0	0	0	0	0	0	20	18	0	38	4	0	7	0	11	4	2	0	0	6	55
Total	0	0	0	0	0	0	77	53	0	130	17	1	25	0	43	21	18	0	0	39	212
08:00 AM	0	3	0	0	3	0	16	6	0	22	5	0	6	0	11	8	3	0	0	11	47
08:15 AM	0	1	0	0	1	1	12	5	0	18	8	1	5	0	14	1	11	0	0	12	45
08:30 AM	0	0	0	0	0	1	7	2	0	10	8	0	2	0	10	2	6	0	0	8	28
08:45 AM	0	1	1	0	2	0	4	9	0	13	4	0	1	0	5	3	6	0	0	9	29
Total	0	5	1	0	6	2	39	22	0	63	25	1	14	0	40	14	26	0	0	40	149
Grand Total	1	5	1	0	7	2	197	119	0	318	53	3	44	0	100	56	56	0	0	112	537
Apprch %	14.3	71.4	14.3	0		0.6	61.9	37.4	0		53	3	44	0		50	50	0	0		
Total %	0.2	0.9	0.2	0	1.3	0.4	36.7	22.2	0	59.2	9.9	0.6	8.2	0	18.6	10.4	10.4	0	0	20.9	

Turning Movement Counts
(All Vehicles)

Intersection of CO Rd 442 & CO Rd 1057
Morning Peak-Hours
Sunny, Hot
Other:

File Name : CR 442 & CR 1057-eam
Site Code : 3
Start Date : 7/17/2012
Page No : 2

	E 1900 Rd From North					DG CO 442 From East					DG CO 1057 From South					DG CO 442 From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:30 AM																					
06:30 AM	0	0	0	0	0	0	37	15	0	52	2	0	1	0	3	10	3	0	0	13	68
06:45 AM	0	0	0	0	0	0	15	15	0	30	5	1	2	0	8	5	4	0	0	9	47
07:00 AM	0	0	0	0	0	0	18	11	0	29	3	0	3	0	6	8	11	0	0	19	54
07:15 AM	0	0	0	0	0	0	23	16	0	39	5	0	5	0	10	3	2	0	0	5	54
Total Volume	0	0	0	0	0	0	93	57	0	150	15	1	11	0	27	26	20	0	0	46	223
% App. Total	0	0	0	0		0	62	38	0		55.6	3.7	40.7	0		56.5	43.5	0	0		
PHF	.000	.000	.000	.000	.000	.000	.628	.891	.000	.721	.750	.250	.550	.000	.675	.650	.455	.000	.000	.605	.820

Turning Movement Counts
(All Vehicles)

Intersection of CO Rd 442 & CO Rd 1057
Afternoon Peak-Hours
Sunny, Hot

File Name : CR 442 & CR 1057-epm
Site Code : 3
Start Date : 7/17/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 Rd. From North					DG CO 442 From East					DG CO 1057 From South					DG CO 442 From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
02:00 PM	0	0	0	0	0	0	11	6	0	17	14	1	2	0	17	5	9	0	0	14	48
02:15 PM	1	1	2	0	4	0	7	6	0	13	14	0	1	0	15	4	12	0	0	16	48
02:30 PM	0	0	0	0	0	0	20	6	0	26	15	0	0	0	15	2	15	1	0	18	59
02:45 PM	0	0	0	0	0	0	11	5	0	16	11	0	3	0	14	0	10	0	0	10	40
Total	1	1	2	0	4	0	49	23	0	72	54	1	6	0	61	11	46	1	0	58	195
03:00 PM	0	0	0	0	0	0	9	8	0	17	14	0	2	0	16	10	22	0	0	32	65
03:15 PM	0	0	0	0	0	0	15	8	0	23	9	0	3	0	12	1	11	0	0	12	47
03:30 PM	0	0	0	0	0	0	11	9	0	20	13	1	0	0	14	10	22	0	0	32	66
03:45 PM	0	0	0	0	0	0	12	3	0	15	10	3	2	0	15	6	18	0	0	24	54
Total	0	0	0	0	0	0	47	28	0	75	46	4	7	0	57	27	73	0	0	100	232
04:00 PM	0	1	0	0	1	0	14	8	0	22	15	0	2	0	17	16	18	0	0	34	74
04:15 PM	0	0	0	0	0	0	9	7	0	16	15	0	5	0	20	11	21	0	0	32	68
04:30 PM	1	0	0	0	1	1	16	11	0	28	15	1	1	0	17	18	32	0	0	50	96
04:45 PM	1	1	0	0	2	0	12	9	0	21	13	0	2	0	15	7	21	1	0	29	67
Total	2	2	0	0	4	1	51	35	0	87	58	1	10	0	69	52	92	1	0	145	305
Grand Total	3	3	2	0	8	1	147	86	0	234	158	6	23	0	187	90	211	2	0	303	732
Apprch %	37.5	37.5	25	0		0.4	62.8	36.8	0		84.5	3.2	12.3	0		29.7	69.6	0.7	0		
Total %	0.4	0.4	0.3	0	1.1	0.1	20.1	11.7	0	32	21.6	0.8	3.1	0	25.5	12.3	28.8	0.3	0	41.4	

Turning Movement Counts
(All Vehicles)

Intersection of CO Rd 442 & CO Rd 1057
Afternoon Peak-Hours
Sunny, Hot

File Name : CR 442 & CR 1057-epm
Site Code : 3
Start Date : 7/17/2012

	E 1900 Rd. From North					DG CO 442 From East					DG CO 1057 From South					DG CO 442 From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	1	0	0	1	0	14	8	0	22	15	0	2	0	17	16	18	0	0	34	74
04:15 PM	0	0	0	0	0	0	9	7	0	16	15	0	5	0	20	11	21	0	0	32	68
04:30 PM	1	0	0	0	1	1	16	11	0	28	15	1	1	0	17	18	32	0	0	50	96
04:45 PM	1	1	0	0	2	0	12	9	0	21	13	0	2	0	15	7	21	1	0	29	67
Total Volume	2	2	0	0	4	1	51	35	0	87	58	1	10	0	69	52	92	1	0	145	305
% App. Total	50	50	0	0		1.1	58.6	40.2	0		84.1	1.4	14.5	0		35.9	63.4	0.7	0		
PHF	.500	.500	.000	.000	.500	.250	.797	.795	.000	.777	.967	.250	.500	.000	.863	.722	.719	.250	.000	.725	.794

Turning Movement Counts
(All Vehicles)

Interchange of K-10 & E 1900 Rd (North Ramps)
Morning Peak-Hours
Sunny, warm

File Name : K10-N Ramps-eam
Site Code : 4
Start Date : 7/12/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 Rd / DG CO 1057 From North					K-10 (WB Off Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (WB On Ramp) From West					
Start Time	Right	Thru			App. Total	Right	Thru	Left		App. Total		Thru	Left		App. Total					App. Total	Int. Total
06:00 AM	9	5	0	0	14	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	18
06:15 AM	2	2	0	0	4	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	7
06:30 AM	3	2	0	0	5	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	8
06:45 AM	10	3	0	0	13	1	0	0	0	1	0	8	0	0	8	0	0	0	0	0	22
Total	24	12	0	0	36	2	0	1	0	3	0	16	0	0	16	0	0	0	0	0	55
07:00 AM	16	6	0	0	22	2	0	0	0	2	0	5	0	0	5	0	0	0	0	0	29
07:15 AM	20	8	0	0	28	6	0	0	0	6	0	3	0	0	3	0	0	0	0	0	37
07:30 AM	20	6	0	0	26	5	0	0	0	5	0	11	0	0	11	0	0	0	0	0	42
07:45 AM	20	4	0	0	24	6	0	0	0	6	0	10	0	0	10	0	0	0	0	0	40
Total	76	24	0	0	100	19	0	0	0	19	0	29	0	0	29	0	0	0	0	0	148
08:00 AM	13	5	0	0	18	1	0	1	0	2	0	9	0	0	9	0	0	0	0	0	29
08:15 AM	14	6	0	0	20	1	0	0	0	1	0	12	1	0	13	0	0	0	0	0	34
08:30 AM	12	2	0	0	14	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	18
08:45 AM	16	0	0	0	16	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	23
Total	55	13	0	0	68	2	0	1	0	3	0	31	2	0	33	0	0	0	0	0	104
Grand Total	155	49	0	0	204	23	0	2	0	25	0	76	2	0	78	0	0	0	0	0	307
Apprch %	76	24	0	0		92	0	8	0		0	97.4	2.6	0		0	0	0	0		
Total %	50.5	16	0	0	66.4	7.5	0	0.7	0	8.1	0	24.8	0.7	0	25.4	0	0	0	0	0	

Turning Movement Counts
(All Vehicles)

Interchange of K-10 & E 1900 Rd (North Ramps)
Morning Peak-Hours
Sunny, warm

File Name : K10-N Ramps-eam
Site Code : 4
Start Date : 7/12/2012
Page No : 2

	E 1900 Rd / DG CO 1057 From North					K-10 (WB Off Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (WB On Ramp) From West					
Start Time	Right	Thru			App. Total	Right	Thru	Left		App. Total		Thru	Left		App. Total					App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	16	6	0	0	22	2	0	0	0	2	0	5	0	0	5	0	0	0	0	0	29
07:15 AM	20	8	0	0	28	6	0	0	0	6	0	3	0	0	3	0	0	0	0	0	37
07:30 AM	20	6	0	0	26	5	0	0	0	5	0	11	0	0	11	0	0	0	0	0	42
07:45 AM	20	4	0	0	24	6	0	0	0	6	0	10	0	0	10	0	0	0	0	0	40
Total Volume	76	24	0	0	100	19	0	0	0	19	0	29	0	0	29	0	0	0	0	0	148
% App. Total	76	24	0	0		100	0	0	0		0	100	0	0		0	0	0	0		
PHF	.950	.750	.000	.000	.893	.792	.000	.000	.000	.792	.000	.659	.000	.000	.659	.000	.000	.000	.000	.000	.881

Turning Movement Counts
(All Vehicles)

Interchange of K-10 & E 1900 Rd (N Ramps)
Afternoon Peak-Hours
Sunny, Hot

File Name : K10-N Ramps-epm
Site Code : 4
Start Date : 7/17/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 Rd / DG CO 1057 From North					K-10 (WB Off Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (WB On Ramp) From West					
Start Time	Right	Thru			App. Total	Right	Thru	Left		App. Total		Thru	Left		App. Total					App. Total	Int. Total
02:00 PM	7	7	0	0	14	2	0	1	0	3	0	18	0	0	18	0	0	0	0	0	35
02:15 PM	5	5	0	0	10	1	0	0	0	1	0	12	2	0	14	0	0	0	0	0	25
02:30 PM	6	3	0	0	9	0	0	3	0	3	0	14	0	0	14	0	0	0	0	0	26
02:45 PM	5	0	0	0	5	2	0	1	0	3	0	11	0	0	11	0	0	0	0	0	19
Total	23	15	0	0	38	5	0	5	0	10	0	55	2	0	57	0	0	0	0	0	105
03:00 PM	9	11	0	0	20	2	0	0	0	2	0	14	1	0	15	0	0	0	0	0	37
03:15 PM	8	1	0	0	9	3	0	0	0	3	0	9	1	0	10	0	0	0	0	0	22
03:30 PM	6	10	0	0	16	1	0	1	0	2	0	17	0	0	17	0	0	0	0	0	35
03:45 PM	8	7	0	0	15	3	0	0	0	3	0	11	0	0	11	0	0	0	0	0	29
Total	31	29	0	0	60	9	0	1	0	10	0	51	2	0	53	0	0	0	0	0	123
04:00 PM	7	15	0	0	22	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	41
04:15 PM	9	10	0	0	19	2	0	0	0	2	0	15	0	0	15	0	0	0	0	0	36
04:30 PM	11	23	0	0	34	0	0	0	0	0	0	16	1	0	17	0	0	0	0	0	51
04:45 PM	8	10	0	0	18	3	0	1	0	4	0	13	1	0	14	0	0	0	0	0	36
Total	35	58	0	0	93	5	0	1	0	6	0	63	2	0	65	0	0	0	0	0	164
Grand Total	89	102	0	0	191	19	0	7	0	26	0	169	6	0	175	0	0	0	0	0	392
Apprch %	46.6	53.4	0	0		73.1	0	26.9	0		0	96.6	3.4	0		0	0	0	0		
Total %	22.7	26	0	0	48.7	4.8	0	1.8	0	6.6	0	43.1	1.5	0	44.6	0	0	0	0	0	

Turning Movement Counts
(All Vehicles)

Interchange of K-10 & E 1900 Rd (N Ramps)
Afternoon Peak-Hours
Sunny, Hot

File Name : K10-N Ramps-epm
Site Code : 4
Start Date : 7/17/2012
Page No : 2

	E 1900 Rd / DG CO 1057 From North					K-10 (WB Off Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (WB On Ramp) From West					
Start Time	Right	Thru			App. Total	Right	Thru	Left		App. Total		Thru	Left		App. Total					App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	7	15	0	0	22	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	41
04:15 PM	9	10	0	0	19	2	0	0	0	2	0	15	0	0	15	0	0	0	0	0	36
04:30 PM	11	23	0	0	34	0	0	0	0	0	0	16	1	0	17	0	0	0	0	0	51
04:45 PM	8	10	0	0	18	3	0	1	0	4	0	13	1	0	14	0	0	0	0	0	36
Total Volume	35	58	0	0	93	5	0	1	0	6	0	63	2	0	65	0	0	0	0	0	164
% App. Total	37.6	62.4	0	0		83.3	0	16.7	0		0	96.9	3.1	0		0	0	0	0		
PHF	.795	.630	.000	.000	.684	.417	.000	.250	.000	.375	.000	.829	.500	.000	.855	.000	.000	.000	.000	.000	.804

Turning Movement Counts
(All Vehicles)

Interchange of K-10 & E 1900 Rd (South Ramps)
Morning Peak-Hours
Sunny, Warm

File Name : K10-S Ramps-eam
Site Code : 4
Start Date : 7/12/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 Rd / DG CO 1057 From North					K-10 (EB On Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (EB Off Ramp) From West					
Start Time		Thru	Left		App. Total					App. Total	Right	Thru			App. Total	Right	Thru	Left		App. Total	Int. Total
06:00 AM	0	3	3	0	6	0	0	0	0	0	1	0	0	0	1	0	0	3	0	3	10
06:15 AM	0	0	2	0	2	0	0	0	0	0	2	0	0	0	2	0	0	3	0	3	7
06:30 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
06:45 AM	0	1	2	0	3	0	0	0	0	0	0	1	0	0	1	0	0	7	0	7	11
Total	0	4	9	0	13	0	0	0	0	0	3	1	0	0	4	0	0	15	0	15	32
07:00 AM	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	11
07:15 AM	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	11
07:30 AM	0	1	5	0	6	0	0	0	0	0	0	1	0	0	1	0	0	10	0	10	17
07:45 AM	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	14
Total	0	1	23	0	24	0	0	0	0	0	0	1	0	0	1	0	0	28	0	28	53
08:00 AM	0	1	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9	15
08:15 AM	0	1	5	0	6	0	0	0	0	0	0	1	0	0	1	0	0	12	0	12	19
08:30 AM	0	1	1	0	2	0	0	0	0	0	1	0	0	0	1	0	0	4	0	4	7
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	7	0	8	8
Total	0	3	11	0	14	0	0	0	0	0	1	1	0	0	2	1	0	32	0	33	49
Grand Total	0	8	43	0	51	0	0	0	0	0	4	3	0	0	7	1	0	75	0	76	134
Apprch %	0	15.7	84.3	0		0	0	0	0		57.1	42.9	0	0		1.3	0	98.7	0		
Total %	0	6	32.1	0	38.1	0	0	0	0	0	3	2.2	0	0	5.2	0.7	0	56	0	56.7	

Turning Movement Counts
(All Vehicles)

Interchange of K-10 & E 1900 Rd (South Ramps)
Morning Peak-Hours
Sunny, Warm

File Name : K10-S Ramps-eam
Site Code : 4
Start Date : 7/12/2012

	E 1900 Rd / DG CO 1057 From North					K-10 (EB On Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (EB Off Ramp) From West					
Start Time		Thru	Left		App. Total					App. Total	Right	Thru			App. Total	Right	Thru	Left		App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	1	5	0	6	0	0	0	0	0	0	1	0	0	1	0	0	10	0	10	17
07:45 AM	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	14
08:00 AM	0	1	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9	15
08:15 AM	0	1	5	0	6	0	0	0	0	0	0	1	0	0	1	0	0	12	0	12	19
Total Volume	0	3	19	0	22	0	0	0	0	0	0	2	0	0	2	0	0	41	0	41	65
% App. Total	0	13.6	86.4	0		0	0	0	0		0	100	0	0		0	0	100	0		
PHF	.000	.750	.950	.000	.917	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.854	.000	.854	.855

Turning Movement Counts
(All Vehicles)

Interchange of K-10 & E 1900 Rd (S Ramps)
Afternoon Peak-Hours
Sunny, Hot

File Name : K10-S Ramps-epm
Site Code : 4
Start Date : 7/17/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 / DG CO 1057 From North					K-10 (EB On Ramp) From East					E 1900 / DG CO 1057 From South					K-10 (EB Off Ramp) From West					
Start Time		Thru	Left		App. Total					App. Total	Right	Thru			App. Total	Right	Thru	Left		App. Total	Int. Total
02:00 PM	0	2	6	0	8	0	0	0	0	0	0	1	0	0	1	0	0	17	0	17	26
02:15 PM	0	0	5	0	5	0	0	0	0	0	2	2	0	0	4	1	0	12	0	13	22
02:30 PM	0	2	4	0	6	0	0	0	0	0	1	0	0	0	1	0	0	14	0	14	21
02:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11	12
Total	0	5	15	0	20	0	0	0	0	0	3	3	0	0	6	1	0	54	0	55	81
03:00 PM	0	0	11	0	11	0	0	0	0	0	0	1	0	0	1	0	0	15	0	15	27
03:15 PM	0	0	1	0	1	0	0	0	0	0	2	2	0	0	4	0	0	8	0	8	13
03:30 PM	0	0	11	0	11	0	0	0	0	0	0	0	0	0	0	0	0	17	0	17	28
03:45 PM	0	1	6	0	7	0	0	0	0	0	0	0	0	0	0	2	0	11	0	13	20
Total	0	1	29	0	30	0	0	0	0	0	2	3	0	0	5	2	0	51	0	53	88
04:00 PM	0	0	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19	34
04:15 PM	0	0	10	0	10	0	0	0	0	0	1	2	0	0	3	1	0	13	0	14	27
04:30 PM	0	0	23	0	23	0	0	0	0	0	1	1	0	0	2	0	0	16	0	16	41
04:45 PM	0	4	7	0	11	0	0	0	0	0	0	2	0	0	2	1	0	12	0	13	26
Total	0	4	55	0	59	0	0	0	0	0	2	5	0	0	7	2	0	60	0	62	128
Grand Total	0	10	99	0	109	0	0	0	0	0	7	11	0	0	18	5	0	165	0	170	297
Apprch %	0	9.2	90.8	0		0	0	0	0		38.9	61.1	0	0		2.9	0	97.1	0		
Total %	0	3.4	33.3	0	36.7	0	0	0	0	0	2.4	3.7	0	0	6.1	1.7	0	55.6	0	57.2	

Turning Movement Counts
(All Vehicles)

Interchange of K-10 & E 1900 Rd (S Ramps)
Afternoon Peak-Hours
Sunny, Hot

File Name : K10-S Ramps-epm
Site Code : 4
Start Date : 7/17/2012
Page No : 2

	E 1900 / DG CO 1057 From North					K-10 (EB On Ramp) From East					E 1900 / DG CO 1057 From South					K-10 (EB Off Ramp) From West					
Start Time		Thru	Left		App. Total					App. Total	Right	Thru			App. Total	Right	Thru	Left		App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0	19	0	19	34
04:15 PM	0	0	10	0	10	0	0	0	0	0	1	2	0	0	3	1	0	13	0	14	27
04:30 PM	0	0	23	0	23	0	0	0	0	0	1	1	0	0	2	0	0	16	0	16	41
04:45 PM	0	4	7	0	11	0	0	0	0	0	0	2	0	0	2	1	0	12	0	13	26
Total Volume	0	4	55	0	59	0	0	0	0	0	2	5	0	0	7	2	0	60	0	62	128
% App. Total	0	6.8	93.2	0		0	0	0	0		28.6	71.4	0	0		3.2	0	96.8	0		
PHF	.000	.250	.598	.000	.641	.000	.000	.000	.000	.000	.500	.625	.000	.000	.583	.500	.000	.789	.000	.816	.780

Turning Movement Counts
(Trucks Only)

Intersection of Noria Rd & N 1500 Rd
Morning Peak-Hours
Sunny, Hot

File Name : Noria & N 1500 -eam-truck
Site Code : 1
Start Date : 7/11/2012
Page No : 1

Groups Printed- Unshifted

	Sand Plant Driveway From North					N 1500 Rd From East					Noria Rd From South					N 1500 Rd From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
*** BREAK ***																					
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
*** BREAK ***																					
06:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	3
*** BREAK ***																					
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
08:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	8
Grand Total	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	0	1	0	0	1	13
Apprch %	0	100	0	0		0	0	0	0		0	100	0	0		0	100	0	0		
Total %	0	46.2	0	0	46.2	0	0	0	0	0	0	46.2	0	0	46.2	0	7.7	0	0	7.7	

Turning Movement Counts
(Trucks Only)

Intersection of Noria Rd & N 1500 Rd
Morning Peak-Hours
Sunny, Hot

File Name : Noria & N 1500 -eam-truck
Site Code : 1
Start Date : 7/11/2012

	Sand Plant Driveway From North					N 1500 Rd From East					Noria Rd From South					N 1500 Rd From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
08:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
08:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	8
% App. Total	0	100	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.333	.000	.000	.333	.000	.000	.000	.000	.000	.000	.333	.000	.000	.333	.000	.000	.000	.000	.000	.667

Turning Movement Counts
(Trucks Only)

Intersection of Noria Rd & N 1500 Rd
Afternoon Peak-Hours
Sunny, Hot

File Name : Noria & N 1500 -epm-truck
Site Code : 1
Start Date : 7/11/2012
Page No : 1

Groups Printed- Unshifted

	Sand Plant Driveway From North					N 1500 Rd From East					Noria Rd From South					N 1500 Rd From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
02:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																					
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
*** BREAK ***																					
Total	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
03:00 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
*** BREAK ***																					
03:30 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
03:45 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Total	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	9
04:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
*** BREAK ***																					
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	5
Grand Total	0	9	0	0	9	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	17
Apprch %	0	100	0	0		0	0	0	0		0	100	0	0		100	0	0	0		
Total %	0	52.9	0	0	52.9	0	0	0	0	0	0	41.2	0	0	41.2	5.9	0	0	0	5.9	

Turning Movement Counts
(Trucks Only)

Intersection of Noria Rd & N 1500 Rd
Afternoon Peak-Hours
Sunny, Hot

File Name : Noria & N 1500 -epm-truck
Site Code : 1
Start Date : 7/11/2012

	Sand Plant Driveway From North					N 1500 Rd From East					Noria Rd From South					N 1500 Rd From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
03:45 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Total Volume	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	9
% App. Total	0	100	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.750

Turning Movement Counts
(Trucks Only)

Intersection of Noria Rd & DG CO 442
Morning Peak-Hours
Sunny, Hot

File Name : CR 442 & Noria-eam-truck
Site Code : 2
Start Date : 7/12/2012
Page No : 1

Groups Printed- Unshifted

	Noria Rd From North					DG CO 442 From East					Noria Rd From South					From West					
Start Time		Thru	Left		App. Total	Right		Left		App. Total	Right	Thru			App. Total					App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
*** BREAK ***																					
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
06:45 AM	0	0	1	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
Total	0	0	1	0	1	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	8
07:00 AM	0	0	3	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2
07:45 AM	0	0	1	0	1	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	4
Total	0	0	4	0	4	0	0	2	0	2	1	5	0	0	6	0	0	0	0	0	12
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
08:15 AM	0	1	4	0	5	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	9
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	1	4	0	5	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	15
Grand Total	0	1	9	0	10	0	0	2	0	2	1	22	0	0	23	0	0	0	0	0	35
Apprch %	0	10	90	0		0	0	100	0		4.3	95.7	0	0		0	0	0	0		
Total %	0	2.9	25.7	0	28.6	0	0	5.7	0	5.7	2.9	62.9	0	0	65.7	0	0	0	0	0	

Turning Movement Counts
(Trucks Only)

Intersection of Noria Rd & DG CO 442
Morning Peak-Hours
Sunny, Hot

File Name : CR 442 & Noria-eam-truck
Site Code : 2
Start Date : 7/12/2012
Page No : 2

	Noria Rd From North					DG CO 442 From East					Noria Rd From South					From West					
Start Time		Thru	Left		App. Total	Right		Left		App. Total	Right	Thru			App. Total					App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2
07:45 AM	0	0	1	0	1	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
08:15 AM	0	1	4	0	5	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	9
Total Volume	0	1	5	0	6	0	0	2	0	2	0	10	0	0	10	0	0	0	0	0	18
% App. Total	0	16.7	83.3	0		0	0	100	0		0	100	0	0		0	0	0	0		
PHF	.000	.250	.313	.000	.300	.000	.000	.500	.000	.500	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.500

Turning Movement Counts
(Trucks Only)

Intersection of DG CO 442 & Noria Rd
Afternoon Peak-Hours
Sunny, Hot

File Name : CR 442 & Noria-epm-truck
Site Code : 2
Start Date : 7/12/2012
Page No : 1

Groups Printed- Unshifted

	Noria Road From North					DG CO 442 From East					Noria Road From South					From West					
Start Time		Thru	Left		App. Total	Right		Left		App. Total	Right	Thru			App. Total					App. Total	Int. Total
02:00 PM	0	0	4	0	4	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	5
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
02:30 PM	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
02:45 PM	0	1	3	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	5
Total	0	2	8	0	10	0	0	1	0	1	0	6	0	0	6	0	0	0	0	0	17
03:00 PM	0	1	2	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
03:15 PM	0	0	1	0	1	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	4
03:30 PM	0	0	3	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6
03:45 PM	0	1	4	0	5	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	7
Total	0	2	10	0	12	2	0	0	0	2	0	7	0	0	7	0	0	0	0	0	21
04:00 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	5	0	6	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	7
Grand Total	0	5	23	0	28	2	0	1	0	3	0	14	0	0	14	0	0	0	0	0	45
Apprch %	0	17.9	82.1	0		66.7	0	33.3	0		0	100	0	0		0	0	0	0		
Total %	0	11.1	51.1	0	62.2	4.4	0	2.2	0	6.7	0	31.1	0	0	31.1	0	0	0	0	0	

Turning Movement Counts
(Trucks Only)

Intersection of DG CO 442 & Noria Rd
Afternoon Peak-Hours
Sunny, Hot

File Name : CR 442 & Noria-epm-truck
Site Code : 2
Start Date : 7/12/2012
Page No : 2

	Noria Road From North					DG CO 442 From East					Noria Road From South					From West					
Start Time		Thru	Left		App. Total	Right		Left		App. Total	Right	Thru			App. Total					App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	1	2	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
03:15 PM	0	0	1	0	1	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	4
03:30 PM	0	0	3	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6
03:45 PM	0	1	4	0	5	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	7
Total Volume	0	2	10	0	12	2	0	0	0	2	0	7	0	0	7	0	0	0	0	0	21
% App. Total	0	16.7	83.3	0		100	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.500	.625	.000	.600	.500	.000	.000	.000	.500	.000	.583	.000	.000	.583	.000	.000	.000	.000	.000	.750

Turning Movement Counts
(Trucks Only)

Intersection of CO Rd 442 & CO Rd 1057
Morning Peak-Hours
Sunny, Hot
Other:

File Name : CR 442 & CR 1057-eam-truck
Site Code : 3
Start Date : 7/17/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 Rd From North					DG CO 442 From East					DG CO 1057 From South					DG CO 442 From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	4
06:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	0	0	3	4
Total	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	11	0	0	0	11	12
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3
*** BREAK ***																					
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4	0	0	0	4	5
08:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	2	0	0	0	2	6
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9	8	0	0	0	8	17
Grand Total	0	0	0	0	0	0	0	1	0	1	9	0	0	0	9	25	0	0	0	25	35
Apprch %	0	0	0	0		0	0	100	0		100	0	0	0		100	0	0	0		
Total %	0	0	0	0	0	0	0	2.9	0	2.9	25.7	0	0	0	25.7	71.4	0	0	0	71.4	

Turning Movement Counts
(Trucks Only)

Intersection of CO Rd 442 & CO Rd 1057
Morning Peak-Hours
Sunny, Hot
Other:

File Name : CR 442 & CR 1057-eam-truck
Site Code : 3
Start Date : 7/17/2012
Page No : 2

	E 1900 Rd From North					DG CO 442 From East					DG CO 1057 From South					DG CO 442 From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4	0	0	0	4	5
08:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	2	0	0	0	2	6
Total Volume	0	0	0	0	0	0	0	0	0	0	9	0	0	0	9	8	0	0	0	8	17
% App. Total	0	0	0	0		0	0	0	0		100	0	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.563	.000	.000	.000	.563	.500	.000	.000	.000	.500	.708

Turning Movement Counts
(Trucks Only)

Intersection of CO Rd 442 & CO Rd 1057
Afternoon Peak-Hours
Sunny, Hot

File Name : CR 442 & CR 1057-epm-truck
Site Code : 3
Start Date : 7/17/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 Rd. From North					DG CO 442 From East					DG CO 1057 From South					DG CO 442 From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
02:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	3
02:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	1	0	5	3	0	0	0	3	8
02:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	4
02:45 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	5
Total	0	0	0	0	0	0	0	0	0	0	15	0	1	0	16	4	0	0	0	4	20
03:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	4	0	0	0	4	7
03:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	1	0	0	0	1	5
03:30 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	5
03:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3	0	0	0	3	5
Total	0	0	0	0	0	0	0	0	0	0	14	0	0	0	14	8	0	0	0	8	22
04:00 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	4	0	0	0	4	10
04:15 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	1	0	0	0	1	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	2	1	0	0	3	6
04:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	0	16	0	1	0	17	7	1	0	0	8	25
Grand Total	0	0	0	0	0	0	0	0	0	0	45	0	2	0	47	19	1	0	0	20	67
Apprch %	0	0	0	0		0	0	0	0		95.7	0	4.3	0		95	5	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	67.2	0	3	0	70.1	28.4	1.5	0	0	29.9	

Turning Movement Counts
(Trucks Only)

Intersection of CO Rd 442 & CO Rd 1057
Afternoon Peak-Hours
Sunny, Hot

File Name : CR 442 & CR 1057-epm-truck
Site Code : 3
Start Date : 7/17/2012
Page No : 2

	E 1900 Rd. From North					DG CO 442 From East					DG CO 1057 From South					DG CO 442 From West					
Start Time	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Right	Thru	Left		App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3	0	0	0	3	5
04:00 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	4	0	0	0	4	10
04:15 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	1	0	0	0	1	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	2	1	0	0	3	6
Total Volume	0	0	0	0	0	0	0	0	0	0	15	0	1	0	16	10	1	0	0	11	27
% App. Total	0	0	0	0		0	0	0	0		93.8	0	6.2	0		90.9	9.1	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.625	.000	.250	.000	.667	.625	.250	.000	.000	.688	.675

Turning Movement Counts
(Trucks Only)

Interchange of K-10 & E 1900 Rd (North Ramps)
Morning Peak-Hours
Sunny, warm

File Name : K10-N Ramps-eam-truck
Site Code : 4
Start Date : 7/12/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 Rd / DG CO 1057 From North					K-10 (WB Off Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (WB On Ramp) From West					
Start Time	Right	Thru		trucks	App. Total	Right	Thru	Left	trucks	App. Total		Thru	Left	trucks	App. Total					App. Total	Int. Total
06:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																					
Total	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
07:00 AM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
*** BREAK ***																					
07:30 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4
07:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	4
Total	0	0	0	7	7	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	12
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	4
08:15 AM	0	0	0	3	3	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	8
08:30 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4
08:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Total	0	0	0	6	6	0	0	0	0	0	0	0	0	12	12	0	0	0	0	0	18
Grand Total	0	0	0	13	13	0	0	0	1	1	0	0	0	17	17	0	0	0	0	0	31
Apprch %	0	0	0	100		0	0	0	100		0	0	0	100		0	0	0	0		
Total %	0	0	0	41.9	41.9	0	0	0	3.2	3.2	0	0	0	54.8	54.8	0	0	0	0	0	

Turning Movement Counts
(Trucks Only)

Interchange of K-10 & E 1900 Rd (North Ramps)
Morning Peak-Hours
Sunny, warm

File Name : K10-N Ramps-eam-truck
Site Code : 4
Start Date : 7/12/2012

	E 1900 Rd / DG CO 1057 From North					K-10 (WB Off Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (WB On Ramp) From West					
Start Time	Right	Thru		trucks	App. Total	Right	Thru	Left	trucks	App. Total		Thru	Left	trucks	App. Total					App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4
07:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	4
08:15 AM	0	0	0	3	3	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	8
Total Volume	0	0	0	6	6	0	0	0	0	0	0	0	0	14	14	0	0	0	0	0	20
% App. Total	0	0	0	100		0	0	0	0		0	0	0	100		0	0	0	0		
PHF	.000	.000	.000	.500	.500	.000	.000	.000	.000	.000	.000	.000	.000	.700	.700	.000	.000	.000	.000	.000	.625

Turning Movement Counts
(Trucks Only)

Interchange of K-10 & E 1900 Rd (N Ramps)
Afternoon Peak-Hours
Sunny, Hot

File Name : K10-N Ramps-epm-truck
Site Code : 4
Start Date : 7/17/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 Rd / DG CO 1057 From North					K-10 (WB Off Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (WB On Ramp) From West					
Start Time	Right	Thru		trucks	App. Total	Right	Thru	Left	trucks	App. Total		Thru	Left	trucks	App. Total					App. Total	Int. Total
02:00 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	5
02:15 PM	0	0	0	3	3	0	0	0	1	1	0	0	0	3	3	0	0	0	0	0	7
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	5
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	4
Total	0	0	0	5	5	0	0	0	1	1	0	0	0	15	15	0	0	0	0	0	21
03:00 PM	0	0	0	4	4	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	8
03:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	4
03:30 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	5	5	0	0	0	0	0	6
03:45 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	5
Total	0	0	0	8	8	0	0	0	1	1	0	0	0	14	14	0	0	0	0	0	23
04:00 PM	0	0	0	5	5	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	9
04:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	6
04:30 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	6
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2
Total	0	0	0	8	8	0	0	0	0	0	0	0	0	15	15	0	0	0	0	0	23
Grand Total	0	0	0	21	21	0	0	0	2	2	0	0	0	44	44	0	0	0	0	0	67
Apprch %	0	0	0	100		0	0	0	100		0	0	0	100		0	0	0	0		
Total %	0	0	0	31.3	31.3	0	0	0	3	3	0	0	0	65.7	65.7	0	0	0	0	0	

Turning Movement Counts
(Trucks Only)

Interchange of K-10 & E 1900 Rd (N Ramps)
Afternoon Peak-Hours
Sunny, Hot

File Name : K10-N Ramps-epm-truck
Site Code : 4
Start Date : 7/17/2012

	E 1900 Rd / DG CO 1057 From North					K-10 (WB Off Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (WB On Ramp) From West					
Start Time	Right	Thru		trucks	App. Total	Right	Thru	Left	trucks	App. Total		Thru	Left	trucks	App. Total					App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	5	5	0	0	0	0	0	6
03:45 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	5
04:00 PM	0	0	0	5	5	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	9
04:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	6
Total Volume	0	0	0	9	9	0	0	0	1	1	0	0	0	16	16	0	0	0	0	0	26
% App. Total	0	0	0	100		0	0	0	100		0	0	0	100		0	0	0	0		
PHF	.000	.000	.000	.450	.450	.000	.000	.000	.250	.250	.000	.000	.000	.800	.800	.000	.000	.000	.000	.000	.722

Turning Movement Counts
(Trucks Only)

Interchange of K-10 & E 1900 Rd (South Ramps)
Morning Peak-Hours
Sunny, Warm

File Name : K10-S Ramps-eam-truck
Site Code : 4
Start Date : 7/12/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 Rd / DG CO 1057 From North					K-10 (EB On Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (EB Off Ramp) From West					
Start Time		Thru	Left	trucks	App. Total					App. Total	Right	Thru		trucks	App. Total	Right	Thru	Left	trucks	App. Total	Int. Total
*** BREAK ***																					
07:00 AM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
*** BREAK ***																					
07:30 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
07:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	4
Total	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	12
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4
08:15 AM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	8
08:30 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12	17
Grand Total	0	0	0	12	12	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	29
Apprch %	0	0	0	100		0	0	0	0		0	0	0	0		0	0	0	100		
Total %	0	0	0	41.4	41.4	0	0	0	0	0	0	0	0	0	0	0	0	0	58.6	58.6	

Turning Movement Counts
(Trucks Only)

Interchange of K-10 & E 1900 Rd (South Ramps)
Morning Peak-Hours
Sunny, Warm

File Name : K10-S Ramps-eam-truck
Site Code : 4
Start Date : 7/12/2012

	E 1900 Rd / DG CO 1057 From North					K-10 (EB On Ramp) From East					E 1900 Rd / DG CO 1057 From South					K-10 (EB Off Ramp) From West					
Start Time		Thru	Left	trucks	App. Total					App. Total	Right	Thru		trucks	App. Total	Right	Thru	Left	trucks	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
07:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4
08:15 AM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	8
Total Volume	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	20
% App. Total	0	0	0	100		0	0	0	0		0	0	0	0		0	0	0	100		
PHF	.000	.000	.000	.500	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.700	.700	.625

Turning Movement Counts
(Trucks Only)

Interchange of K-10 & E 1900 Rd (S Ramps)
Afternoon Peak-Hours
Sunny, Hot

File Name : K10-S Ramps-epm-truck
Site Code : 4
Start Date : 7/17/2012
Page No : 1

Groups Printed- Unshifted

	E 1900 / DG CO 1057 From North					K-10 (EB On Ramp) From East					E 1900 / DG CO 1057 From South					K-10 (EB Off Ramp) From West					
Start Time		Thru	Left	trucks	App. Total					App. Total	Right	Thru		trucks	App. Total	Right	Thru	Left	trucks	App. Total	Int. Total
02:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	4
02:15 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	6
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	5
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4
Total	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15	19
03:00 PM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	8
03:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	4
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	5
03:45 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	5
Total	0	0	0	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	22
04:00 PM	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	9
04:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	6
04:30 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	6
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
Total	0	0	0	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15	23
Grand Total	0	0	0	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	44	44	64
Apprch %	0	0	0	100		0	0	0	0		0	0	0	0		0	0	0	100		
Total %	0	0	0	31.2	31.2	0	0	0	0	0	0	0	0	0	0	0	0	0	68.8	68.8	

Turning Movement Counts
(Trucks Only)

Interchange of K-10 & E 1900 Rd (S Ramps)
Afternoon Peak-Hours
Sunny, Hot

File Name : K10-S Ramps-epm-truck
Site Code : 4
Start Date : 7/17/2012

	E 1900 / DG CO 1057 From North					K-10 (EB On Ramp) From East					E 1900 / DG CO 1057 From South					K-10 (EB Off Ramp) From West					
Start Time		Thru	Left	trucks	App. Total					App. Total	Right	Thru		trucks	App. Total	Right	Thru	Left	trucks	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	5
04:00 PM	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	9
04:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	6
04:30 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	6
Total Volume	0	0	0	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15	26
% App. Total	0	0	0	100		0	0	0	0		0	0	0	0		0	0	0	100		
PHF	.000	.000	.000	.550	.550	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750	.750	.722

APPENDIX IV

Crash History

(Source: Douglas County)

APPENDIX V

Guidelines for Right-Turn & Left-Turn Treatments

at

Unsignalized Intersections

Report No. K-TRAN:KSU-95-5
Final Report

GUIDELINES FOR RIGHT-TURN TREATMENTS AT UNSIGNALIZED INTERSECTIONS AND DRIVEWAYS

Tanweer Hasan
Robert W. Stokes
Kansas State University
Manhattan, Kansas

May 1996

K-TRAN

A COOPERATIVE TRANSPORTATION RESEARCH PROGRAM BETWEEN:
KANSAS DEPARTMENT OF TRANSPORTATION
THE KANSAS STATE UNIVERSITY
THE UNIVERSITY OF KANSAS

Table 7.1 **Right-turn treatment guidelines for two-lane highways.**[a]

(*Turning speed = 15 mph*)

Roadway DDHV (vph)	Roadway Operating Speed (mph)											
	40		45		50		55		60		65	
	Lane	Taper	Lane	Taper	Lane	Taper	Lane	Taper	Lane	Taper	Lane	Taper
200				83	73	30	35	14	20	8	15	7
300			120	40	41	19	24	9	15	7	12	6
400	200	85	52	27	30	14	19	8	12	6	11	5
600	50	27	26	13	20	9	14	6	10	5	9	4
800	25	12	16	8	15	7	11	5	9	4	8	3
1000	14	8	12	5	11	5	9	4	8	3	7	3
1200	10	6	9	4	9	4	8	4	7	3	7	3

[a] Minimum right-turn design hour volumes (vph) required to warrant right-turn treatments.

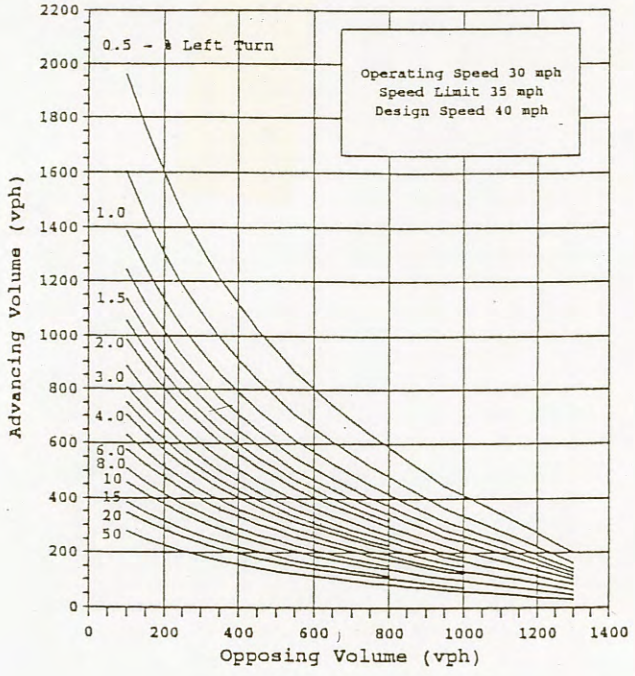
National Cooperative Highway Research Program

NCHRP Synthesis 225

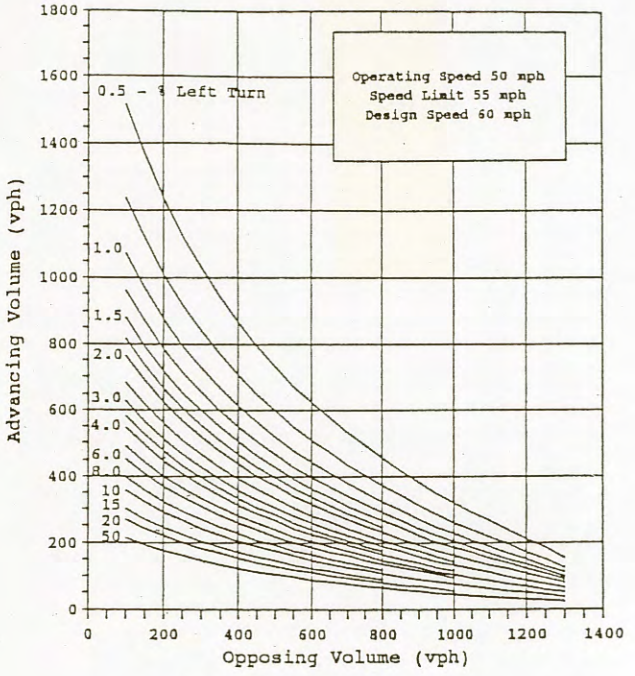
Left-Turn Treatments at Intersections

A Synthesis of Highway Practice

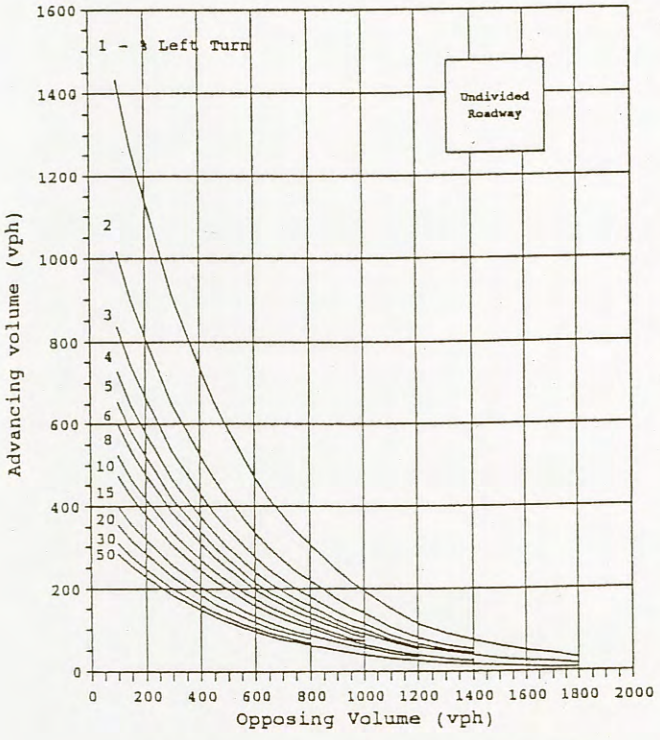
Transportation Research Board
National Research Council



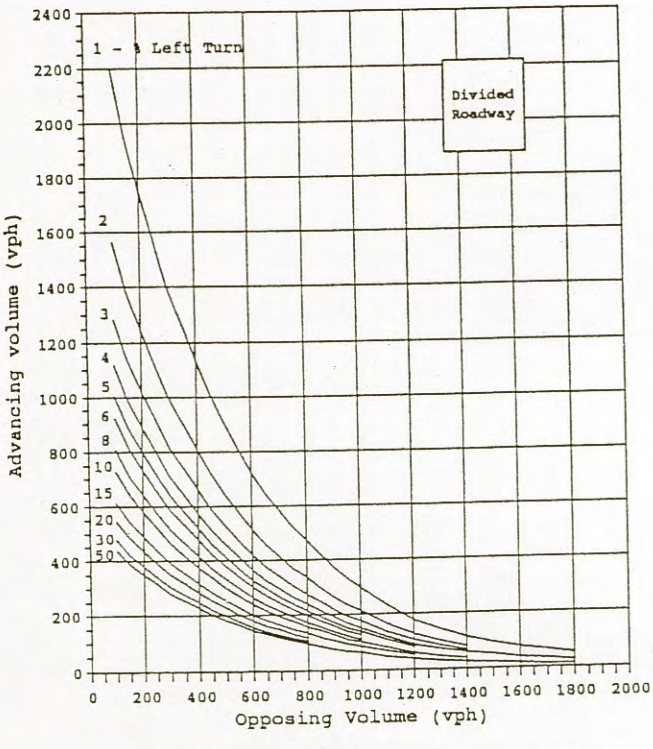
Guidelines for Left-turn Lane at Unsignalized Intersection - Two-lane Roadway



Guidelines for Left-turn Lane at Unsignalized Intersection - Two-lane Roadway



Guidelines for Left-turn Lane at Unsignalized Intersection - Four-lane, Undivided Roadway



Guidelines for Left-turn Lane at Unsignalized Intersection - Four-lane, Divided Roadway

FIGURE 5 ITE guidelines for left-turn lanes. *(18)*

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SEP 14 2012
City County Planning Office
Lawrence, Kansas

Memorandum

Date: September 13th, 2012

To: C.L. Maurer, RLA, ASLA
Senior Landscape Architect
Landplan Engineering, P.A.

From: Mehrdad Givechi, PE, PTOE, *Mehrdad Givechi*
Managing Principal
MGineering Solutions

Re: Penny Sand Plant Expansion, Addendum No. 1
Between Lawrence and Eudora, Douglas County, KS

This memo is prepared as an Addendum No. 1 to *Traffic Impact Study for "Penny Sand Plant Expansion"* dated 7/23/12 to re-evaluate impact of the traffic generated by this development, using the new information provided by the applicant as summarized in the following paragraphs:

1. The original TIS report dated 7/23/12 was prepared based on the "worst case scenario" when the proposed sand facility would potentially distribute approximately 5,000 tons of sand on a highly productive day (a very rare event). Based on the new information provided by the applicant, the primary reason for the proposed expansion of the plant (from 114 acres to 465 acres) is to switch over the sand excavation area from the river-side to the in-land side, maintaining its current rate of sand distribution at approximately 1,000(+/-) tons on an average day (based on most recent 7-year average) for foreseeable future. It is, however, to be noted that as the economy improves, a higher distribution rate will be likely as demand goes up with the absolute maximum rate of 5,000 tons a day (a very rare event) as described and studied in the original TIS dated 7/23/12.
2. As mentioned in the original TIS, N. 1500 Road has posted weight limit signs of 5 tons on both sides of Noria Road and is not a designated truck route. Currently, all

site-generated trucks use Noria Road to access the site. Under the proposed development plan, all site-generated trucks will maintain the same route to access the site and will not be using N. 1500 Road.

3. The original TIS dated 7/23/12 states that, currently, the facility is staffed by 4 employees and no increase in the number of employees is anticipated. Based on the new information provided by the applicant, the number of current employees is 8 and expected to increase to 10.

Traffic Impact Reassessment

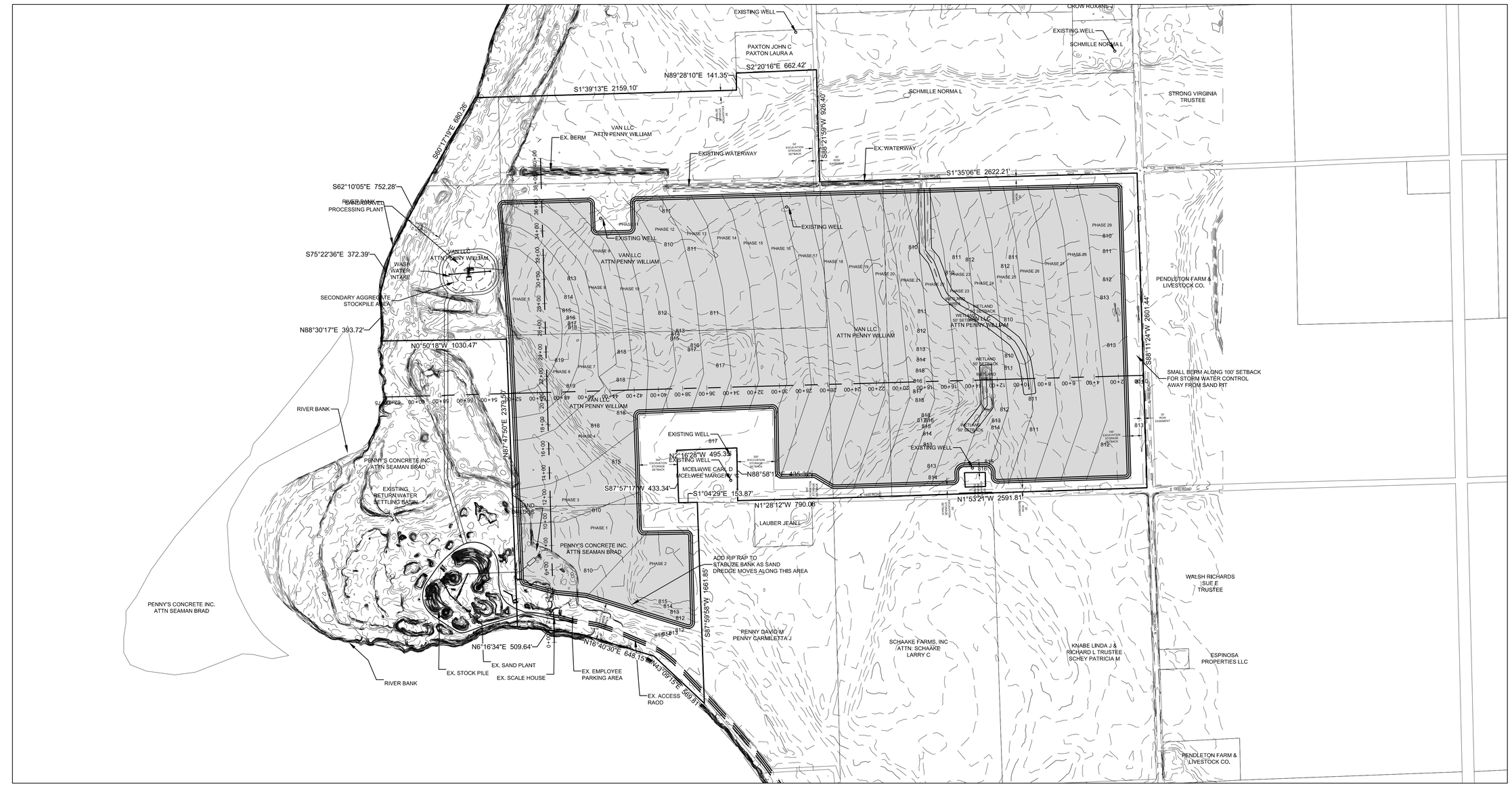
Using the average distribution rate of 1,000 tons/day following the same analogy mentioned in the original TIS, the estimated number of trucks serving the site will be around 40 trucks/day with 5 trucks/peak-hour - equivalent to 10 truck trip-ends/peak-hour (5 inbound and 5 outbound). Comparing this number to that generated by the existing sand plant (8 truck trip-ends, 4 inbound and 4 outbound) results in an increase of 2 truck trip-ends/peak-hour (1 inbound and 1 outbound) – a nominal increase in truck traffic, none of which will be impacting N. 1500 Road except at the access point to the site.

Using the ITE trip generation rates for the office component of the site (ITE Land Use Code 715) indicates that the increase in the number of employees (2 new people) will likely result in 2 new trip-ends (all passenger cars) during the peak-hour of a typical weekday – a nominal increase in passenger car traffic with insignificant impact on the roadway network.

Re-evaluation of the operating conditions of traffic in the study area, given the new information, indicates that, during the critical peak-hour of a typical weekday when the plant is operating under average conditions, the increase in the number of trucks and passenger cars is insignificant with nominal impact on the roadway network.

In light of the new information provided by the applicant and the traffic impact reassessment:

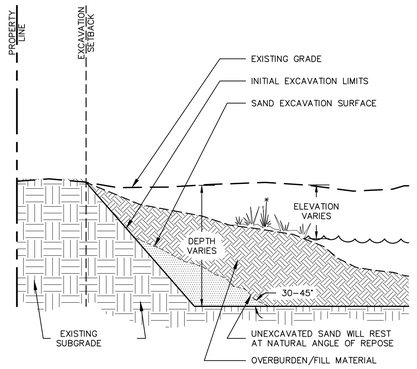
1. It is still desirable that 100' long section of the site access, just north of N. 1500 Road be paved as listed in the original TIS under improvement #1.
2. The need for a dedicated eastbound right-turn lane on Route 442 (Old K-10) at its intersection with Route 1057 (as listed under improvement #2 in the original TIS) becomes less relevant because the increase in truck traffic will be nominal for a foreseeable future. As time goes by and economy improves with higher demand for sand distribution, the increase in site-generated truck traffic should be studies to re-assess the need for this turn lane.
3. As stated in the original TIS, under improvement #3, pavement conditions along certain segments of the roadway network should be evaluated to determine if they can withstand heavy truck loads. This was merely suggested based on a cursory visual field observation and is not the result of a formal pavement analysis and/or evaluation. It should be noted that pavement analysis and/or evaluation is beyond the scope of a typical traffic impact study.


EXISTING WELL
PAXTON JOHN C
PAXTON LAURA A
S2°20'16"E 662.42'
N89°28'10"E 141.35'
S1°39'13"E 2159.10'
S89°17'10"E 680.26'
VAN LLC
ATTN PENNY WILLIAM
EX. BERM
EXISTING WATERWAY
S88°21'59"W 926.40'
EX. WATERWAY
CROW ROXANE J
EXISTING WELL
SCHMILLE NORMA L
SCHMILLE NORMA L
STRONG VIRGINIA
TRUSTEE
S1°35'06"E 2622.21'
E 1900 ROAD
S62°10'05"E 752.28'
RIVER BANK
PROCESSING PLANT
S75°22'36"E 372.39'
WASH WATER INTAKE
SECONDARY AGGREGATE STOCKPILE AREA
N88°30'17"E 393.72'
N0°50'18"W 1030.47'
RIVER BANK
N87°47'50"E 2379.50'
PENNY'S CONCRETE INC.
ATTN SEAMAN BRAD
EXISTING RETURN WATER SETTLING BASIN
PENNY'S CONCRETE INC.
ATTN SEAMAN BRAD
PENNY'S CONCRETE INC.
ATTN SEAMAN BRAD
EXISTING WELL
EXISTING WELL
EXISTING WELL
EXISTING WELL
VAN LLC
ATTN PENNY WILLIAM
VAN LLC
ATTN PENNY WILLIAM
VAN LLC
ATTN PENNY WILLIAM
VAN LLC
ATTN PENNY WILLIAM
WETLAND
50' SETBACK
WETLAND
50' SETBACK
WETLAND
50' SETBACK

Approx. Reclamation Schedule

□A□E 1□4	A□RO□2017□2027
□A□E 4□10	A□RO□2027□2037
□A□E 10□17	A□RO□2037□2047
□A□E 17□24	A□RO□2047□2057
□A□E 24□30	A□RO□2057□2067

1□ RE□AMA□ION□IME□RAME□ARE A□RO□IMA□E□
2□ □IME□RAME□AND□E□□EN□E O□RE□AMA□ION MA□□AR□D□E□O□ARIABI□□O□ □NDER□RO□ND DE□O□□□AND□□E DEMAND□OR MA□ERIA□□□
3□ RE□AMA□ION□□□□□□□A□□BE□IN ON□□A□ER□□E□ERIME□ER O□□□E E□□A□A□ION □A□REA□□ED□□E E□□A□A□ION□IMI□□AND A□□□□I□IEN□□EN□□□O□BAN□□I□READ□□OR RE□□ORA□ION□
4□ A MINIMUM O□12" O□□OI□□ROM□□E□RO□E□□IN□□AN□AND□O□□□I□E AREA□□O BE REMO□ED AND RE□□A□ED□□I□□O□OI□□EEDED M□□□ED AND □ER□I□ED OR RE□□RNED□O A□RI□□□□RA□□R□O□E□□



Typical Reclamation/Restoration
Outer Edges of Lake

NOT TO SCALE

SCALE: 1" = 300'

300 150 0 300 600

A Reclamation Plan for

Penny Sand Lawrence Facility

Douglas County, Kansas

Civil Engineering
Landscape Architecture
Community Planning
Surveying

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PENNY SAND FACILITY
CONDITIONAL USE PERMIT
RECLAMATION PLAN

REV	DATE	DESCRIPTION
1	9.17.12	POND SIZE

DATE: 03.11
PROJECT NO.: 2010101
DESIGNED BY: LPE KVC
DRAWN BY: LPE
CHECKED BY: RDD CLM

ISSUE A

SHEET NO. R-001

OF 2 SHEETS

FILE NAME: G:\2012\146\CAD\Planning\CUP\121146C-CUP.dwg LAST SAVED BY: CL Maurer SAVED DATE: 9/17/2012 9:17 AM PLOTTED: 9/17/2012 9:20 AM

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GENERAL INFORMATION 1

INTENDED USE 2

EXTRACTION PROCESS 2

MATERIAL PROCESSING 2

MATERIAL HANDLING 3

RECLAMATION 3

LOCAL, STATE AND FEDERAL REQUIRMENTS 4-6

GENERAL

With the current restrictions which The Corps of Engineers has placed on dredging sand from the Kansas River, many river dredging operations have had their permits suspended or restricted, and will be forced to terminate their dredging operations. Although the Kansas River is being restricted for the dredging of sand, the need for this raw material for construction and development continues. Throughout the river valley / river channel sand is one of the natural resources available for local mining.

Extraction Process

Overburden Removal: A location will be selected for the first stage of sand removal. This location is referenced on the Site Plan as Phase 1. Within this location, topsoil and overburden are removed to expose the sand deposit by means of appropriate earthmoving equipment. Overburden is defined as any earthen material lying above the aggregates. Topsoil and overburden will be used to grade the site as necessary. Excavation will be no closer than 50 feet from any property line. Overburden will be retained for use in reclamation with any excess materials stockpiled and available for resale.

Extraction: Excavation will continue until the water table is exposed. At this point. the material will be dredged from the pit, pumped to the processing plant.

Material Processing:

As sand is extracted, it is pumped to the plant for processing. Through plant processing, sand will be sorted by particle size and blended to make a quality product that can be used in concrete, asphalt, ice control, masonry, glass, insulation or specifications provided for a particular project.

The processing plant uses water from the excavated lake to wash sand over a series of screens separating the material into different classifications of material. The processing plant contains vibrating screens with various size of openings. After the material is sorted, these materials will be stockpiled via radial stackers or front end loaders. Pea gravel, river rock will also be stockpiled.

Water used during the operations will be diverted either to a sedimentation pond where solids suspended in these waters can settle out or in the event the material is of a coarser nature will return directly to the excavated lake.

With wet processing, we would expect minimal dust to be created during the process. Dust exposure is monitored by Mine Safety Health Administration to assure minimal risks to our employees and therefore also to surrounding areas.

Noise levels are monitored, as well, by MSHA for assurance the decibel levels do not exceed the safety standards.

Material Handling

Finished material is conveyed to stockpiles consisting of various grades fine aggregates. The primary stockpiles are generally 30-40 feet tall. Stockpiles will vary in height. The material will be transported by trucks. The trucks are loaded either by a conveyor / bin or a front end loader, weighed to assure the truck weight is approximately the requested weight or within the legal gross tagged weight, ticketed and then travel to their destination.

Existing access roads will be maintained to promote drainage thus preventing excessive erosion or tracking of mud onsite or offsite. The approximate location of existing access roads, stockpiles, scalehouse and main entrance are shown on the Site Plans.

Reclamation

Reclamation for an off-river dredging operation occurs over the entire lifespan of the operation as the excavated lake reaches its limits. Reclamation involves the restoration of the perimeter of the mining site, leaving a permanent body of water. The reclamation plan will include the placement of fill material along the bank to create a uniformly sloped and stabilized bank to create an area that can be vegetated and maintained. Reclamation plans must be submitted, approved and annually monitored by the State Conservation Commission.

Phased excavation schedules have been provided on the Site Plan. These schedules are approximations and will vary due to the economic demand, the variability of the deposits and the desire to maintain the current agriculture as long as feasibly possible. Similarly, an approximate reclamation schedule has been provided on the Reclamation Plan. Annual reporting to the State Conservation Commission monitors "affected" acreage and any changes to the reclamation plan.

Since reclamation is performed when the excavated lake has reached its limits for the specific phase, it is not uncommon for the first reclamation to occur up to 10 years following the beginning of the operation.

When extraction operations at this site are complete, the final reclamation will include the restoration of all remaining banks, the removal of the processing plant, scalehouse, scales and all other associated equipment and buildings from the site. The processing plant and stockpile areas may be returned to agricultural land or other uses that will be beneficial to the property or owner.

Local, State and Federal Requirements

Penny's will adhere to all applicable State and Federal Requirements / Regulations. Each required State and Federal permit for this project, will be obtained prior to the commencing of operations which the specific permit regulates. As these permits are obtained, copies will be submitted to the Douglas County Planning Department.

U.S. Army Corps of Engineers:

Clean Waters Act – The U.S. Army Corps of Engineers requires a Section 404 Permit for the discharge of dredged or fill materials into the Waters of the U.S. (regulated rivers, streams, lakes, wetland areas, etc.). This facility is an off-river operation and does not discharge into Waters of the U.S. An official wetland delineation has not been performed for this site. There exists potential wetland areas within the project boundaries, which have been delineated based on aerial photography and site visits. All operations are designed to have no impact on the potential wetland areas. A 50-foot buffer has been provided to ensure the project does not encroach upon potential wetland areas. Therefore, a permit application will not be filed with the U.S. Army Corps of Engineers as pertaining to Section 404 of the Clean Waters Act.

Excavation Near a Levee - There are no levees along the Kansas River near this project, therefore, there will be no excavation within the Critical Area of the levee and no permitting will be required.

Kansas Department of Agriculture – Division of Water Resources:

Water Structures – DWR Water Structures Section requires that, per K.A.R. 5-43-5 of the Rules and Regulations (K.S.A. 82a-012 to 305a), a minimum setback of 50 feet be maintained from the bank of a channel to any sand dredging operations located outside the channel of any stream. A natural riparian buffer currently exists between the northern boundary of the project and the Kansas River. The minimum width of this buffer is approximately 300 feet. The buffer is to remain intact undisturbed.

Water Appropriation - DWR Water Appropriation Section requires an Application for Approval to Change the Place of Use, The Point of Diversion or the Use Made of the Water under an Existing Water Right. There will be no new uses or change of uses of water rights associated with this project. DWR Water Appropriation Section requires permits for all sand and gravel pits in townships where the net average annual potential for net evaporation is greater than 18 inches per year. The potential net evaporation for this site is approximately 6 inches per year; therefore, this permit will not be required. DWR also requires a Notice of Intent to Open or Expand a Sand or Gravel Pit Operation. This NOI has been requested.

Floodplain Management - DWR Floodplain Management Section will require a permit for the placement of fill within the floodplain per K.A.R. 5-45 of the Rules and Regulations (K.S.A. 24-126). All permanent fills and unconsolidated mass storage stockpiles located within the floodway require approval from the Chief Engineer with 'no-rise" certification.

Kansas Department of Health and Environment:

Stormwater and Erosion Protection – An erosion control plan for construction will be filed with KDHE and a permit will be required under the Kansas General Permit for Stormwater Runoff Associated with Construction Activities. An application for permit will be filed following approval of the Conditional Use Permit.

Because of the industrial nature of the project, a permit will be required for all stormwater runoff originating from an industrial activity. Penny's will develop and implement a Stormwater Pollution Prevention Plan for the site, to be reviewed and approved by KDHE. An application for permit has been requested.

The predominance of stormwater from onsite will drain back into the water body created by the extraction process. Stormwater from offsite shall be conveyed to the existing wetland areas, as occurs in the existing condition, and will only be allowed to enter the excavation pond during flooding events.

Water – Currently Penny's is permitted for an onsite well used for irrigation. When it is time for the plugging or elimination of this well, the KDHE Bureau of Water – Geology Section will be contacted and the proper paperwork will be filed.

Fugitive Dust – Penny's will utilize water trucks and apply dust suppressants to control fugitive dust within the site as needed. However, since the product processed in this operation is drawn from a body of water, the typical need for dust suppressant in minimal.

State Conservation Commission:

Mining Permit/License – The proposed site is subject to the "Surface Mined Land Conservation and Reclamation Act", K.S.A. 49-602 *et seq*. Penny's holds License No. 95-064, which must be renewed annually. The current license expires December 31, 2012.

Mine Registry - As required by State law, this site will be registered with the SCC prior commencing with the mining process. Penny's will file an application to register the site as a mine site with the SCC following approval of the CUP.

Reclamation Bonding – As required by State law, license holders are required to post a bond or other acceptable financial security to the SCC and a Reclamation Plan, detailing the post-mining land use and the reclamation process, must be filed and approved by the SCC prior to any mining taking

place on the proposed mine. The bond application / letter of credit will be filed with the SCC upon approval of the CUP.

Department of Wildlife and Parks:

Action Permit – A request will be made to the Kansas Department of Wildlife and Parks for an environmental review of the site for potential endangered species or critical habitats. Based on the findings of the review, the need for an action permit will be determined. KDWP may also request additional review from the Department of the Interior or the U.S. Fish and Wildlife Service.

Environmental Protection Agency:

Spill Prevention, Control and Countermeasure Plan – Penny's may maintain a fuel tank for fueling loaders used for the loading of sand into trucks. Fuel for the dredge will not be stored onsite. Fueling of the dredge will be performed by fuel stored offsite. Other fuel or petroleum-based products used for generators or maintenance will occur in amounts smaller than 55 gallons, which is the minimum container size that that is required to be documented in an SPCC Plan. Overall, the amount of petroleum-based materials stored at this site will not exceed the levels (1,320 gallons) required by the EPA for implementing an SPCC Plan.

Operation Times: Typically hours of operation would be Monday – Friday 6:30 AM – 6:30 PM. There may be extenuating circumstances which would require Penny's to maintain operating hours on Saturdays or to extend the normal hours of operation due to the nature of the construction business. Many clients, including State agencies and City governments require construction activities to be completed at odd hours for the safety of the general public. Weather conditions and / or the necessity to provide materials for the hazardous conditions as it relates to snow and ice to state and local agencies may also result in the need to extend hours of operation. Projects / contracts may have such stringent completion dates and / or penalties for exceeding working days it would necessitate the extension of hours of operation.

Overburden Placement: During the initial stage of the operation, overburden removed from the excavation area will be used in raising the grade of the processing plant and scalehouse areas and for berms as required. As the excavated lake pond expands into future stages, overburden will be stockpiled at locations deemed beneficial to the reclamation effort, sold, or used to restore the banks of the body of water established by the previous stages.

Operation Life Expectancy: Based upon current economic conditions, the expected life of this project would be 30+ years.

Plan of Response to a Major Flooding Event: Penny's will prepare a plan of action, which would be implemented immediately upon notification that a flood event may occur . The plan will include the removal of all equipment, materials and bulk fuel that is not stationary. The scalehouse, scales and processing plant will remain. Non-stationary items that will be removed will include, but are not limited to, loaders, vehicles, fuel supplies, generators, and any electronic equipment or office materials in the scalehouse.

Power and Fuel Supply: The scalehouse and processing plant will be electrically powered by the Westar Energy lines. The dredge will be diesel-powered. The site fuel supply for the loader and/or generators will be limited to 1,000 gallons. The fuel will be stored in an aboveground storage tank with secondary containment. The fuel pump will be controlled with a power switch located within the scalehouse. The pump will be turned off during non-business hours. Dredge fueling will be performed by fuel from offsite.

Stormwater Runoff: All stormwater falling around the scalehouse, processing plant or stockpiles will be kept on site. The site will be completely non-discharging, with no stormwater leaving the site. Stormwater from offsite shall be conveyed to the existing wetland areas, as occurs in the existing condition, and will only be allowed to enter the excavated lake during flooding events. Any increases in stormwater runoff due the increased impervious surfaces will be substantially offset by the storage capabilities of the excavated lake.

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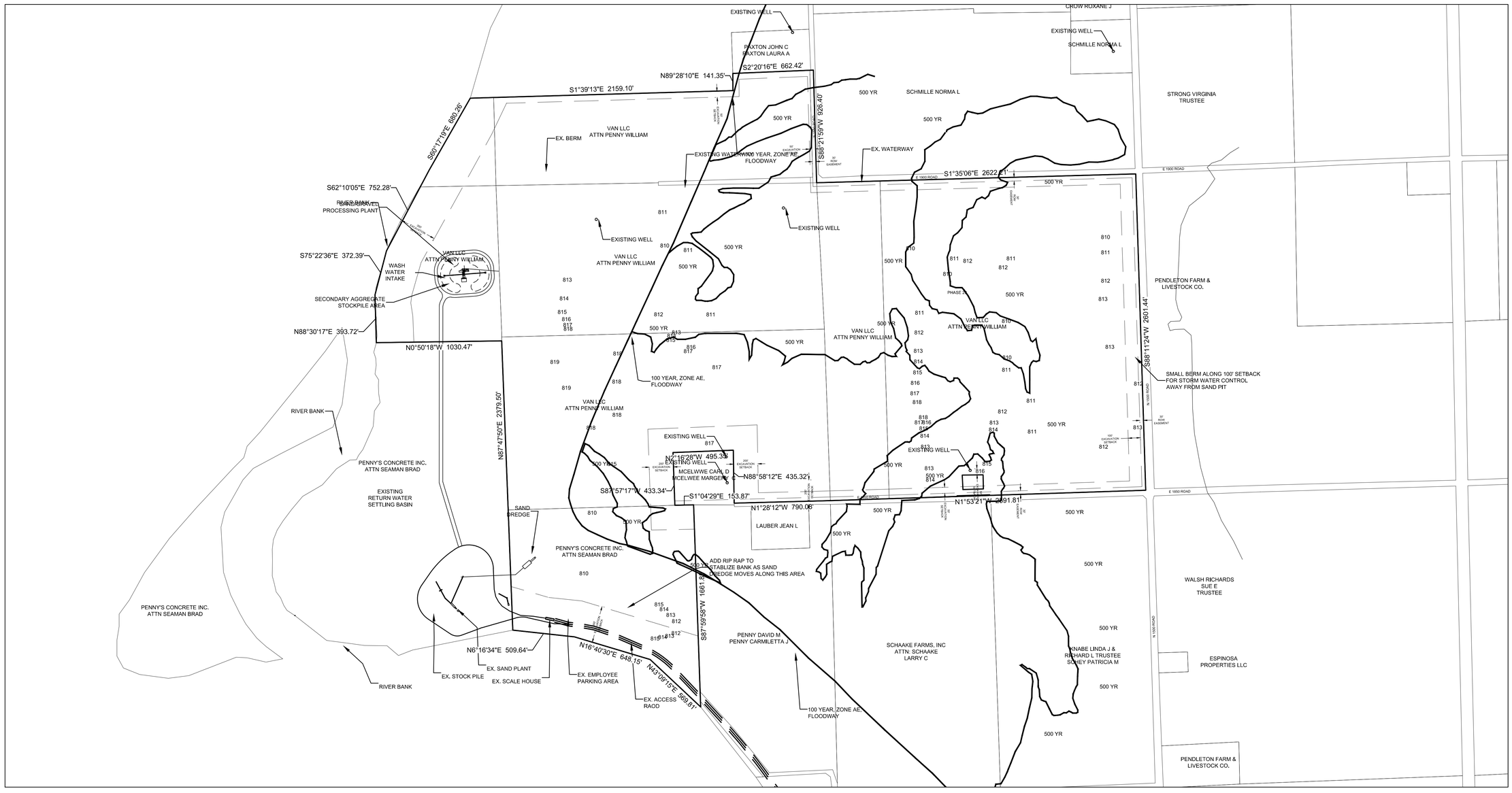
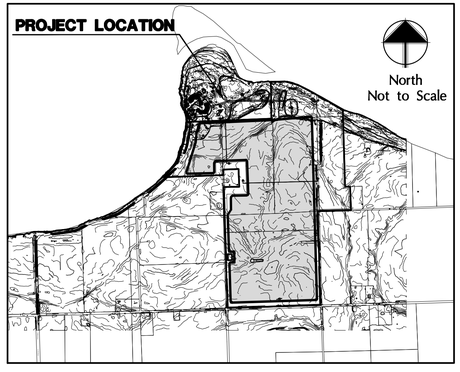


Location Map



Legal Description

A TRACT OF LAND LOCATED IN PORTIONS OF SECTIONS 25, 26, 35 AND 36 IN TOWNSHIP 12 SOUTH, RANGE 20 EAST OF THE 6TH PRINCIPAL MERIDIAN, IN DOUGLAS COUNTY, KANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF SECTION 35, TOWNSHIP 12 SOUTH, RANGE 20 EAST; THENCE NORTH, ALONG THE WEST LINE OF SAID QUARTER SECTION TO THE CENTER OF SAID SECTION 35, THENCE NORTH ALONG THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 35, 765.00 FEET TO THE SOUTHWEST CORNER OF A TRACT RECORDED IN BOOK 307, PAGE 487; THENCE EAST 442.00 FEET ALONG THE SOUTH LINE OF SAID TRACT; THENCE NORTH 492.00 FEET ALONG THE EAST LINE OF SAID TRACT; THENCE WEST 442.00 FEET ALONG THE NORTH LINE OF SAID TRACT TO THE WEST LINE OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 12 SOUTH, RANGE 20 EAST; THENCE SOUTH ALONG SAID WEST LINE, 126.40 FEET TO THE SOUTH LINE OF THE NORTH 77 ACRES OF THE EAST 134 ACRES OF THE NORTHWEST QUARTER OF SAID SECTION 35, TOWNSHIP 12 SOUTH, RANGE 20 EAST; THENCE WEST ALONG THE SOUTH LINE OF THE NORTH 77 ACRES TO THE EAST BANK OF THE KANSAS RIVER; THENCE NORTHEASTERLY, ALONG SAID EAST BANK, TO THE NORTH LINE OF SECTION 35, TOWNSHIP 12 SOUTH, RANGE 20 EAST; THENCE EAST, ALONG THE NORTH LINE OF SAID SECTION 35, TO THE SOUTHWEST CORNER OF THE EAST 11.53 ACRES OF GOVERNMENT LOT 1 IN SECTION 26, TOWNSHIP 12 SOUTH, RANGE 20 EAST; THENCE NORTH, ALONG THE WEST LINE OF SAID EAST 11.53 ACRES, TO THE SOUTH BANK OF THE KANSAS RIVER; THENCE EASTERLY, ALONG THE SOUTH BANK OF THE KANSAS RIVER, TO THE WEST LINE OF SECTION 25, TOWNSHIP 12 SOUTH, RANGE 20 EAST; THENCE CONTINUING SOUTHEASTERLY, ALONG THE SOUTH BANK OF THE KANSAS RIVER, TO THE NORTHWEST CORNER OF A TRACT RECORDED IN BOOK 1056, PAGE 5024, SAID POINT LYING 739.2 FEET EAST OF THE WEST LINE OF THE NORTHWEST QUARTER SECTION 36, TOWNSHIP 12 SOUTH, RANGE 20 EAST; THENCE SOUTH, ALONG THE WEST LINE OF SAID TRACT, AND PARALLEL TO THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 36, TOWNSHIP 12 SOUTH, RANGE 20 EAST TO A POINT 151.78 FEET WEST OF THE NORTHWEST CORNER OF THE TRACT RECORDED IN BOOK 1000, PAGE 3430; THENCE EAST 151.78 FEET TO THE NORTHWEST CORNER OF SAID TRACT; THENCE SOUTH 660 FEET, ALONG THE WEST LINE OF SAID TRACT, TO THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 36, TOWNSHIP 12 SOUTH, RANGE 20 EAST; THENCE WEST ALONG SAID SOUTH LINE, 890.98 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF SECTION 36, TOWNSHIP 12 SOUTH, RANGE 20 EAST, ALSO KNOWN AS THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 35, TOWNSHIP 12 SOUTH, RANGE 20 EAST; THENCE SOUTH, ALONG THE EAST LINE OF SAID SOUTHEAST QUARTER TO THE SOUTHEAST CORNER OF SAID SECTION 35, TOWNSHIP 12 SOUTH, RANGE 20 EAST; THENCE WEST, ALONG THE SOUTH LINE OF SAID QUARTER, TO THE POINT OF BEGINNING. CONTAINS 465 ACRES, MORE OR LESS.

SCALE: 1" = 400'

400 200 0 400 800

FLOODWAY AND 500 YR EXHIBIT

Penny Sand Lawrence Facility

Douglas County, Kansas

Civil Engineering
Landscape Architecture
Community Planning
Surveying

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PENNY SAND FACILITY
FLOODWAY AND 500 YR
EXHIBIT

REV	DATE	DESCRIPTION

DATE:	7.2.12
PROJECT NO.:	20121146
DESIGNED BY:	CLM
DRAWN BY:	CLM
CHECKED BY:	CLM

ISSUE	SHEET NO.
A	C-003

OF 3 SHEETS

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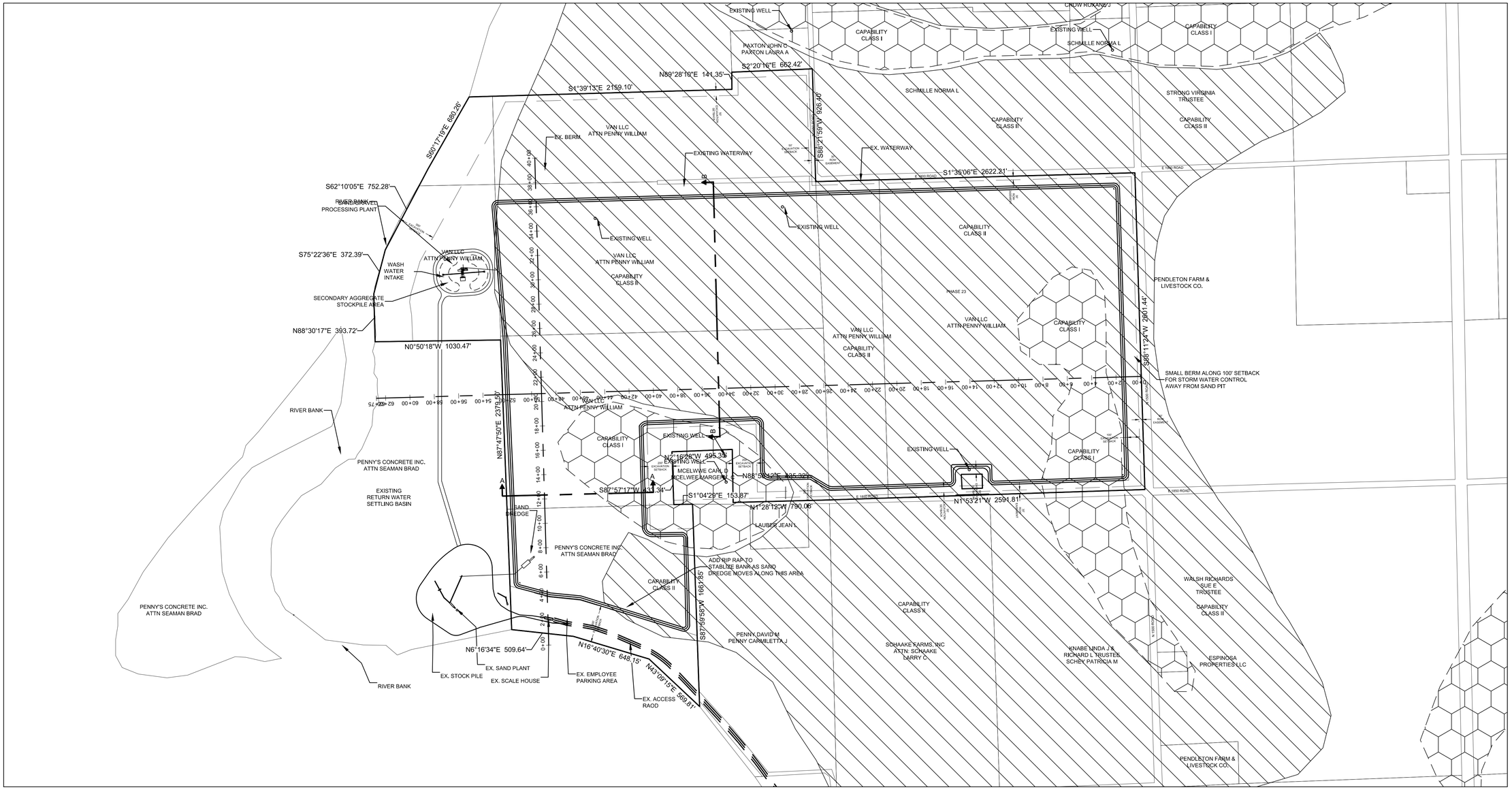

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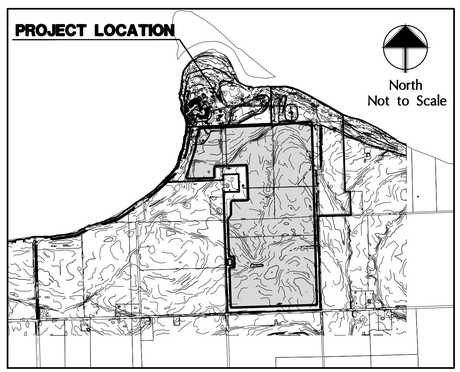

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HIGH QUALITY AGRICULTURAL LAND EXHIBIT

Penny Sand Lawrence Facility

Douglas County, Kansas

Civil Engineering
Landscape Architecture
Community Planning
Surveying

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PENNY SAND FACILITY
HIGH QUALITY AGRICULTURAL LAND EXHIBIT

REV	DATE	DESCRIPTION

DATE:	7.2.12
PROJECT NO.:	20121146
DESIGNED BY:	CLM
DRAWN BY:	CLM
CHECKED BY:	CLM

ISSUE	SHEET NO.
A	C-002

OF 3 SHEETS

Evaluation of Penny's Concrete and Sand LLC,

Proposed Sand Pit Operation on Ground Water

For the Lawrence Facility

For

Penny's Concrete and Sand LLC

23400 West 82nd Street

Shawnee, Kansas

By

Carl E. Nuzman, P.E., P.Hg.

Consulting Engineer/Hydrogeologist

3314 NW Huxman Road

Silver Lake, KS 66539

Phone 785 224 9929

September 12, 2012

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11. CONCLUSION

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Evaluation of Penny's Concrete and Sand LLC,

Proposed Sand Pit Operation on Ground Water for the Lawrence Facility

1. INTRODUCTION

A study and evaluation was made of the aquifer characteristics of the Kansas River Valley alluvial sediments in the vicinity between Lawrence, KS and Eudora to determine if any detrimental effects will occur to the existing wells in the vicinity of the proposed sand mining operation. Penny Concrete and Sand proposes to establish a pit to mine sand located in the East ½, and the NE¼ of the NW ¼ of Section 35 excluding two outparcels, the West 60 acres of the West ½ of the NW ¼ of Section 36, and a portion of the SE¼ of the SE¼ of Section 26, all in Township 11 South, Range 20 East in Douglas County, Kansas. Shown on Exhibit A is the conditional use permit (CUP) area where the proposed sand pit is located and wells registered with the Division of Water Resources Kansas Department of Agriculture.

2. GEOLOGIC SETTING

A study was made by Alvin E. Dufford of the Quaternary Geology and Ground-Water Resources of the Kansas River Valley between Bonner Springs and Lawrence. The results of his work were published by the University of Kansas for the Kansas Geological Survey in Bulletin 130, Part 1, in 1958. The Wakarusa River hugs the south edge of the valley while the Kansas River stays close to the north edge of the valley, narrowing as the valley approaches Eudora from the west.

The Kansas River valley has a general eastward slope of about 3 feet per mile with low dissected hills bounding the flood plain on both sides. The Kansas River valley alluvium merges with the Wakarusa River valley alluvium near the center of Section 10, Twp 13 South, Range 20 East in Douglas County, Ks. The valley alluvium that comprises the aquifer consists principally of sand but contains lenses of both coarser and finer material. Generally, the saturated thickness of the aquifer is about 40 to 50 feet thick in the deepest part of the valley but thins to about 20 feet in the vicinity in the saturated thickness, in the proposed sand mining operation. Bed roc elevation in the area was defined by Stuart W. Fader in Ground Water in the Kansas River Valley, Junction City to Kansas City, Kansas in Bulletin No. 206, Part 2.

Well logs of selected wells in the area are given in Appendix I from the WWC-5 forms filed with the Kansas Geological Survey water well log file in Lawrence, KS. Exhibit B, is a geologic west to east cross-section along North 1500 Road showing the geology profile in that area. Static

water levels given on the well log reports do not reflect average conditions of the aquifer. Static water levels can vary several feet with changes in precipitation in the area. The static water levels will be higher during periods of normal or above normal precipitation and will decline during periods of drought. Static water levels given in the WWC-5 reports may not have been allowed to completely stabilize after pumping.

3. HYDROLOCIC SITUATION

The Eudora area has a humid continental climate. Normally, more than 70% of the annual precipitation falls during the growing season from April through September. Precipitation during this period is usually from thunderstorms (high intensity rainfall of brief duration) in the evening and early morning hours. The mean hourly wind speed is about 10 miles per hour usually from the south or southwest, and the sun usually shines more than 60% of the daylight hours.

The Kansas River which flows in an easterly direction is the principal stream in the area. The Army Corps of Engineers normally maintains a minimum desirable stream flow of 1,000 cubic feet per second at the DeSoto gaging station on the Kansas /river. The Wakarusa River is hydrologically an important tributary stream because it is a major source of recharge to the alluvial aquifer, especially in the vicinity of major well fields.

4. SAFE YIELD ANALYSIS

The safe yield available for appropriation from an unconfined aquifer at a specific location is determined by the amount of average annual precipitation that becomes recharge to the aquifer occurring within the area of consideration by the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture. The area of consideration means the portion of the aquifer area that lies within a 2-mile radius from the proposed point of interest, which is the geo-center of the proposed sand pit.

Although a safe yield analysis is not required for a sand pit operation in the Kansas River Basin by the Division of Water Resources, Kansas Department of Agriculture, such an appraisal was made to identify all registered ground water appropriators within a two (2) mile radius of the proposed sand pit operation. There were 15 identified ground water users some of which have multiple water rights on file. All wells registered are given in Appendix II with the well information followed by the owner and their address.

Based on established recharge rate of 9.2 inches per year by the Division of Water Resources, the safe yield for the 2-mile circle comprising and effective area of 6,350 acres is 4,868.33 acre-feet.

The prior appropriations certified in the circle are 4,305.78 acre-feet, with the added permitted appropriated water totaling 5,429.45 acre feet. Only wells 7 and 9 of the City of Eudora are at the edge of 2-mile circle from the geo-centroid of the proposed Penny sand pit.

The City of Eudora's total appropriation of 699 ac-ft or 227.77 MGY for municipal appropriation including future water use for population growth was used in the model given in Exhibits E and F. The maximum authorized diversion rate or pumping in one day is 1.4 million gallons per day. Exhibits E and F show the proposed Penny sand pit will not affect the City of Eudora wells in any way. The over appropriation of water in the area is up-gradient from the City wells and serves to intercept any ground water contamination that may exist in the capture zone of the City of Eudora wells identified in Exhibit F.

5. AQUIFER PROPERTIES

You do not get water from a well. A well is a stabilized hole in the ground to gain access to water bearing material called an ***aquifer***. The yield of an aquifer is controlled by the permeability of the geologic formation and the saturated thickness of that permeable formation. The yield of a well can never be greater than that of the aquifer and usually less depending upon the efficiency of well construction and development. A well can decrease in yield due to biological fouling and lack of proper maintenance but unless the static water level has a substantial decline reducing the saturated thickness, the yield available from the aquifer remains constant.

Data from the WWC-5 report for City Well No 8, shown in Appendix I was used to estimate the properties of the aquifer. The reported drawdown was 4 feet after 11 hours of pumping at 521 gallons per minute (gpm). These values give a well specific capacity of 130 gpm/foot of drawdown when constructed. This value is used to estimate the transmissivity of the aquifer which is estimated to be 220,000 gpd/ft. Utilizing the 25 feet of well screen installed which is less than the formation thickness; the calculated formation permeability is 8,800 gpd/ft^2, a very good formation value. Typical average value of formation permeability for the Kansas River valley alluvium is about 5,000 gpd/ft^2, with a maximum value observed of 10,000 gpd/ft^2. Additional data was found for City wells No. 6 and No. 7. The original specific capacity for well No. 6 was 101.7 gpm/foot of drawdown. The estimated formation transmissivity of the aquifer at well No. 6 location is 172,900 gpd/ft. The original well specific capacity for well No. 7 was 126.8 gpm/ft which gives an estimated formation transmissivity of 215,600 gpd/ft. An average transmissivity value of 210,000 gpd/ft was used to model the aquifer in Exhibits 6 and 7. This value under estimates the transmissivity in the deeper portions of the aquifer and over estimates the transmissivity near the boundaries of the aquifer. The 210,000 gpd/ft is in the same range that was determined by S. W. Fader in Bulletin No. 206, part 2, figure 7.

When a well is pumped, the pump energy creates a partial vacuum that causes a cone of depression to develop around the bore hole. The bore hole for the construction of Well No. 8 was reported to be 42 inches which gives a well radius of 1.75 feet. Using the formation transmissivity value of 220,000 gpd/ft, the drawdown per log cycle was calculated to be 1.0 foot for a pumping rate of 325 gpm, which is the maximum authorized pumping rate established for well No. 6. This information was then plotted on a semi-log plot to obtain the radius of influence for well 6, well 7 and well 8, Reference Exhibit C. The zero (0) drawdown for wells 6 & 7 was 2,400 feet and 2,100 feet for well 8. Drawdown values of less than 1 foot are considered insignificant since annual variations of static water level may vary more than 2 feet in a year due to weather conditions. The 1-foot drawdown occurs at a radius from about 130 to 260 feet for each of the wells shown in Exhibit C. The basic assumptions in the calculations for Exhibit C assume the world is flat and the aquifer properties are ideal. The approximate 1,000 feet distance between City wells minimizes the mutual interference effects from simultaneous pumping of these wells.

6. AQUIFER WATER YIELD AND AREA OF WATER CAPTURE

Simple model system was developed using the analytical-element method often used in modeling well-head protection. The State Geological Survey of Kansas had experienced geologists investigate the Kansas River valley geology and ground water resources from Bonner Springs to the vicinity of Manhattan. The reach of special interest is contained in Bulletin 130, Part 1, Quaternary Geology and Ground-Water Resources of Kansas River Valley between Bonner Springs and Lawrence, Kansas. At that time, the Kansas Geological Survey had their own small drilling rig in which to drill test holes. Many of the data points used in the model were from this work dated back to the 1940's and 1950's.

Figure 3 in Bulletin 130, Part 1 is the basis for the development of Exhibit D, a generalized static water table of the area of interest. In the 1950's there was little or no large pumpage in this area of interest which gives a good representation of pre-development conditions for the aquifer. Since the measurements upon which Figure 3 was based occurred over a period of years, exact replication of the water level elevations was not possible. Using statistical analysis, a very reasonable simulation of the water table gradient was obtained.

The model was then used to simulate the probable maximum pumping rate of 1.4 million gallons per day to obtain the area of direct influence of the City of Eudora well field. You will note that the area of 1 foot drawdown for the City of Eudora's peak pumpage is not circular but somewhat egg shaped extending more up-gradient to the west than to the east. Average annual pumping rate is estimated at 60% of peak day rate. Thus the development of the drawdown simulated in Exhibit E is a representation of the maximum drawdown expected in the future.

A feature of the model called particle tracking was then used to plot the movement of water in the aquifer to each of the four wells shown in Exhibit F. Based on the maximum allowable pumpage of 227.77 MGY authorized by the City's water rights on file with the Division of Water Resources, the travel time of water in the aquifer was calculated. The time period selected was 25 years. Each little collar around the straw like flow path lines represents one (1) year of flow. Due to the hydraulic gradient of the valley aquifer system and recharge to the aquifer from rainfall, **the aquifer flow to the City wells is from the west-southwest.** The Penny sand pit will be a half mile north of the capture zone of the City wells and will have no influence on the Eudora public water supply wells.

7. WELL-HEAD PROTECTION STUDY

The City's concern in regard to protecting the future quality of water from their well field must focus on the area in the immediate vicinity of the wells and to the west of the wells.

In so far as contaminants in the aquifer, the water movement is from west to east in a down-gradient direction. The estimated travel time of water in the Kansas River alluvium aquifer, based on the general formation transmissivity and land surface gradient is about 0.7 feet/day or 8.4 inches per day, a very slow migration rate.

Several potential contamination sources, given in Appendix III, have been identified that could potentially threaten the water quality of the Eudora well field:

a. Septic tanks at the several domestic residences in the vicinity are each a potential threat to the water quality of the City wells.

b. To the east of Well No. 6 near the point of stagnation is or was a cattle feeding operation with livestock present as shown in Appendix III.

c. Chemical fertilizer and herbicides applied to corn planted next to the wells as shown next to Well No. 6 in Appendix III, are a potential threat of contamination to the City wells. This threat of contamination is increased with irrigation, especially on sandy soils. Major portions of Hall and Merrick Counties in Nebraska have nitrates nearly double that of the KDHE and EPA regulations for Nitrates in public water supply due to irrigation and chemigation of corn on sandy loam soils similar to the alluvial soils shown in Bulletin 206, Part 2, Ground Water in the Kansas River Valley Junction City to Kansas City, Kansas by Stuart W. Fader. The Newman Terrace clay loam soils offer more protection of the aquifer from fertilizers.

d. Abandoned wells or old domestic wells that were drilled long ago with thin wall casing that have corroded through the years and were not grout sealed, can allow

storm water runoff to flow directly into the aquifer resulting in direct contamination to the City wells. Such a well may exist west of Eudora Well No. 7 as shown in Appendix III, under the old windmill tower.

The C. McElwee domestic well is up gradient from the sand pit and down-gradient from the Kansas River. Although the property is about 5 acres in area, it is recommended that the set back of the pit mining be 300 feet from his property line. The radius of influence of the domestic well is less than 300 feet and will not be adversely affected by the sandpit.

8. SAND PIT OPERATION

The static water level elevation in the sand pit will be about the same as the water surface elevation in the Kansas River. Sand pit lakes that are within the effective radius of influence of a water well support the water production from a well during drought conditions due to the increase of lake water storage which is 5 times greater than the water storage yield capacity of the aquifer itself. This storage yield effect is applicable to any unconsolidated aquifer. Sand pits beneficially support the yield of wells that are down-gradient from a pit that is within the area of influence of a well.

Water pumped by the sand dredge is piped to the sand separator, and then water is diverted to a sediment pond, and returned to the sand pit. Storm water runoff from local precipitation is diverted around the pit. Berms and a grass swale will be provided on the west and south sides of the sand pit for the diversion of local storm water runoff.

9. CONCLUSION

The City of Olathe was concerned about their well field more than 20 years ago when Penny Concrete and Sand proposed to open a pit next to their well field. This consultant was contacted by the City of Olathe and reviewed the situation. It was recommended to the City of Olathe at that time to maintain at least 500 feet of aquifer intact between the sand pit and any well. The sand pit shown in Appendix III, directly up-gradient from the Olathe wells has <u>never</u> caused any contamination to their wells. Since that time, more studies have been made both in Kansas and other states and no significant contamination of an aquifer has been attributed to a sand pit in unconsolidated alluvial aquifers.

Present regulations require 200 feet separation between a surface water source and a well to allow normal biological activity of surface water to be filtered before entering the well. It is recommended that a 300 foot set-back be maintained between the property boundary of any

residence out parcel and the active dredging of sand from the pit. The recommended set back from all road right-of way is 100 feet.

It was found in this study that the proposed Penny sand pit lake that will eventually be developed in this study area will have ***absolutely no*** effect on the McElwee wells, Public Wholesale Water Supply District No. 25 or City of Eudora's wells or water supply. The threat of contamination does exist to Public Water Supply wells, but not from the proposed Penny sand mining operation, but from adjacent property to their wells.

EXHIBITS

A. Penny Sand Lawrence Facility – Area Plan

B. West to East Geologic Cross-Section along N 1500 Road

C. Distance-Drawdown Semi-Log Plot of Eudora's Wells No's 6, 7, & 8

D. Generalized Static Water Table in Area (From KGS Bull. 130, Part 1)

E. Eudora Wells Drawdown at Peak Day Pumpage of 1.4 MGD

F. Groundwater Flow Paths to Eudora Wells at 227.77 MGY Pumpage

Evaluation of Penny's Concrete and Sand LLC,

Proposed Sand Pit Operation on Ground Water

For the Lawrence Facility

RECEIVED
SEP 14 2012
City County Planning Office
Lawrence, Kansas

For

Penny's Concrete and Sand LLC

23400 West 82nd Street

Shawnee, Kansas

By

Carl E. Nuzman, P.E., P.Hg.

Consulting Engineer/Hydrogeologist

3314 NW Huxman Road

Silver Lake, KS 66539

Phone 785 224 9929

September 12, 2012

KANSAS RIVER
R 20 E
R 21 E
EXISTING PLANT
ACCESS ROAD
APPROXIMATE LIMITS OF RECLAIMED POND
APPROXIMATE LIMITS OF RECLAIMED POND
EXISTING WELL
EXISTING WELL
EXISTING WELL

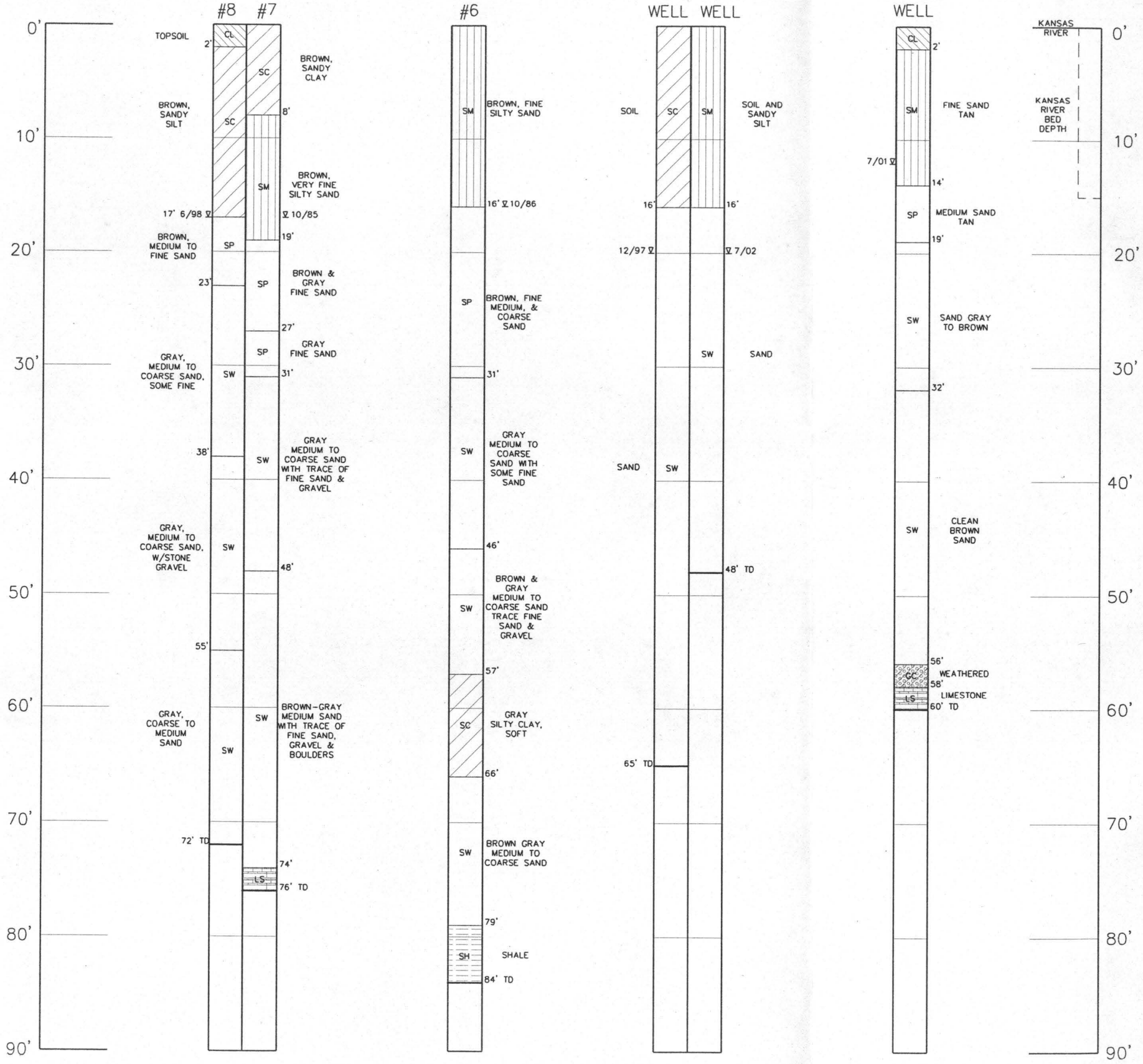


EXHIBIT B
WEST TO EAST CROSS SECTION ALONG N 1500 ROAD

PREPARED 9/13/12

SCALE: 1" = 10'

10 5 0 10 20

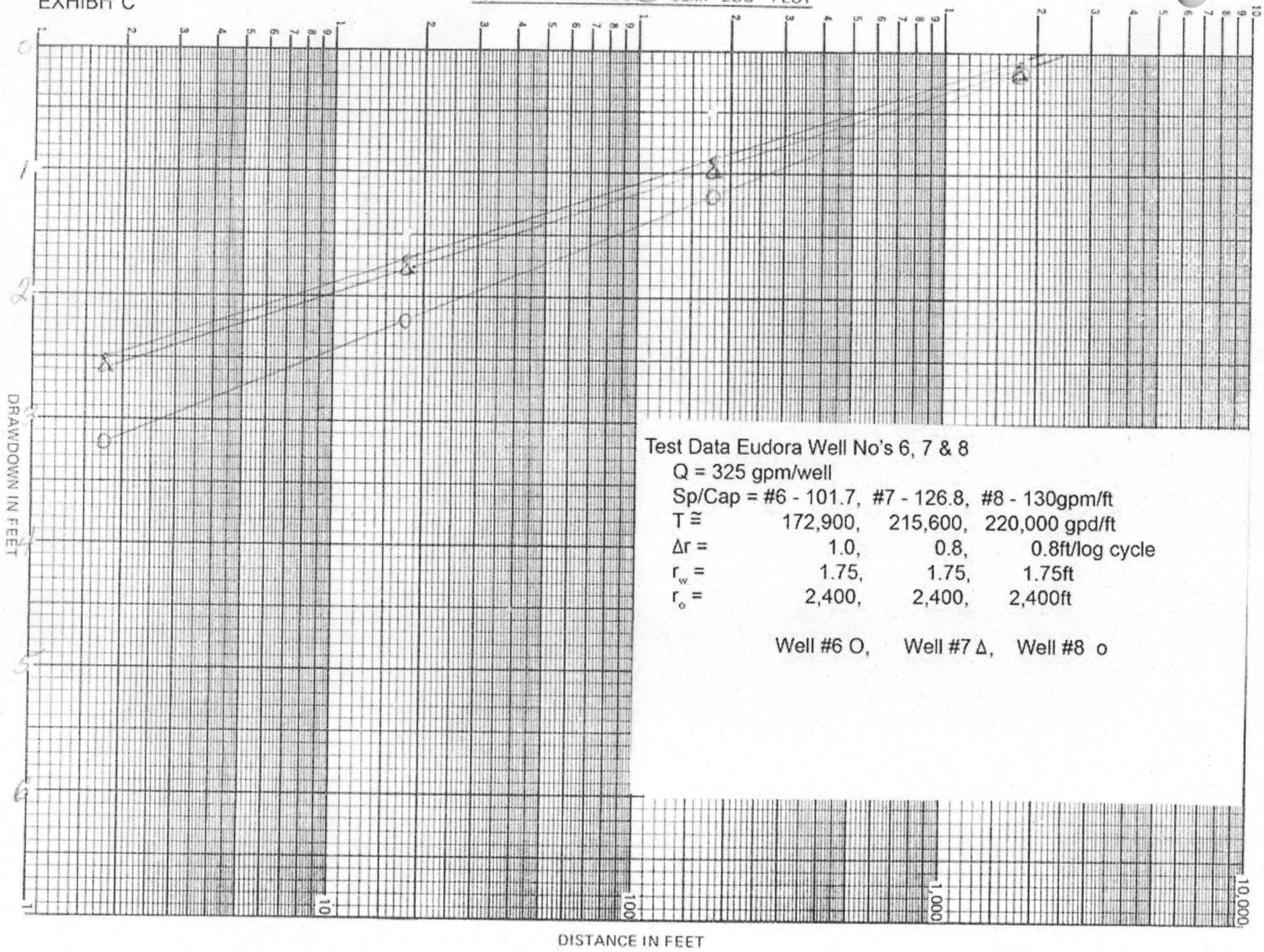
Civil Engineering
Landscape Architecture
Community Planning
Surveying

Landplan Engineering, P.A.
Lawrence, KS • Kansas City, MO • Columbus, OH
The Woodlands, TX • Farmington Hills, MI

1310 Wakarusa Drive
Lawrence, Kansas 66049
tele (785)843-7530
fax (785)843-2410
email: info@landplan-pa.com
Web www.landplan-pa.com

EXHIBIT C

DISTANCE–DRAWDOWN SEMI–LOG PLOT



Test Data Eudora Well No's 6, 7 & 8

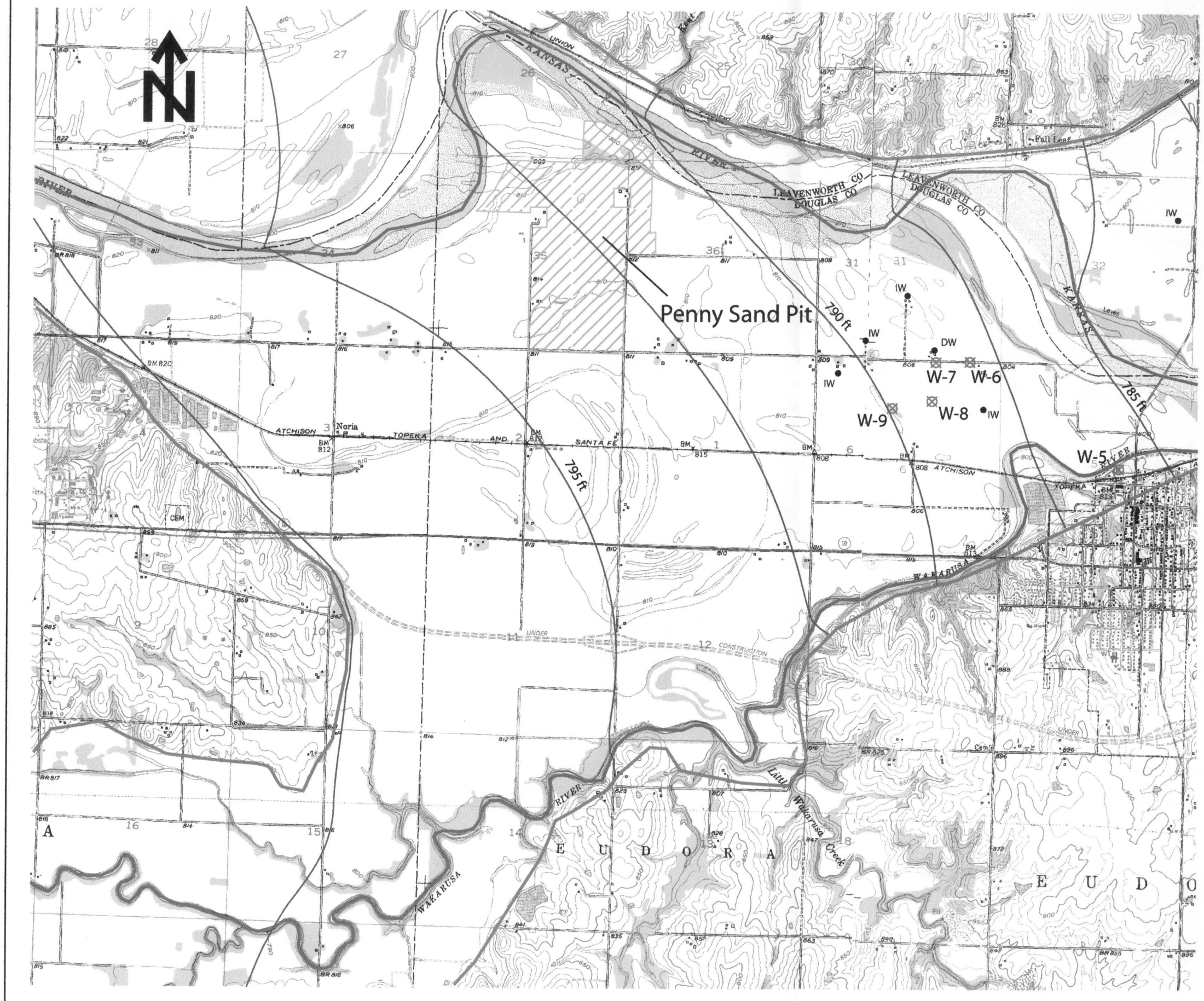
Q = 325 gpm/well

Sp/Cap =	#6 - 101.7,	#7 - 126.8,	#8 - 130gpm/ft
T ≅	172,900,	215,600,	220,000 gpd/ft
Δr =	1.0,	0.8,	0.8ft/log cycle
r_w =	1.75,	1.75,	1.75ft
r_o =	2,400,	2,400,	2,400ft

Well #6 O, Well #7 Δ, Well #8 o

Exhibit D:

Generalized Static Water Table
(Based on data from KGS Bul. 130, Part 1)



Legend

- River
- Aquifer Boundary
- Water Table Elevation (Contour Interval 2.5 feet)
- W-7 — City of Eudora Water Supply Well
- IW / DW — Registered Irrigation or Domestic Well

Approximate Scale

0 — 0.5 — 1.0 miles

0 — 2,640 — 5,280 feet

Exhibit E:

Eudora Wells - Drawdown at Peak Day Pumpage of 1.4 MGD

Legend

- River
- Aquifer Boundary
- Water Table Drawdown (Contour Interval 0.5 feet)
- W-7 — City of Eudora Water Supply Well
- IW, DW — Registered Irrigation or Domestic Well

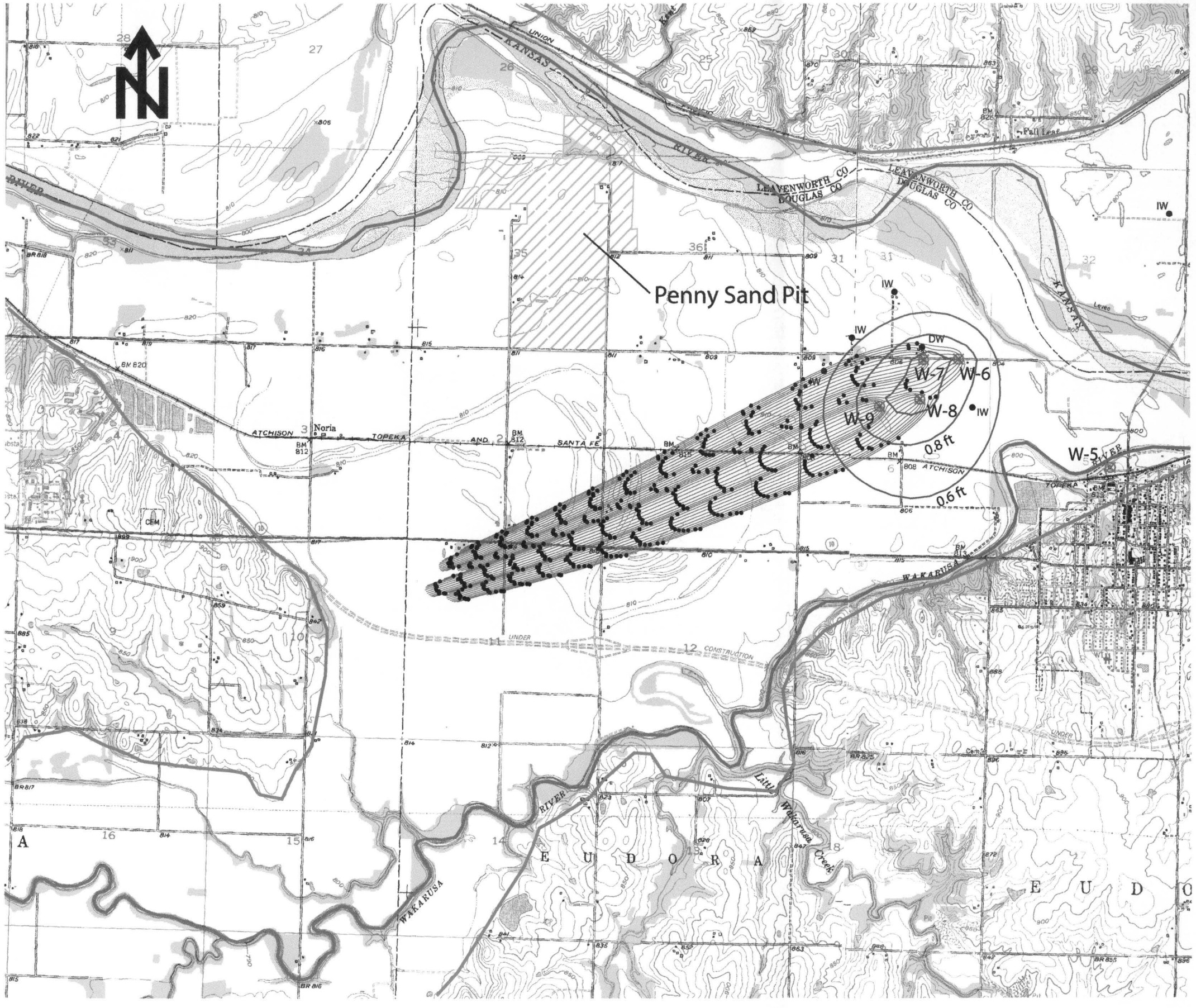
Approximate Scale

0 0.5 1.0 miles

0 2,640 5,280 feet

Exhibit F:

Groundwater Flow Paths to Eudora Wells at 227.77 MGY Pumpage



Legend

- River
- Aquifer Boundary
- Water Table Drawdown (Contour Interval 0.2 feet)
- Flowpaths to Pumping Wells (Tick Marks = 2 years travel time)
- W-7 — City of Eudora Water Supply Well
- IW DW — Registered Irrigation or Domestic Well

Approximate Scale

0 0.5 1.0 miles

0 2,640 5,280 feet

APPENDICES

I. **Selected WWC-5 Water Well Logs in Study Area**

II. **KDA, Division of Water Resources, Safe Yield Analysis Data**

III. **Potential Pollution Sources in the Area**

IV. **Carl E. Nuzman, Resume' and Personal Information**

APPENDIX I.

Selected Water Well Logs from the Kansas Geological Survey Well Log Library for Sections 34, 35, and 36 in Twp 12 South Rng 20 East, Sections 1, 2, 3, 11, and 12 in Twp 13 South Rng 20 East, Section 31 in Twp 12 South, Rng 21 East, and Sections 5 and 6 in Twp 13 South, Rng 21 East, all in Douglas County Kansas.

14 9883 TW9-09

WATER WELL RECORD Form WWC-5

Division of Water Resources App. No.

1 LOCATION OF WATER WELL: County: Douglas | Fraction: 1/4 SE 1/4 NW 1/4 SE 1/4 | Section Number: 34 | Township No.: T 12 S | Range Number: R 20 ☒ E ☐ W

Street/Rural Address of Well Location; if unknown, distance & direction from nearest town or intersection: If at owner's address, check here ☐

Approximately 2 1/4 miles east of Lawrence

Global Positioning System (GPS) information:

Latitude: 38-961011 (in decimal degrees)

Longitude: -95.172574 (in decimal degrees)

Elevation: Unknown

Datum: ☐ WGS 84, ☐ NAD 83, ☒ NAD 27

Collection Method:

☒ GPS unit (Make/Model: WAAS)

☐ Digital Map/Photo, ☐ Topographic Map, ☐ Land Survey

Est. Accuracy: ☐ <3 m, ☒ 3-5 m, ☐ 5-15 m, ☐ >15 m

2 WATER WELL OWNER:

RR#, Street Address, Box #: Public Wholesale Water Supply District No. 25, 946 E 650 Rd.

City, State, ZIP Code : Lawrence, KS 66047

3 LOCATE WELL WITH AN "X" IN SECTION BOX:

N / W / E / S; --NW-- --NE-- --SW-- --SE-- (X in SE)

|----1 mile----|

4 DEPTH OF COMPLETED WELL 56 ft.

Depth(s) Groundwater Encountered (1) _____ ft. (2) _____ ft. (3) _____ ft.

WELL'S STATIC WATER LEVEL 24.33 ft. below land surface measured on mo/day/yr 10/01/10

Pump test data: Well water was Not checked ft. after _____ hours pumping _____ gpm

EST. YIELD Unknown gpm. Well water was _____ ft. after _____ hours pumping _____ gpm

Bore Hole Diameter _____ in. to _____ ft., and _____ in. to _____ ft.

WELL WATER TO BE USED AS: ☐ Public water supply ☐ Geothermal ☐ Injection well

☐ Domestic ☐ Feedlot ☐ Oil field water supply ☐ Dewatering ☒ Other (Specify below)

☐ Irrigation ☐ Industrial ☐ Domestic-lawn & garden ☐ Monitoring well Test Well

Was a chemical/bacteriological sample submitted to Department? ☐ Yes ☒ No

If yes, mo/day/yr sample was submitted _____

Water well disinfected? ☒ Yes ☐ No

5 TYPE OF CASING USED: ☐ Steel ☒ PVC ☐ Other _____

CASING JOINTS: ☒ Glued ☐ Clamped ☐ Welded ☐ Threaded

Casing diameter 5 in. to 34 ft., Diameter _____ in. to _____ ft., Diameter _____ in. to _____ ft.

Casing height above land surface 24 in., Weight 2.36 lbs./ft., Wall thickness or gauge No. .214

TYPE OF SCREEN OR PERFORATION MATERIAL:

☐ Steel ☐ Stainless Steel ☒ PVC ☐ Other (Specify) _____

☐ Brass ☐ Galvanized Steel ☐ None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE:

☐ Continuous slot ☒ Mill slot ☐ Gauze wrapped ☐ Torch cut ☐ Drilled holes ☐ None (open hole)

☐ Louvered shutter ☐ Key punched ☐ Wire wrapped ☐ Saw cut ☐ Other (specify) _____

SCREEN-PERFORATED INTERVALS: From 34 ft. to 54 ft., From _____ ft. to _____ ft.

From _____ ft. to _____ ft., From _____ ft. to _____ ft.

GRAVEL PACK INTERVALS: From 20 ft. to 57 ft., From _____ ft. to _____ ft.

From _____ ft. to _____ ft., From _____ ft. to _____ ft.

6 GROUT MATERIAL: ☐ Neat cement ☐ Cement grout ☒ Bentonite ☐ Other _____

Grout Intervals: From _____ ft. to _____ ft., From 0 ft. to 20 ft., From _____ ft. to _____ ft.

What is the nearest source of possible contamination:

☐ Septic tank ☐ Lateral lines ☐ Pit privy ☐ Livestock pens ☐ Insecticide storage ☒ Other (specify below)

☐ Sewer lines ☐ Cesspool ☐ Sewage lagoon ☐ Fuel storage ☐ Abandoned water well None known

☐ Watertight sewer lines ☐ Seepage pit ☐ Feedyard ☐ Fertilizer storage ☐ Oil well/gas well

Direction from well _____ Distance from well _____

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHO. LOG (cont.) or PLUGGING INTERVALS
0	3	Topsoil	54	55	Cemented sand, hard
3	14	Clay, light brown, soft, silty	55	57	Shale, gray, hard
14	31	Sand, fine to coarse			
31	38	Sand, fine to coarse, with gravel, fine,			
		with clay streaks, black			
38	41	Clay, light gray, hard			
41	52	Sand, fine to coarse, with gravel, fine to			
		medium, gray color, dirty			
52	54	Sand, fine to coarse, with gravel, fine to			
		medium, and large rock streaks			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was ☒ constructed, ☐ reconstructed, or ☐ plugged under my jurisdiction and was completed on (mo/day/year) 10/01/09 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 185. This Water Well Record was completed on (mo/day/year) 10/06/09 under the business name of Clarke Well & Equipment, Inc. by (signature) _____

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks and check the correct answers. Send three copies (white, blue, pink) to Kansas Department of Health and Environment, Bureau of Water, Geology Section, 1000 SW Jackson St., Suite 420, Topeka, Kansas 66612-1367. Telephone 785-296-5522. Send one copy to WATER WELL OWNER and retain one for your records. Include fee of $5.00 for each constructed well. Visit us at http://www.kdheks.gov/waterwell/index.html.

KSA 82a-1212

Check: ☐ White Copy, ☐ Blue Copy, ☐ Pink Copy

89

JR

USE TYPEWRITER OR BALL POINT PEN-PRESS FIRMLY, PRINT CLEARLY.

WATER WELL RECORD
KSA 82a-1201-1215

Kansas Department of Health and Environment-Division of Environment
(Water well Contractors)
Topeka, Kansas 66620

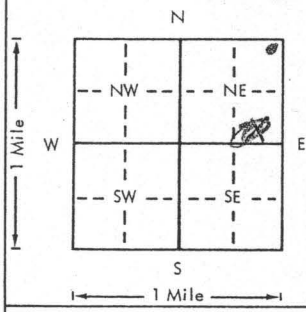
95 20599 38.97063 212 NE NE NE

1. Location of well:	County	Fraction	Section number	Township number	Range number
	Douglas	~~S/4 1/4 SE 1/4 NE 1/4~~	35	T 12 S	R 20 E/W

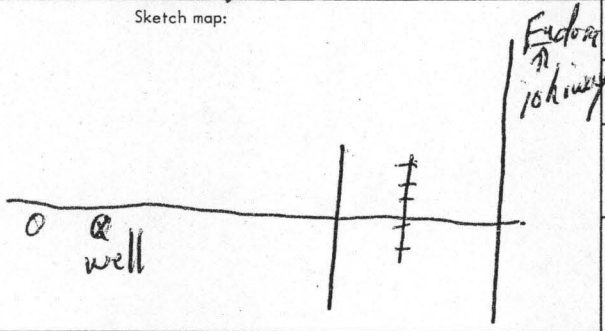
2. Distance and direction from nearest town or city: 2mi West 1¼ North of Eudora
Street address of well location if in city:

3. Owner of well: E.C. ALTENBERND
R.R. or street: R.R. 3
City, state, zip code: EUDORA Kts. 66025

4. Locate with "X" in section below:



Sketch map:



6. Bore hole dia. 10 in. Completion date NOV 15-77
Well depth 47 ft.

7. X Cable tool __ Rotary __ Driven __ Dug
__ Hollow rod __ Jetted __ Bored __ Reverse rotary

8. Use: __ Domestic __ Public supply __ Industry
X Irrigation __ Air conditioning __ Stock
__ Lawn __ Oil field water __ Other

9. Casing: Material Steel Height: Above or ~~below~~
Threaded ___ Welded X Surface 12 in.
RMP ___ PVC ___ Weight 26 lbs./ft.
Dia. 8 in. to 32 ft. depth Wall Thickness: inches or
Dia. ___ in. to ___ ft. depth gage No. .250

10. Screen: Manufacturer's name Johnson
Type Stainless Dia. 10
Slot/gauze 25 Length 15
Set between 32 ft. and 47 ft.
___ ft. and ___ ft.
Gravel pack? No Size range of material ___

11. Static water level: mo./day/yr.
23-8 ft. below land surface Date NOV 15-77

12. Pumping level below land surfaces:
___ ft. after ___ hrs. pumping ___ g.p.m.
___ ft. after ___ hrs. pumping ___ g.p.m.
Estimated maximum yield 300 + g.p.m.

13. Water sample submitted: mo./day/yr.
__ Yes No No Date ___

14. Well head completion:
__ Pitless adapter 12+ Inches above grade

15. Well grouted? yes
With: X Neat cement __ Bentonite __ Concrete
Depth: From 0 ft. to 10 ft.

16. Nearest source of possible contamination:
ft. 500 Direction North Type Livestock
Well disinfected upon completion? X Yes __ No

17. Pump: __ Not installed
Manufacturer's name Jacuzzi
Model number 5S6X1 HP 5 Volts ___
Length of drop pipe 47 ft. capacity 300 g.p.m.
Type:
X Submersible __ Turbine
__ Jet __ Reciprocating
__ Centrifugal __ Other

5. Type and color of material	From	To
Top Soil	0	2
Loamy Clay	2	25
Sand & Fine	25	27
Sand Grey - Med	27	31
Sand Clay layers	31	34
Sand Gr - Med	34	38
Sand Gr - Med - dirty	38	40
Sand Med - Fair clean	40	47

(Use a second sheet if needed)

18. Elevation: 811
Topography:
___ Hill
___ Slope
___ Upland
X Valley

19. Remarks:

20. Water well contractor's certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
TUNNELL BROS DRILLING CO. 119
Business name License No.
Address CARBONDALE Kts.
Signed James B. Tunnell Date 1-28-78
Authorized representative

T 12 R 20 E/W Sec 35 1/4 1/4 SE 1/4

Forward the white, blue and pink copies to the Department of Health and Environment

Form WWC-5

BR < 764 D = 787

MI-1023

USE TYPEWRITER OR BALL POINT PEN-PRESS FIRMLY, PRINT CLEARLY.

WATER WELL RECORD
KSA 82a-1201-1215

Kansas Department of Health and Environment-Division of Environment
(Water well Contractors)
Topeka, Kansas 66620

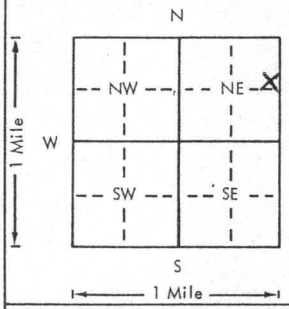
95.20596 38.96860 210

1. Location of well:	County	Fraction	Section number	Township number	Range number
	Douglas	SE 1/4 NE 1/4 NE 1/4	35	T 12 S	R 20 E/W

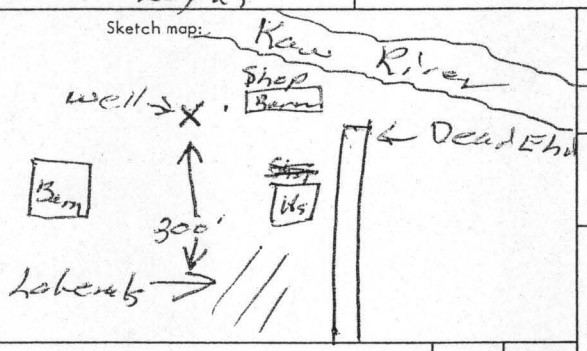
2. Distance and direction from nearest town or city: 3 mi. E.
Street address of well location if in city: Lawrence, Ks

3. Owner of well: E.C. Atterburn R.R.
R.R. or street: Eudora Ks.
City, state, zip code: 66025

4. Locate with "X" in section below:



Sketch map:



6. Bore hole dia 10-8" in. Completion date
Well depth 57 ft. 8-25-77

7. ___ Cable tool X Rotary ___ Driven ___ Dug
___ Hollow rod ___ Jetted ___ Bored ___ Reverse rotary

8. Use: X Domestic ___ Public supply ___ Industry
___ Irrigation ___ Air conditioning ___ Stock
___ Lawn ___ Oil field water ___ Other

9. Casing: Material PVC Height: Above or below
Threaded ___ Welded ___ Surface 24 in.
RMP ___ PVC Glue Weight 2.74 lbs./ft.
Dia. 5 in. to 51 ft. depth Wall Thickness: inches or
Dia. ___ in. to ___ ft. depth gage No. 258

5. Type and color of material	From	To
Top Soil Silt	0	11
Brown Fine Sand	11	15
Brown Coarse Sand	15	33
Gray Med Gravel	33	38
Gray Clay	38	41
Med. Gray Gravel	41	51
Limestone 51		
(Use a second sheet if needed)		

10. Screen: Manufacturer's name Pumpco
Type PVC Dia. 5"
Slot/gauze .080 Length 10
Set between 41 ft. and 51 ft.
ft. and ft.
Gravel pack? Yes Size range of material 1/4 x 1/8

11. Static water level: mo./day/yr.
12 ft. below land surface Date 8-25-77

12. Pumping level below land surfaces: Air test
___ ft. after ___ hrs. pumping ___ g.p.m.
___ ft. after ___ hrs. pumping ___ g.p.m.
Estimated maximum yield 100 g.p.m.

13. Water sample submitted: mo./day/yr.
___ Yes X No Date

14. Well head completion: Top Cap
___ Pitless adapter 24" Inches above grade

15. Well grouted? Yes
With: ✓ Neat cement ___ Bentonite ___ Concrete
Depth: From 5 ft. to 10 ft.

16. Nearest source of possible contamination:
ft. 200 Direction S Type Laterals
Well disinfected upon completion? X Yes ___ No

17. Pump: X Not installed
Manufacturer's name
Model number HP Volts
Length of drop pipe ft. capacity g.p.m.
Type:
___ Submersible ___ Turbine
___ Jet ___ Reciprocating
___ Centrifugal ___ Other

18. Elevation:
Topography:
___ Hill
___ Slope
___ Upland
X Valley

19. Remarks:
Owner will Pour Slab

20. Water well contractor's certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
STRADER Drlg & Inc. 182
Business name License No.
Address Holton, Ks
Signed Dale Atterburn Date 8-26-77
Authorized representative

T 12 R 20 E/W Sec 35 1/4 1/4 1/4

Forward the white, blue and pink copies to the Department of Health and Environment

Form WWC-5

MI-1023

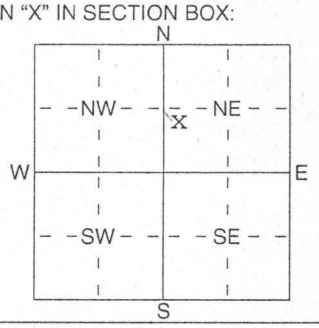
WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. _____

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Douglas	NW ¼ SW ¼ NE ¼	35	T 12 S	R 20E E/W

Distance and direction from nearest town or city street address of well if located within city?
3½ East of Lawrence

2 WATER WELL OWNER: Carl McElwee
RR#, St. Address, Box # : 1564 E 1850 Rd
City, State, ZIP Code : Lawrence, Ks. 66046
Board of Agriculture, Division of Water Resources Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 48 ft. ELEVATION:
Depth(s) Groundwater Encountered 1 ..... ft. 2 ..... ft. 3 ..... ft.
WELL'S STATIC WATER LEVEL 29' ft. below land surface measured on mo/day/yr 3-16-04
Pump test data: Well water was ..... ft. after ..... hours pumping ..... gpm
Est. Yield 37 gpm: Well water was ..... ft. after ..... hours pumping ..... gpm
WELL WATER TO BE USED AS: 1 Domestic 2 ~~Irrigation~~ 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Domestic (lawn & garden) 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (Specify below)

Was a chemical/bacteriological sample submitted to Department? Yes ..... No ..x..; If yes, mo/day/yrs sample was submitted
Water Well Disinfected? Yes x No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued x Clamped ..... Welded ..... Threaded .....
Blank casing diameter 5" in. to ..... ft., Dia ..... in. to ..... ft., Dia ..... in. to ..... ft.
Casing height above land surface 24" in., weight 2.82 lbs./ft. Wall thickness or guage No. .258

TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless Steel 4 Galvanized Steel 5 Fiberglass 6 Concrete tile 7 PVC 8 ~~RMP~~(SR) 9 ABS 10 Asbestos-Cement 11 Other (Specify) 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Guazed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 ~~Drilled~~ holes 10 Other (specify) ..... 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 33 ft. to 48 ft., From ..... ft. to ..... ft.
From ..... ft. to ..... ft., From ..... ft. to ..... ft.
GRAVEL PACK INTERVALS: From 30 ft. to 48 ft., From ..... ft. to ..... ft.
From ..... ft. to ..... ft., From ..... ft. to ..... ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other .....
Grout Intervals: From ..... ft. to 3 ft., From 30 ft. to ..... ft., From ..... ft. to ..... ft.

What is the nearest source of possible contamination:
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below) .....
Direction from well? North How many feet? 125'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	2	top soil			
2	11	clay brown/silty			
11	24	brown clay			
24	34	brown fine sand			
34	38	fine/course sand med pea brown			
38	42	fine/course sand med pea brown/grey/gren			
42	42½	grey clay			
42½	48	fine sand brown/grey/green/boulders			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 4-16-04 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No 182 This Water Well Record was completed on (mo/day/yr) 4-16-04 under the business name of Strader Drilling. Co.,Inc. by (signature) Jim Strader

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Geology Section, 1000 SW Jackson St., Suite 420, Topeka, Kansas 66612-1367. Telephone 785-296-5522. Send one to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

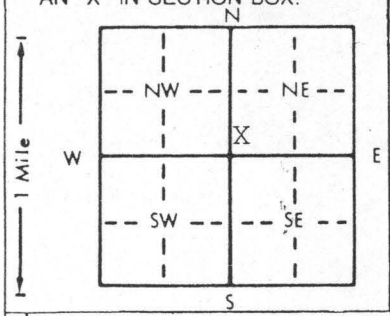
WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL: County: Douglas | Fraction: SW ¼ SW ¼ NE ¼ | Section Number: 36 | Township Number: T 12 S | Range Number: R 20 E/W

Distance and direction from nearest town or city street address of well if located within city?
1½ west, 1½ north of Eudora

2 WATER WELL OWNER: James Waller
RR#, St. Address, Box # : 1964 N. 1550 Rd.
City, State, ZIP Code : Eudora, KS 66025
Board of Agriculture, Division of Water Resourc
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 40' ft. ELEVATION:
Depth(s) Groundwater Encountered 1. ft. 2. ft. 3. ft
WELL'S STATIC WATER LEVEL 24' ft. below land surface measured on mo/day/yr 9/06/96
Pump test data: Well water was ft. after hours pumping gp
Est. Yield 40 gpm: Well water was ft. after hours pumping gp
Bore Hole Diameter 12" in. to ft., and in. to
WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Lawn and garden only 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (Specify below)
Was a chemical/bacteriological sample submitted to Department? Yes No X; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued X Clamped Welded Threaded
Blank casing diameter 5" in. to 0-30 ft., Dia in. to ft., Dia in. to
Casing height above land surface 24" in., weight 2.82 lbs./ft. Wall thickness or gauge No. .258

TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 30 ft. to 40 ft., From ft. to
From ft. to ft., From ft. to
GRAVEL PACK INTERVALS: From 24 ft. to 40 ft., From ft. to
From ft. to ft., From ft. to

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 4 ft. to 24 ft., From ft. to ft., From ft. to

What is the nearest source of possible contamination:
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)
Direction from well? north
How many feet? 200'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	4	Top Soil			
4	15	Clay-Brown-Silty			
15	33	Fine Sand-Brown			
33	39	FS-CS-Med Gravel-Brown			
39	40	FS-CS-Med Gravel-Blue			

CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and w
completed on (mo/day/year) 9/06/96 and this record is true to the best of my knowledge and belief. Kans
Water Well Contractor's License No. 182 This Water Well Record was completed on (mo/day/yr) 10-9-96
under the business name of STRADER DRILLING CO., INC. by (signature) Dale Askren

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

95.12.5941 38.95.5 lb

WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL	Fraction	Section Number	Township Number	Range Number
County: Douglas	NE ¼ NE ¼ NE ¼	1	T 13 (S)	R 20 (E/W)

Distance and direction from nearest town or city? 1 W. .5 N of Eudora

Street address of well if located within city?

2 WATER WELL OWNER: Howard Whaley
RR#, St. Address, Box # : RR2
City, State, ZIP Code : Eudora, Kansas 66025

Board of Agriculture, Division of Water Resource Application Number:

3 DEPTH OF COMPLETED WELL 50 ft. Bore Hole Diameter 12 in. to ..... ft., and ..... in. to ..... ft

Well Water to be used as: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Lawn and garden only 8 Air conditioning 9 Dewatering 10 Observation well 11 Injection well 12 Other (Specify below) .....

Well's static water level 30 ft. below land surface measured on December month 19 day 1979 year

Pump Test Data: Well water was ..... ft. after ..... hours pumping ..... gpm
Est. Yield 100 gpm: Well water was ..... ft. after ..... hours pumping ..... gpm

4 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below) .....

Casing Joints: Glued ✓ Clamped ..... Welded ..... Threaded .....

Blank casing dia 5 in. to 0-40 ft., Dia ..... in. to ..... ft., Dia ..... in. to ..... f

Casing height above land surface 24 in., weight 2.89 lbs./ft. Wall thickness or gauge No .250

TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) ..... 12 None used (open hole)

Screen or Perforation Openings Are: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) ..... 11 None (open hole)

Screen-Perforation Dia 5 in. to ..... ft., Dia ..... in. to ..... ft., Dia ..... in to ..... f

Screen-Perforated Intervals: From 40 ft. to 50 ft., From ..... ft. to ..... f
From ..... ft. to ..... ft., From ..... ft. to ..... f

Gravel Pack Intervals: From 10 ft. to 50 ft., From ..... ft. to ..... f
From ft. to ft., From ft. to f

5 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other .....

Grouted Intervals: From 0 ft. to 10 ft., From ..... ft. to ..... ft., From ..... ft. to ..... f

What is the nearest source of possible contamination: 1 Septic tank 2 Sewer lines 3 Lateral lines 4 Cess pool 5 Seepage pit 6 Pit privy 7 Sewage lagoon 8 Feed yard 9 Livestock pens 10 Fuel storage 11 Fertilizer storage 12 Insecticide storage 13 Watertight sewer lines 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below) .....

Direction from well NORTH How many feet 200 ? Water Well Disinfected? Yes ✓ No .....

Was a chemical/bacteriological sample submitted to Department? Yes ..... No ✓ : If yes, date sample was submitted ..... month ..... day ..... year: Pump Installed? Yes ..... No ✓

If Yes: Pump Manufacturer's name ..... Model No. ..... HP ..... Volts .....

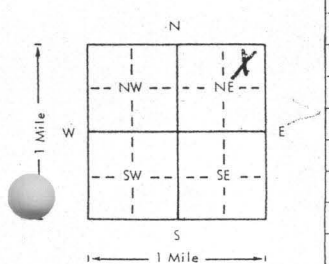
Depth of Pump Intake ..... ft. Pumps Capacity rated at ..... gal./min

Type of pump: 1 Submersible 2 Turbine 3 Jet 4 Centrifugal 5 Reciprocating 6 Other

6 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and wa completed on December month 19 day 1979 yea and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182

This Water Well Record was completed on December month 26 day 1979 year under the busines name of STRADER DRLG CO., INC. by (signature) Dale Asbren

7 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



ELEVATION:

FROM	TO	LITHOLOGIC LOG	FROM	TO	LITHOLOGIC LOG
0	6	Top Soil			
6	20	Clay			
20	35	Fine Sand			
35	50	course Sand, gravel			

Depth(s) Groundwater Encountered 1. 30 ft. 2. ..... ft. 3. ..... ft. 4. ..... ft. (Use a second sheet if needed)

INSTRUCTIONS: Use typewriter or ball point pen, *please press firmly* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Division of Environment, Water Well Contractors, Topeka, KS 66620. Send one to WATER WELL OWNER and retain one for your records.

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. _____

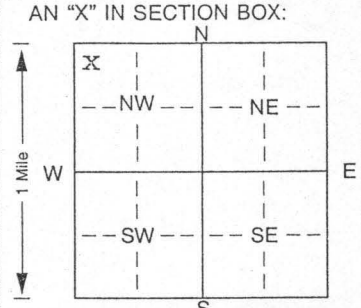
1 LOCATION OF WATER WELL: County: Douglas | Fraction: NW ¼ NW ¼ NW ¼ | Section Number: 1 | Township Number: T 13 S | Range Number: R 20E E/W

Distance and direction from nearest town or city street address of well if located within city?
1 mile north 2½ miles west of Eudora 1919 N. 1500Rd. Eudora 66025

2 WATER WELL OWNER: Virginia Strong
RR#, St. Address, Box # : 3712 Trail Rd.
City, State, ZIP Code : Lawrence, KS. 66049

Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL. 52 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 27 ft. below land surface measured on mo/day/yr 6-21-2001
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield 50 gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 12 in. to ft., and in. to ft.
WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Domestic (lawn & garden) 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (Specify below)
Was a chemical/bacteriological sample submitted to Department? Yes No X ; If yes, mo/day/yrs sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued X Clamped Welded Threaded
Blank casing diameter 5 in. to ft., Dia in. to ft., Dia in. to ft
Casing height above land surface 24 in., weight 2.82 lbs./ft. Wall thickness or gauge No. .258

TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 36 ft. to 52 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 27 ft. to 52 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 4 ft. to 27 ft., From ft. to ft., From ft. to ft.

What is the nearest source of possible contamination:
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)
Direction from well? West
How many feet? 210

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	10	brown silt			
10	18	brown clay			
18	28	brown silt			
28	30	brown fine sand course sand			
30	38	brown fine sand			
38	40	brown fine sand course sand med gravel			
40	41	blue clay			
41	52	grey fine sand			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 6-21-2001 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No. 182 This Water Well Record was completed on (mo/day/yr) 7-2-2001 under the business name of Strader Drilling Co., Inc. by (signature) Dale Strader

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone 785-296-5524. Send one to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

WATER WELL RECORD Form WWC-5 KSA 82a-1212

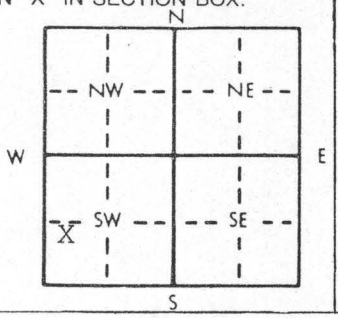
1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: DOUGLAS	NW ¼ SW ¼ SW ¼	1	T 13 S	R 20 E/W

Distance and direction from nearest town or city street address of well if located within city?
2 west of Eudora

2 WATER WELL OWNER: Harold Boehle
R#, St. Address, Box # : 1420 E. 1900 Rd.
City, State, ZIP Code : Eudora, KS 66025

Board of Agriculture, Division of Water Resour
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 50' ft. ELEVATION:
Depth(s) Groundwater Encountered 1. ft. 2. ft. 3. ft
WELL'S STATIC WATER LEVEL 22' ft. below land surface measured on mo/day/yr 2-15-93
Pump test data: Well water was ft. after hours pumping gp
Est. Yield 50 gpm: Well water was ft. after hours pumping gp
Bore Hole Diameter 12" in. to ft., and in. to
WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well
1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well
Was a chemical/bacteriological sample submitted to Department? Yes.....No.....X...; If yes, mo/day/yr sample was s
mitted Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued X Clamped
1 Steel 3 RMP (SR) 6 Asbestos-Cement 9 Other (specify below) Welded
2 PVC 4 ABS 7 Fiberglass Threaded
Blank casing diameter 5" in. to 0-40 ft., Dia in. to ft., Dia in. to
Casing height above land surface 24" in., weight 2.82 lbs./ft. Wall thickness or gauge No. .258

TYPE OF SCREEN OR PERFORATION MATERIAL: 7 PVC 10 Asbestos-cement
1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 11 Other (specify)
2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
1 Continuous slot 3 Mill slot 6 Wire wrapped 9 Drilled holes
2 Louvered shutter 4 Key punched 7 Torch cut 10 Other (specify)

SCREEN-PERFORATED INTERVALS: From 40 ft. to 50 ft., From ft. to
From ft. to ft., From ft. to
GRAVEL PACK INTERVALS: From 24 ft. to 50 ft., From ft. to
From ft. to ft., From ft. to

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 4 ft. to 24 ft., From ft. to ft., From ft. to

What is the nearest source of possible contamination:
1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
13 Insecticide storage
Direction from well? south How many feet? 100'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	6	Top Soil			
6	30	Clay-Brown-Silty			
30	35	Fine SAnd-Coarse Sand-Blue			
35	41	Fine Sand-Blue			
41	47	Fine Sand-Coarse Sand-Brown			
47	48	Clay-Blue			
48	50	Fine Sand-Coarse Sand-Med Gravel-Brown			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and w
completed on (mo/day/year) 2-15-93 and this record is true to the best of my knowledge and belief. Kans
Water Well Contractor's License No. 182 This Water Well Record was completed on (mo/day/yr) 4-7-93
under the business name of STRADER DRILLING CO., INC. by (signature) Dale Strader

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

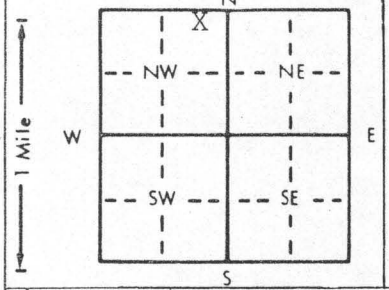
WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: DOUGLAS	NE ¼ NE ¼ NW ¼	2	T 13 S	R 20 E/W

Distance and direction from nearest town or city street address of well if located within city?
2 miles east of Lawrence @ 1837 N. 1500 Rd.

2 WATER WELL OWNER: Jeff Wallace
RR#, St. Address, Box # : 1201 E. 13th
City, State, ZIP Code : Lawrence, KS 66044
Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 52' ft. ELEVATION:
Depth(s) Groundwater Encountered 1. ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 30' ft. below land surface measured on mo/day/yr 2/24/98
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield 50 gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 12" in. to ft., and in. to ft.
WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Lawn and garden only 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (Specify below)
Was a chemical/bacteriological sample submitted to Department? Yes No X; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued X Clamped Welded Threaded
Blank casing diameter 5" in. to 0-45 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 24" in., weight 2.82 lbs./ft. Wall thickness or gauge No. .258
TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)
SCREEN-PERFORATED INTERVALS: From 45 ft. to 52 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 30 ft. to 52 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 4 ft. to 30 ft., From ft. to ft., From ft. to ft.
What is the nearest source of possible contamination: 1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)
Direction from well? south How many feet? 50'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	4	Top Soil			
4	15	Clay-Brown-Silty			
15	27	Silt-Brown			
27	31	Fine Sand-Brown			
31	32	Clay-Blue			
32	35	Fine Silt-Brown			
35	39	Clay-Brown			
39	41	Fine Sand-Brown			
41	47	Fine Sand-Coarse Sand-Brown			
47	52	Fine Sand-Coarse Sand-Med-Pea Brown			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 2/24/98 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182 This Water Well Record was completed on (mo/day/yr) 3-4-98
under the business name of STRADER DRILLING CO., INC. by (signature) Dale Askren

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

WATER WELL RECORD Form WWC-5 KSA 82a-1212

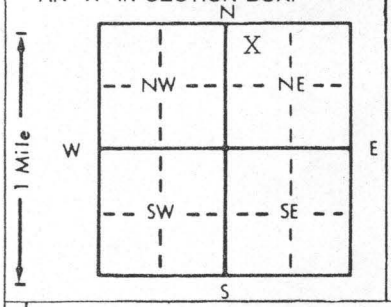
1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: DOUGLAS	NW ¼ NW ¼ NE ¼	11	T 13 S	R 20 E/W

Distance and direction from nearest town or city street address of well if located within city?
2½ miles east of Lawrence

2 WATER WELL OWNER: Daniel E. Lynch
RR#, St. Address, Box # : 642 N. 9th
City, State, ZIP Code : Lawrence, KS 66044

Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 60' ft. ELEVATION:
Depth(s) Groundwater Encountered 1. ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 32' ft. below land surface measured on mo/day/yr 04/13/98
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield 50 gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 10" in. to ft., and in. to ft.
WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Lawn and garden only 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (Specify below)
Was a chemical/bacteriological sample submitted to Department? Yes No X; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued X Clamped Welded Threaded
Blank casing diameter 5" in. to 0-55 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 24" in., weight 2.82 lbs./ft. Wall thickness or gauge No. .258

TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)
SCREEN-PERFORATED INTERVALS: From XX 55 ft. to XXX 60 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 32 ft. to 60 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 4 ft. to 32 ft., From ft. to ft., From ft. to ft.
What is the nearest source of possible contamination: 1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)
Direction from well? East How many feet? 100'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	3	Top Soil			
3	23	Clay-Brown-Silty			
23	26	Clay-Dark Brown			
26	52	Clay-Grey			
52	60	FS-Cs-Med-Pea Chert 1/4x3/8-Brown			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 4/13/98 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182 This Water Well Record was completed on (mo/day/yr) 4-23-98
under the business name of STRADER DRILLING CO., INC. by (signature) Dale Askren

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

95.14157 38.93148

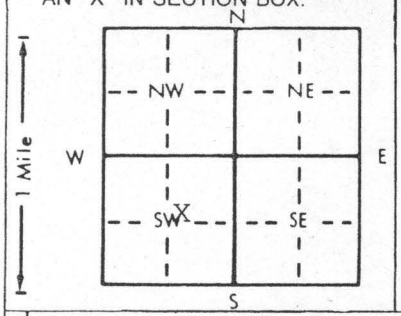
WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL: County: DOUGLAS | Fraction: SW ¼ NE ¼ SW ¼ | Section Number: 12 | Township Number: T 13 S | Range Number: R 20 E/W

Distance and direction from nearest town or city street address of well if located within city?
1 3/4 west of Eudora

2 WATER WELL OWNER: Jeff Gazaway
RR#, St. Address, Box # : 15007 W. 85th Terrace (File #40333) Board of Agriculture, Division of Water Resource
City, State, ZIP Code : Lenexa, KS 66215 Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 68 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 27' ft. below land surface measured on mo/day/yr 8-23-91
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield 300 gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 22" in. to ft., and in. to ft
WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Lawn and garden only 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (Specify below)
Was a chemical/bacteriological sample submitted to Department? Yes No X; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued Clamped Welded X Threaded
Blank casing diameter 12" in. to 0-58 ft., Dia in. to ft., Dia in. to ft
Casing height above land surface 28" in., weight 49 lbs./ft. Wall thickness or gauge No. .375
TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 2 Brass 3 Stainless steel 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)
Johnson .125
SCREEN-PERFORATED INTERVALS: From 58 ft. to 68 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 25 ft. to 68 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 0 ft. to 25 ft., From ft. to ft., From ft. to ft.
What is the nearest source of possible contamination: 1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)
Direction from well? west How many feet? 420'

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	3	Top Soil			
3	29	Clay-Brown			
29	49	Clay-Blue			
49	50	Fine Sand-Blue			
50	51	FS-CS-Med-Gravel-Blue			
51	53	Clay-Blue			
53	56	FS-CS-Med-Pea Gravel ¼"-Blue			
56	68	" " " " " Chert ½x1-Blue-Grey			
68	72	Limestone-Grey			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 8-23-91 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 182 This Water Well Record was completed on (mo/day/yr) 9-5-91 under the business name of STRADER DRILLING CO., INC. by (signature) Darle Hickerson

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-7320. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

(739)

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. _____

1 LOCATION OF WATER WELL: Fraction: ¼ S 1/2 SW ¼ | Section Number: 31 | Township Number: T 12 S | Range Number: R 21 E/W

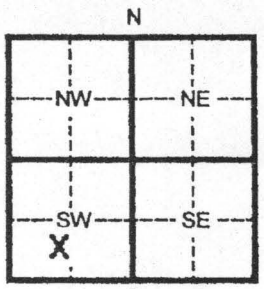
County: Douglas

Distance and direction from nearest town or city street address of well if located within city?
REF: Don Westheffer

2 WATER WELL OWNER: Nunemaker-Ross Inc.
RR#, St. Address, Box # : 1616 North 1700 Road
City, State, ZIP Code : Lawrence, Ks 66044

Board of Agriculture, Division of Water Resources
Application Number: 46589

3 LOCATE WELL'S LOCATON WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 50 ft. ELEVATION: _____
Depth(s) Groundwater Encountered 1 _____ ft. 2 _____ ft. 3 _____ ft.
WELL'S STATIC WATER LEVEL na ft. below land surface measured on mo/day/yr _____
Pump test data: Well water was _____ ft. after _____ hours pumping _____ gpm
Est. Yield _____ gpm: Well water was _____ ft. after _____ hours pumping _____ gpm
Bore Hole Diameter 28 in. to 51 ft. and _____ in. to _____ ft.
WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well
1 Domestic 3 Feed lot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Lawn and garden (domestic) 10 Monitoring well _____
Was a chemical/bacteriological sample submitted to Department? Yes ____ No X If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 5 Wrought Iron 8 Concrete tile CASING JOINTS: Glued X Clamped ____
1 Steel 3 RMP (SR) 6 Asbestos-Cement 9 Other (specify below) Welded _____
2 PVC 4 ABS 7 Fiberglass _____ Threaded _____
Blank casing diameter 28 in. to 30 ft., Dia _____ in. to _____ ft., Dia _____ in. to _____ ft.
Casing height above land surface 24 in., weight 16.15 lbs./ft. Wall thickness or gauge No. .500

TYPE OF SCREEN OR PERFORATION MATERIAL: 7 PVC 10 Asbestos-cement
1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 11 Other (specify) _____
2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
1 Continuous slot 3 Mill slot 6 Wire wrapped 9 Drilled holes
2 Louvered shutter 4 Key punched 7 Torch cut 10 Other (specify) _____

SCREEN-PERFORATED INTERVALS: From 30 ft. to 50 ft. From _____ ft. to _____ ft.
From _____ ft. to _____ ft. From _____ ft. to _____ ft.

GRAVEL PACK INTERVALS: From 20 ft. to 50 ft. From _____ ft. to _____ ft.
From _____ ft. to _____ ft. From _____ ft. to _____ ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other _____
Grout Intervals From 0 ft. to 20 ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft.

What is the nearest source of possible contamination:
1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/ Gas well
3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
13 Insecticide storage none
Direction from well? How many feet?

FROM	TO	CODE	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	3		Surface			
3	24		Clay			
24	35		Sand & gravel			
35	50		Large gravel			
50	51		shale			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/yr) 5-13-07 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 554 This Water Well Record was completed on (mo/day/yr) 3-30-07
under the business name of Woofter Pump & Well Inc. by (signature) Jay C Woofter by MA

INSTRUCTIONS: Please fill in blanks and circle the correct answers. Send three copies to Kansas Department of Health and Environment, Bureau of Water, 1000 S W Jackson St., Ste. 420, Topeka, Kansas 66612-1367. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

KGS Hydrology | Water Well Database Query

Scan of WWC5 Form

WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL: County: Douglas | Fraction: NW ¼ SE ¼ SE ¼ | Section Number: 31 | Township Number: T 12 S | Range Number: R 21 E/W

Distance and direction from nearest town or city street address of well if located within city? 3/4 miles N. From NW Eudora

2 WATER WELL OWNER: Eudora Riverview Golf
RR#, St. Address, Box # : 2504 Alabama
City, State, ZIP Code : Lawrence, Ks. 66046
Board of Agriculture, Division of Water Resources Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX: N / NW / NE / W / E / SW / SE / S; 1 Mile

4 DEPTH OF COMPLETED WELL 53 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 19-53 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 19 ft. below land surface measured on mo/day/yr 3-29-95
Pump test data: Well water was ft. after hours pumping gpm
Est. Yield 2.5.0. gpm: Well water was ft. after hours pumping gpm
Bore Hole Diameter 12¼ in. to 53 ft., and in. to ft.
WELL WATER TO BE USED AS: 1 Domestic 2 Irrigation 3 Feedlot 4 Industrial 5 Public water supply 6 Oil field water supply 7 Lawn and garden only 8 Air conditioning 9 Dewatering 10 Monitoring well 11 Injection well 12 Other (Specify below)
Was a chemical/bacteriological sample submitted to Department? Yes ..... No ....; If yes, mo/day/yr sample was submitted
Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 1 Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued X Clamped Welded Threaded
Blank casing diameter 8 in. to 33 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 30 in., weight 200# lbs./ft. Wall thickness or gauge No.

TYPE OF SCREEN OR PERFORATION MATERIAL: 7 PVC
1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 10 Asbestos-cement
2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 11 Other (specify) 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Mill slot 3 Key punched 4 Louvered shutter 5 Gauzed wrapped 6 Wire wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 33 ft. to 53 ft., From ft. to ft.
From ft. to ft., From ft. to ft.
GRAVEL PACK INTERVALS: From 53 ft. to 20 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 20 ft. to 0 ft., From ft. to ft., From ft. to ft.
What is the nearest source of possible contamination: NONE At the Time
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	15	Soil, Clay, Silt			
15	52	Sand			
52	53	Gravel & Limestone			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 3-29-95 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 561 This Water Well Record was completed on (mo/day/yr) 4-3-95 under the business name of Evans Energy Dev. Inc. by (signature) Sam E. Evans

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

Kansas Geological Survey
Comments to webadmin@kgs.ku.edu

WATER WELL RECORD Form WWC-5 KSA 82a-1212 ID No. _____

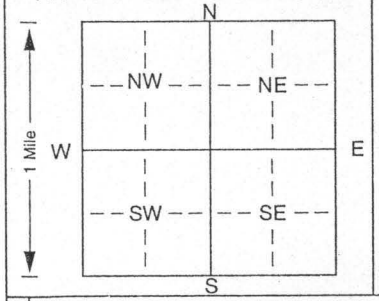
1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: Douglas	near center-E½-NE¼ ¼	6	T 13 S	R 21E E/W

Distance and direction from nearest town or city street address of well if located within city?
mile northwest of Lecompton

2 WATER WELL OWNER: Mark Neis
RR#, St. Address, Box # : 12775 County Line Rd.
City, State, ZIP Code : Eudora, Ks. 66025

Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL....63..... ft. ELEVATION:.....
Depth(s) Groundwater Encountered 1.....ft. 2.....ft. 3.....ft.
WELL'S STATIC WATER LEVEL .19½..... ft. below land surface measured on mo/day/yr .....12-14-2001.....
Pump test data: Well water was .....ft. after ..... hours pumping ..... gpm
Est. Yield ..950...gpm: Well water was .....ft. after ..... hours pumping ..... gpm
Bore Hole Diameter...24..... in. to .....ft., and..... in. to .....ft.

WELL WATER TO BE USED AS: 5 Public water supply 8 Air conditioning 11 Injection well
1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Domestic (lawn & garden) 10 Monitoring well .....

Was a chemical/bacteriological sample submitted to Department? Yes..... No. X...; If yes, mo/day/yrs sample was submitted Water Well Disinfected? Yes X No

5 TYPE OF BLANK CASING USED: 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued. X Clamped.....
1 Steel 3 RMP (SR) 6 Asbestos-Cement 9 Other (specify below) Welded .....
2 PVC 4 ABS 7 Fiberglass ..... Threaded.....

Blank casing diameter ....16.....in. to .....ft., Dia .....in. to .....ft., Dia .....in. to .....f
Casing height above land surface....24.....in., weight .....15.54..... lbs./ft. Wall thickness or gauge No. ....500.....

TYPE OF SCREEN OR PERFORATION MATERIAL: 7 PVC 10 Asbestos-cement
1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 11 Other (specify).....
2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
1 Continuous slot 3 Mill slot 6 Wire wrapped 9 Drilled holes
2 Louvered shutter 4 Key punched 7 Torch cut 10 Other (specify)..... ft

SCREEN-PERFORATED INTERVALS: From....50..... ft. to .....63..... ft., From ..... ft. to..... ft
From..... ft. to ..... ft., From ..... ft. to..... ft
GRAVEL PACK INTERVALS: From....25..... ft. to .....63..... ft., From ..... ft. to..... ft
From..... ft. to ..... ft., From ..... ft. to..... ft

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other .....
Grout Intervals: From...0..... ft. to ...25.....ft., From .....ft. to.....ft., From .....ft. to.....ft.

What is the nearest source of possible contamination:
1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
13 Insecticide storage Open Field.....
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	11	brown silty clay			
11	18	brown silt			
18	22	brown fs-cs			
22	27	brown fs-cs-med-pea			
27	33	grey fine sand			
33	35	blue clay			
35	38	grey fs-cs-med gravel			
38	42	blue clay			
42	49	fs-cs-med-some pea			
49	54	fs-cs-med-pea			
54	55	blue clay			
55	58	fs-cs-med-pea			
58	63	fs-cs-med-pea ½x3/4			
3		grey limestone			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) ..12-14-2001..... and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No....182..... This Water Well Record was completed on (mo/day/yr) ....1-2-2002..... under the business name of Strader Drilling co., Inc. by (signature) Dale Askeren

INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone 785-296-5524. Send one to WATER WELL OWNER and retain one for your records. Fee of $5.00 for each constructed well.

WATER WELL RECORD Form WWC-5 KSA 82a-1212

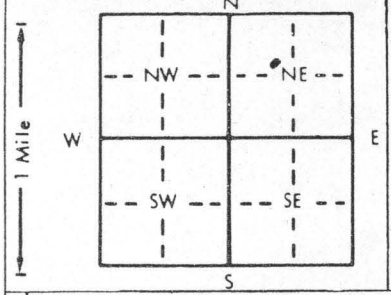
1 LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: DOUGLAS	SE ¼ NW ¼ NE ¼	6	T 13 S	R 21 (E)/W

Distance and direction from nearest town or city street address of well if located within city?
3 MILES NORTHWEST OF EUDORA

2 WATER WELL OWNER: CITY OF EUDORA
RR#, St. Address, Box # : 4 EAST SEVENTH STREET
City, State, ZIP Code : EUDORA, KS 66026

Board of Agriculture, Division of Water Resources
Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:



4 DEPTH OF COMPLETED WELL 72 ft. ELEVATION:
Depth(s) Groundwater Encountered 1. 18 ft. 2. ft. 3. ft.
WELL'S STATIC WATER LEVEL 18 ft. below land surface measured on mo/day/yr 6/16/98
Pump test data: Well water was 20 ft. after 0.5 hours pumping 329 gpm
Est. Yield 325 gpm: Well water was 22 ft. after 11 hours pumping 521 gpm
Bore Hole Diameter 42 in. to 72 ft., and in. to ft.
WELL WATER TO BE USED AS: (5) Public water supply 8 Air conditioning 11 Injection well
1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well
Was a chemical/bacteriological sample submitted to Department? Yes X No; If yes, mo/day/yr sample was submitted 4/21/97
Water Well Disinfected? (Yes) No

5 TYPE OF BLANK CASING USED: (1) Steel 2 PVC 3 RMP (SR) 4 ABS 5 Wrought iron 6 Asbestos-Cement 7 Fiberglass 8 Concrete tile 9 Other (specify below)
CASING JOINTS: Glued Clamped Welded X Threaded
Blank casing diameter 12 in. to 47 ft., Dia in. to ft., Dia in. to ft.
Casing height above land surface 18 in., weight PITLESS UNIT lbs./ft. Wall thickness or gauge No. 0.375"

TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel (3) Stainless steel 2 Brass 4 Galvanized steel 5 Fiberglass 6 Concrete tile 7 PVC 8 RMP (SR) 9 ABS 10 Asbestos-cement 11 Other (specify) 12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 2 Louvered shutter 3 Mill slot 4 Key punched (6) Wire wrapped 5 Gauzed wrapped 7 Torch cut 8 Saw cut 9 Drilled holes 10 Other (specify) 11 None (open hole)

SCREEN-PERFORATED INTERVALS: From 47 ft. to 72 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

GRAVEL PACK INTERVALS: From 22 ft. to 72 ft., From ft. to ft.
From ft. to ft., From ft. to ft.

6 GROUT MATERIAL: (1) Neat cement 2 Cement grout 3 Bentonite 4 Other
Grout Intervals: From 6 ft. to 20 ft., From ft. to ft., From ft. to ft.

What is the nearest source of possible contamination:
1 Septic tank 2 Sewer lines 3 Watertight sewer lines 4 Lateral lines 5 Cess pool 6 Seepage pit 7 Pit privy 8 Sewage lagoon 9 Feedyard 10 Livestock pens 11 Fuel storage 12 Fertilizer storage 13 Insecticide storage 14 Abandoned water well 15 Oil well/Gas well 16 Other (specify below)
Direction from well? How many feet?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	2	TOP SOIL			
2	17	BROWN SANDY SILT			
17	23	BROWN MEDIUM TO FINE SAND			
23	38	GRAY MEDIUM TO COARSE, SOME FINE			
38	55	GRAY MEDIUM TO COARSE, SOME GRAVEL			
55	72	GRAY COARSE TO MEDIUM			

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 6/16/98 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 102 This Water Well Record was completed on (mo/day/yr) 8/5/98 under the business name of LAYNE CHRISTENSEN COMPANY by (signature) [signature]

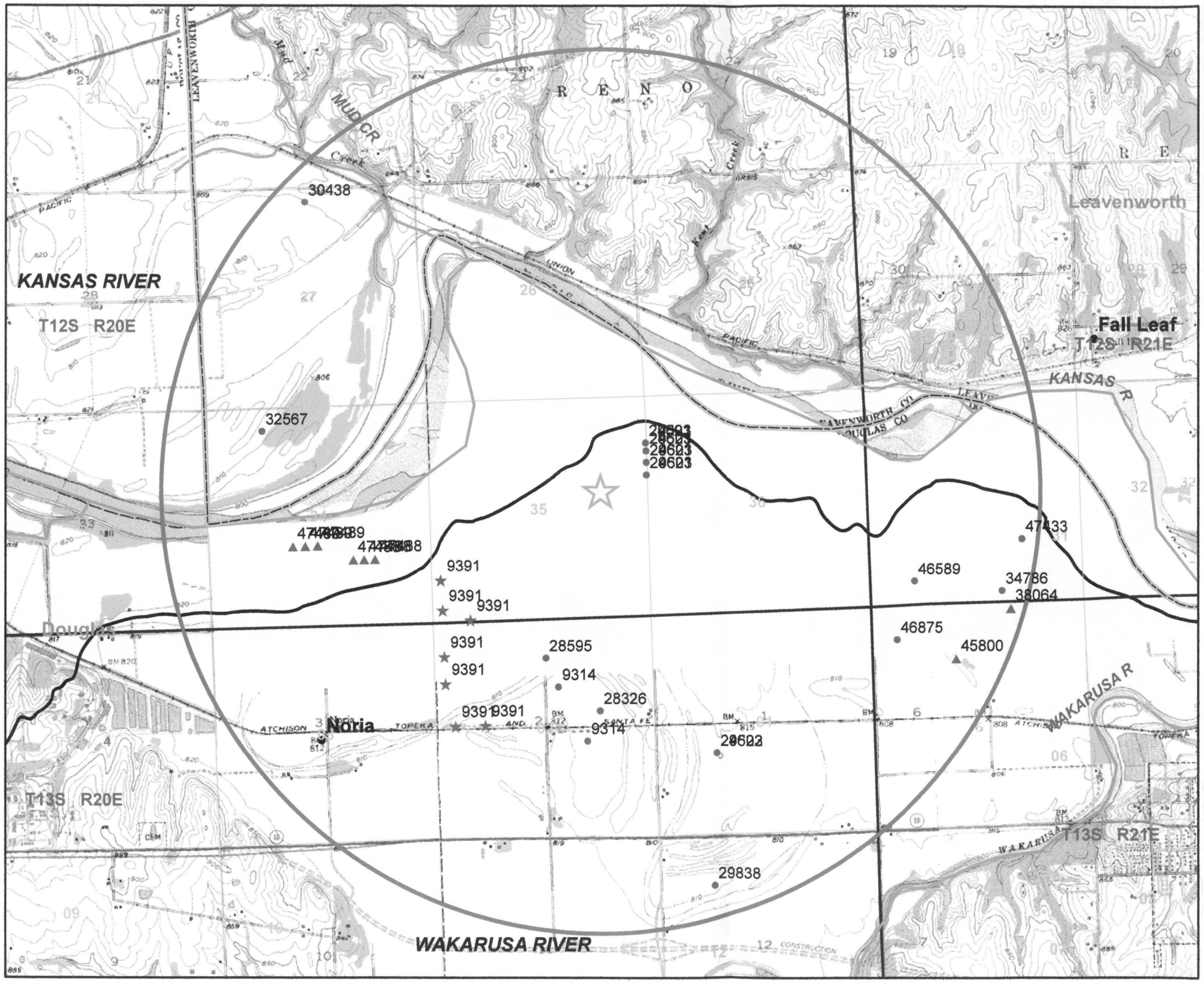
INSTRUCTIONS: Use typewriter or ball point pen. *PLEASE PRESS FIRMLY* and *PRINT* clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

APPENDIX II.

Kansas Department of Agriculture, Division of Water Resources,

Safe Yield Analysis Data

WIMAS Water Right Development - Map Centered on (E½) 35-12S-20E

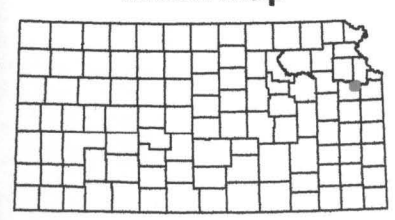


Legend

WIMAS_PDS_UMW

- ★ G_IND
- • G_IRR
- ▲ G_MUN

Index Map



0 0.3 0.6 1.2 1.8 2.4 Miles

This map was created by WIMAS on 9/12/2012 7:49:21 AM

Report Date Wednesday, September 12 2012

Water Rights and Points of Diversion Within 2.00 miles of point defined as:

2940 ft N and 1320 ft W of the SE Corner of Section 35, T 12S, R 20E

Located at: 95.153247 West Longitude and 38.964996 North Latitude

GROUNDWATER ONLY

File	Number	Use	ST	SR	Dist (mi)	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Batt	Auth_Quan	Add_Quan	Unit
A__	9314	00 IRR	NK	G	1.12	--	NE	NW	SE	-----	-----	2	13	20E	1		102.00	102.00	AF
Same					.89	--	NW	SW	NE	-----	-----	2	13	20E	2				
A__	9391	00 IND	NK	G	.87	--	SW	SW	SW	283	5040	35	12	20E	1		3685.91	3685.91	AF
Same					.80	--	SE	SW	SW	24	4375	35	12	20E	8				
Same					.80	--	NW	SW	SW	1004	5063	35	12	20E	9				
Same					1.23	--	--	--	--	2778	4815	2	13	20E	3				
Same					1.16	--	--	--	--	2771	4092	2	13	20E	4				
Same					1.09	--	--	--	--	3794	5028	2	13	20E	5				
Same					1.00	--	--	--	--	4453	5034	2	13	20E	9				
A__	24621	00 IRR	NK	G	.33	--	SE	NE	NE	4180	50	35	12	20E	4		24.50	24.50	AF
Same					.31	--	SE	NE	NE	3970	50	35	12	20E	5				
Same					.28	--	NE	SE	NE	3680	50	35	12	20E	6				
Same					.25	--	NE	SE	NE	3370	50	35	12	20E	7				
A__	24623	00 IRR	NK	G	1.30	--	CW	NE	SW	1960	3840	1	13	20E	1		4.60	4.60	AF
A__	28326	00 IRR	NK	G	.98	--	SW	SE	NE	3040	1315	2	13	20E	7		36.00	36.00	AF
A__	28595	00 IRR	NK	G	.77	--	SW	NW	NE	4350	2580	2	13	20E	8		23.00	.00	AF
A__	29502	00 IRR	NK	G	1.30	--	CW	NE	SW	1960	3840	1	13	20E	1		49.30	49.30	AF
A__	29503	00 IRR	NK	G	.33	--	SE	NE	NE	4180	50	35	12	20E	4		87.50	87.50	AF
Same					.31	--	SE	NE	NE	3970	50	35	12	20E	5				
Same					.28	--	NE	SE	NE	3680	50	35	12	20E	6				
Same					.25	--	NE	SE	NE	3370	50	35	12	20E	7				
A__	29838	00 IRR	NK	G	1.86	--	SE	NW	NW	4070	4000	12	13	20E	1		26.00	26.00	AF
A__	30438	00 IRR	NK	G	1.87	--	NW	NW	NE	4931	2788	27	12	20E	2		44.00	44.00	AF
A__	32567	00 IRR	NK	G	1.54	--	--	--	--	4750	4000	34	12	20E	2		79.00	79.00	AF
A__	34786	00 IRR	NK	G	1.92	--	SE	SW	SE	300	1950	31	12	21E	1		25.00	25.00	AF
A__	38064	00 MUN	NK	G	1.98	--	NE	NW	NE	5180	1855	6	13	21E	3		190.70	141.97	AF
A__	45800	00 MUN	LO	G	1.85	--	SE	SE	NW	3870	3110	6	13	21E	7		245.51	66.01	AF
A__	46589	00 IRR	LR	G	1.54	--	NC	S2	SW	575	3960	31	12	21E	2		150.00	150.00	AF
A__	46875	00 IRR	KE	G	1.54	--	SE	NW	NW	4613	4547	6	13	21E	9		32.00	32.00	AF
A__	47433	00 IRR	HK	G	1.97	--	SE	NW	SE	1530	1428	31	12	21E	6		91.50	91.50	AF
A__	47488	00 MUN	HK	G	1.09	--	SE	NW	SE	1590	1640	34	12	20E	8	G 2	1290.41	784.16	AF
Same					1.14	--	SE	NW	SE	1590	1902	34	12	20E	6	B 2			
Same					1.04	--	SE	NW	SE	1590	1378	34	12	20E	7	B 2			
A__	47489	00 MUN	HK	G	1.34	--	SE	NE	SW	1953	3046	34	12	20E	5	G 2	1290.41	.00	AF
Same					1.39	--	SW	NE	SW	1953	3346	34	12	20E	3	B 2			
Same					1.28	--	SE	NE	SW	1953	2746	34	12	20E	4	B 2			

Total Net Quantities Authorized:	Direct	Storage
Total Requested Amount (AF) =	.00	.00
Total Permitted Amount (AF) =	907.66	.00
Total Inspected Amount (AF) =	216.01	.00
Total Pro_Cert Amount (AF) =	.00	.00
Total Certified Amount (AF) =	4305.78	.00
Total Vested Amount (AF) =	.00	.00
TOTAL AMOUNT (AF) =	5429.45	.00

An * after the source of supply indicates a pending application for change for the file number

APPENDIX III.

Potential Pollution Sources in the Area

1. Septic tank drain fields and cesspools especially in sandy loam soils can be a potential contamination source of the aquifer. Kansas Department of Health and Environment requires all public water supply ells to have at least 20 feet of grout sealed casing at the top of the well to prevent contamination and entry of flow into the well. However, most older domestic wells do not have grout seals to a safe depth below surface thus becoming a potential sources of contamination of the aquifer. There is supposed to be 100 feet separation between a septic tank drain field and a domestic well on a property.

2. Cattle or other livestock feeding operation can be a source of pollution to an aquifer, depending on the soil type and depth to static water level, especially if located within the effective radius of influence of a well. The effective radius of influence of a well is dependent upon the pumping rate of the well and aquifer characteristics. Domestic wells have a small effective radius of influence usually less than 50 feet. The effective radius of influence can be one thousand feet or more for an irrigation well or other large capacity well.

3. Chemical fertilizer and herbicides applied to corn planted next to the wells as shown next to Eudora Well No. 6 is a potential threat of contamination to the City wells. This threat of contamination is increased with irrigation, especially on sandy soils. Major portions of Hall and Merrick Counties in Nebraska have nitrates nearly double that of the KDHE and EPA regulations for Nitrates in public water supply due to irrigation and chemigation of corn on sandy loam soils similar to the alluvial soils shown in Bulletin 206, Part 2, Ground Water in the Kansas River Valley Junction City to Kansas City, Kansas by Stuart W. Fader. The Newman Terrace clay loam soils offer more protection of the aquifer from fertilizer.

4. Abandoned wells or old domestic wells that were drilled long ago with thin wall casing that have corroded through the years and were not grout sealed, can allow storm water runoff to flow directly into the aquifer resulting in direct contamination to the City wells. Such a well may exist west of Eudora Well No. 7 under the old windmill tower in the picture.

WICHITA SAND PIT STUDY

Sedgwick County Department of Environmental Resources organized and conducted much of the efforts to determine which sand pits to study in more detail. The study group obtained assistance from the U.W. Bureau of Reclamation in drilling and installing three (3) monitoring wells around each of six (6) sites selected for study. Funds were obtained for the U.S. Geological Survey to sample and analyze surface water from the pits, ground water from the monitoring wells, and pit bottom sediment at four (4) sites located at the northwest edge of Wichita. The USGS analyzed the water samples for 18 physical and chemical properties, five (5) bacteriological values, 40 inorganic constituents, 118 pesticides and degradate compounds, and 134 organic compounds other than pesticides. The USGS analyzed the bottom sediments for five (5) physical and chemical properties, 45 inorganic constituents, and 32 organic compounds. The four pits in the Phase I sampling were; Barefoot Bay, Ridge Port, Mooring, and Cropland. Later two south pits were sampled which were; Kingston Cove and Pine Bay Estates.

Maize retention pond/ground-water pit is used for storage of storm water runoff. A special sampling of the storm water flow into the pit was made by others within 30 minutes of when flow commenced and within one to two hours following a storm event. The TDS of the storm water flow was very low at 49 to 111 mg/L when compared to the computed values in the analysis of data of 46 to 83 mg/L by the Kansas Geological Survey. Organic compounds found in the runoff water of concern was Alachlor at 3.8 µg/L in the first June 2007 runoff sample, Alachlor of 3.0 µg/L in the second June 2007 sample. The drinking water MCL for Alachlor is 2 µg/L. However, in the October 2007 pond sample Alachlor was significantly reduced by sunlight and bacterial activity of the pond. The Maize detention pond appears to be an effective means of removing storm water runoff with high bacteria content from the Big Slough waterway.

Storm water runoff into the sand pits does contribute to ground water recharge. The study showed no *significant* evidence of contamination of ground water by storm water runoff into the pits. The key word is *significant* contamination. Trace levels of some organics and mineral constituents such as iron, manganese and the ammonium ion were detected in the down gradient monitoring wells in slightly greater concentrations than the up gradient monitoring wells. On the contrary, most organic contaminants were reduced by the sunlight and bacterial activity existing within the sand pit lakes. Bacterial levels were never greater than the level recommended by KDHE for body contact.

Although some of the pits had piped storm water runoff into the pits from streets, broad width flow ways with grass filtering would capture silt and other contaminants prior to entering the ponds or pits. Road side drainage ditches may have a broad width overflow channels into nearby pits temporarily storing the storm water surge allowing orderly flow through natural water courses. The long term accumulation of silts, sediments and other solids will eventually restrict the recharge to the ground water system as has occurred at the Sedgwick County Zoo pit.

Residential areas have the greater potential for ground water contamination than rural areas. However, the spring runoff from corn fields with atrazine must be bounded by grass filter strips and flows need to be routed in grass waterways to capture sediments with atrazine attached.

Hydraulic Impacts of Quarries and Gravel Pits

Prepared by

J>A. Green, J.A. Pavlish, R.G. Merritt, ans J.L. Leete

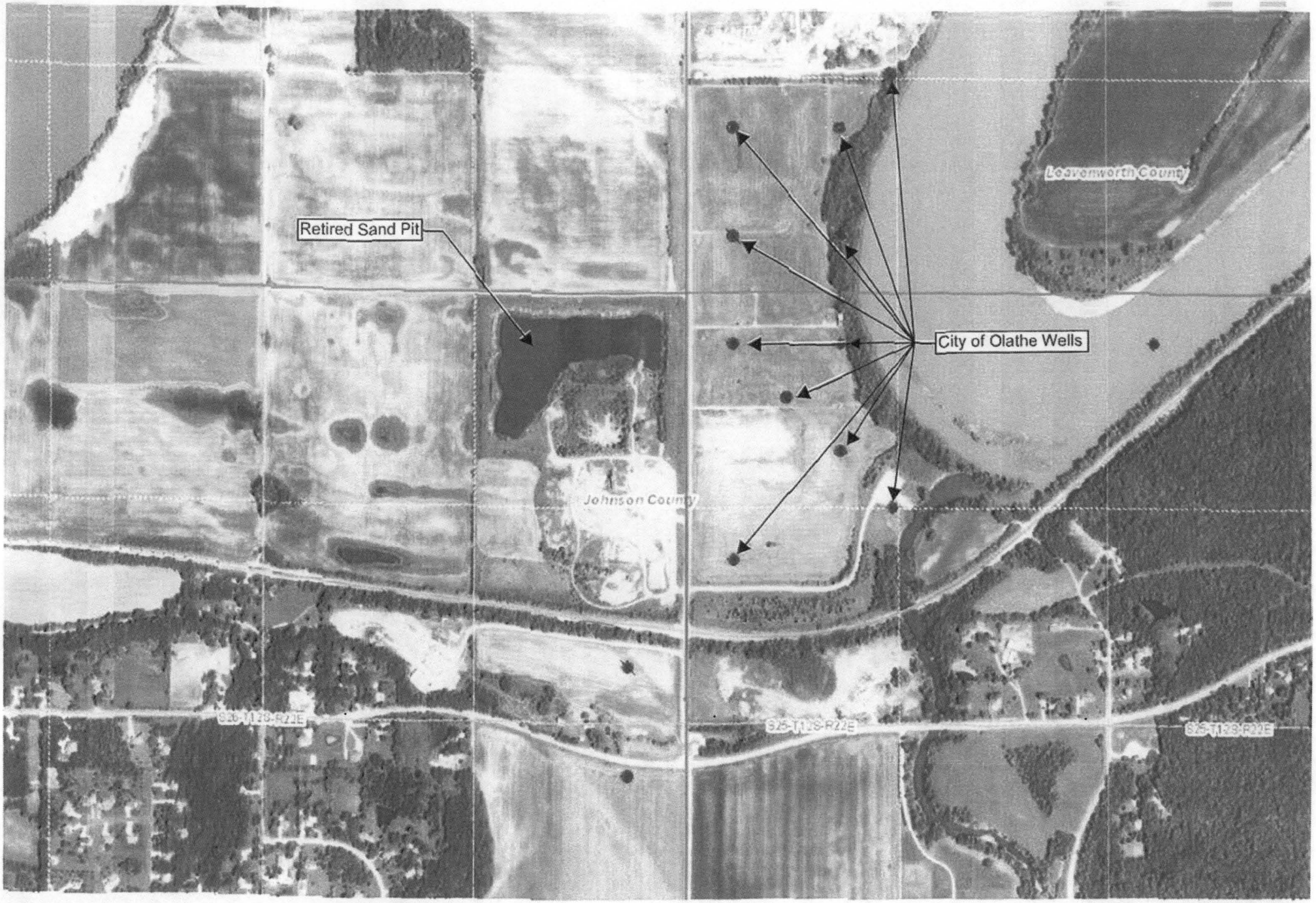
Minnesota Department of Natural Resources

Division of Waters

2005

The Division of Waters, MDNR studied three sand pits in the report, two of which were in saturated alluvial sediments and one was above the water table. The conclusion of this study was that sand mining had minimal impact on aquifer water levels. In one sand pit, ground water temperature changes were noted but were not consistent.

2079


Retired Sand Pit
City of Olathe Wells
Leavenworth County
Johnson County
S20-T12S-R22E
S25-T12S-R22E
S29-T12S-R23E

APPENDIX IV.

RESUME' AND PERSONAL INFORMATION

Name: Carl E. Nuzman, P.E., P.Hg.
3314 NW Huxman Road
Silver Lake, KS 66539

Phone: (785) 582 4054
Cell: (785) 224 9929
cnuzman@embarqmail.com

Position: Consulting Engineer / Hydrogeologist

Academic and Professional Certifications:
Master of Science in Water Resources Engineering, Department of civil Engineering, University of Kansas, 1955.
Bachelor of Science in Agricultural Engineering, Kansas State University, 1053.
Professional Engineer, first licensed in Kansas in 1962, KS-4481. Formerly licensed in the following states: MO-E12525, IA-6334, SC-4099, FL-15102, AL-16858, AZ-23209, IL-062-043392, IN-PE-60880547, LA-23209, MS-10041, MI-33050, NE-E-12525, NC-15121, NM-10625, OH-E-51179, OK-15653, TN-018707, VA-0402-018380, and WI-E-25841.
Professional Hydrogeologist, Certified in 1986 by the American Institute of Hydrology, P.,Hg-385.

Professional Positions:

- Consultant – 1997 to Present
- Layne GeoSciences, Inc. Mission Woods, KS, Vice-president and Principal Hydrologist – 1988 to 1997
- Groundwater Management, Inc. Kansas city, KS, Vice President and Chief Hydrologist, 1985 to 1988
- Layne Western Company, Inc. Hydrology Division Manager and Chief Hydrologist 1970 to 1985
- Layne Western Company, Inc. Kansas City, MO, Sales Engineer 1967 to 1970
- Kansas Water Resources Board, Topeka, KS, Hydrologist III 1966
- Kansas State Board of Agriculture, Division of Water Resources, Topeka, KS, Assistant Engineer 1957 to 1965

Specialized Competence:

- Surface and ground water hydrology
- Project management and supervision
- Water well treatment and rehabilitation/ground water quality
- Well and well field design and construction
- Modeling of ground water aquifers
- Water treatment and distribution piping
- Injection well design and operation
- Water pumps and associated equipment including suction flow control devices

Applicable Experience:
Mr. Nuzman has extensive experience in the areas of ground water modeling, water well and well field design and construction, water well treatment and rehabilitation, and soil and ground water remediation. He served at technical advisor to the Attorney General of Kansas in working with the U.S.Geological Survey Analog Model laboratory in Phoenix, AZ in doing the first model work of the Equus Beds aquifer north of Wichita in 1961. He was the first to model the Ogallala aquifer in SW Kansas using the passive element, steady state, electric analog model technique in 1966.

After joining Layne Western in 1967, he has conducted numerous water well pumping tests, aquifer modeling projects and well field design and construction for multiple Cities and Companies throughout the United States and in some foreign countries. He has consulted on deep disposal wells and designed a ground water recharge facility. He has provided the foundation dewatering design for numerous construction projects. He has provided expert testimony on a variety of hydrologic issues. He has prepared specifications and bidding documents for both municipal and industrial well construction, pumps and controls for a variety of projects.

Publications:

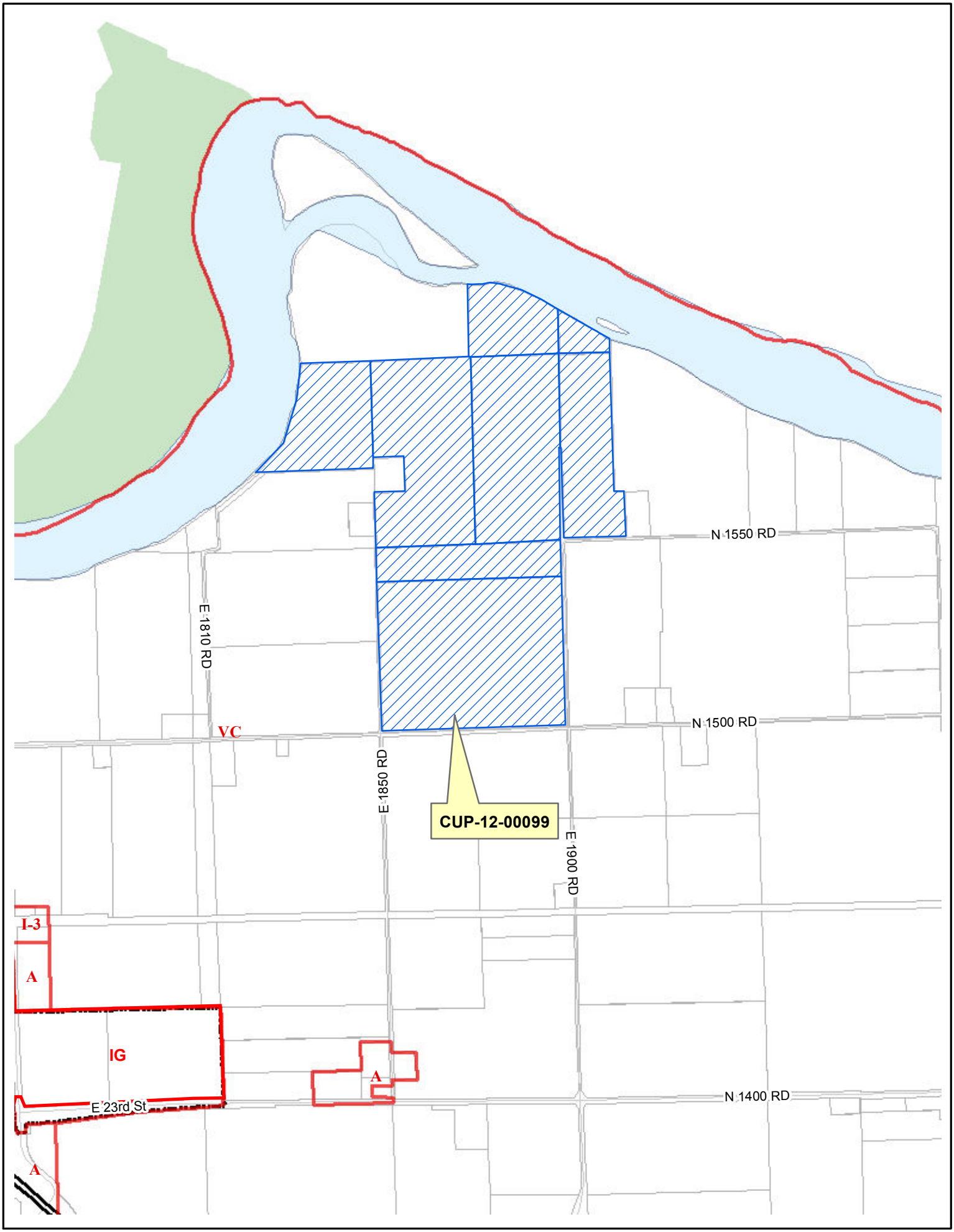
- Nuzman, Carl E. (1989) "Well Hydraulic Flow concept", Published in *Recent advances in Ground-Water Hydrology*, by the American Institute of hydrology pgs 72-77.
- Nuzman, Carl E. (1978, revised 1985) "Ground-Water and Well Efficiency" Published by Doerr metal Products, Larned, KS pgs 67.
- Winslow, John D. and C. E. Nuzman, (1966): "Electric Analog Model of the Kansas River alluvium in the vicinity of Topeka, Kansas", Kansas Geological Survey. Lawrence, KS.
- Contributor to the "Handbook of Ground-Water Development", by Roscoe Moss Company, Los Angeles, CA on Well Rehabilitation. 1990.
- Contributing author "Ground-Water Development handbook M-21" and contributed to the revised edition of Manual M-21 by the American Water Works Association, Denver, CO.
- Other technical papers and numerous client reports of study have been made.

Inventions:

- Co-inventor of a filament wound fiber glass water well screen;
- Inventor of an In-situ Ground Water Treatment System, assigned to Layne Western Company, Inc;
- Co-inventor of a patent of a non-vortexing passive pump intake strained for boiling water reactor nuclear power plants and used on other water resource applications.

Professional Societies:

- American Society of Biological and Agricultural Engineers
- American Society of Civil Engineers
- American Geophysical Union
- American Institute of Hydrology
- American Water Works Association
- National Ground Water Association
- National Society of Professional engineers
- Kansas Society of Professional Engineers


N 1550 RD
E 1810 RD
VC
N 1500 RD
E 1850 RD
CUP-12-00099
E 1900 RD
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IG
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E 23rd St
N 1400 RD
A

MEMORANDUM

TO:	City of Eudora Planning Commission
CC:	City of Eudora Staff
FROM:	Scott Michie, City of Eudora Planning Advisory Consultant
SUBJECT:	**Staff Findings,** Penny Sand Conditional Use Permit to Douglas County
DATE:	**September 10, 2012** **County Agenda of 9-24-2012, Sand Pit CUP**

The City of Eudora plans and code requirements are met in the subject sand pit application. These staff findings are submitted based on the three City zoning standards considered for a permit application most similar to the county's CUP:

Eudora Standard 1: Whether the proposed use meets City regulations.
Staff Finding: The subject application does not conflict with City of Eudora regulations, because the sand dredging site is at or beyond the outer northwest edge of the City's Planning Area; and as such, does not impede the City's long-standing public policies for: a) utilization and conservation of the natural resources northwest of the City, b) protection of its planned long term industrial areas, and c) minimization of industrial traffic through town on Main Street heading south to K-10 Highway.

Eudora Standard 2: Whether the proposed use complies with the Comprehensive Plan.
Staff Finding: The application does not conflict with the City of Eudora Comprehensive Plan. The City plan calls for preservation of the river floodplain natural resources in its planning area, recognizing them as "the most prominent natural features north and west of the City." As the current processing plant is outside of the City's planning area, and the expanded sand dredging would be partially beyond the City's planning area, the operation may be considered outside of the area of City concern for "preservation of the river floodplains in its planning area." In addition, the Penny Sand application complies with the industrial land use recommendation of the City Map by directing industrial traffic west of the City:

> *Industrial areas should have reasonable and convenient access to major arterials and railroad facilities as required. The use of local streets and traffic that cuts through the community off of arterial streets is strongly discouraged as it increases road maintenance and traffic conflicts.*

Eudora Standard 3: Whether the proposed use and site plan will be objectionable or detrimental to the public welfare of the community under the circumstances of the particular case regarding setback, height, density and similar aspects.
Staff Finding: No such objection or detriment is found in this case.

Review and analysis by Terrane Resources Company should be considered before the public can be assured against harm as to long-term potential impacts of the proposed sand pit operation on City of Eudora public water wells.

End of Memorandum

Friends Kaw

September 21, 2012

Douglas County Commission
1100 Massachusetts Street
Lawrence, KS 66044-3040

RE: CUP for proposed Penny's Concrete Inc. Pit Mine

Friends of the Kaw, Inc. is a 501 c 3, grassroots environmental organization whose mission is to protect and preserve the Kansas River for present and future generations. Towards that end, we have advocated - since our inception in the early 1990's - that in-river sand and gravel operations move out of the river and onto the land (pit mining) due to (a) irreparable harm done to the river's channel, banks and ecosystem; and (b) degradation of our drinking water quality; (c) degradation to public water intake supply systems; and bridge structures.

The Kansas River has been commercially mined (dredged) for sand and gravel since the early 1900's. Past dredging activities are documented to have caused significant damage to riverbed, habitat, and water quality.

The Army Corps is currently considering a proposal from five private dredging companies to increase dredging on the Kaw close to 50%, from 2.2 million tons to 3.2 million tons of sand per year.

The following preliminary findings come from a study funded by the Kansas Department of Wildlife and Parks (KDWP) and carried out by Kansas State University researchers Melinda Daniels and Craig Paukert. The scientists have documented riverbed incision in dredged reaches, which is most likely also causing excessive bank erosion both upstream and downstream of dredge sites.

Private in-channel dredging operations on rivers like the Kansas River cause deepening and widening of the channel and accelerate erosion of the banks. As a result, dredging lowers the water level of the river and the adjacent water table in the floodplain. This creates the risk for harm to public river uses (such as water treatment facilities, municipal wells, bridge footings, etc.) as well as to fish communities throughout the watershed, including endangered species.

KANSAS RIVERKEEPER®

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Kansas Riverkeeper®
Laura Calwell

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Friends of the Kaw
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Kansas City:
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Lawrence:
785-312-7200

Report River Pollution:
1-866-RIV-KEEP

Email:
Riverkeeper@KansasRiver.org

Website:
http://KansasRiver.org

Friends of the Kaw recently interviewed Daniels for its public comment to the U.S. Army Corps of Engineers. "If you take 3.2 million tons from the river bottom, then the river will take 3.2 million tons from the riverbanks, trying to balance the sediment load in the system," Daniels said. "That's the simple physics of how water works in river channels to transport sediment. Landowners along the river, particularly farmers with unforested river banks next to their fields should be worried. So should anyone with a water intake pipe or a creek in their backyard. The effects of in-channel dredging will propagate both upstream and downstream from the dredge site until a hard control point, like a dam or a bedrock outcrop, is reached. That means up tributary streams as well as the main river."

Daniels surveyed major dredge holes on the Kansas River with a sophisticated new measuring technology, an acoustic Doppler instrument that mapped river channel topography and measured water velocity. The researchers discovered that while the Kansas River averages four to five feet deep, active dredge holes can measure up to forty feet deep.

The researchers also discovered that these deep dredge holes can migrate up and down river - sometimes very rapidly, depending on water conditions. Even during small flow increases, researchers documented the upslope lip of a dredge hole traveling upstream.

"People used to think the dredge holes just filled up, but now we know they don't. The holes first cause erosion upstream and downstream and then eventually do fill in, but not before causing a net loss of sediment from the bed and banks of the channel, meaning the channel does not simply go back to its original state," Daniels said. "If there's no bedrock, or physical structure like the Bowersock Dam to stop them, those dredge holes cause channel erosion that will keep on going through the entire river network. Their effects can even travel up the tributaries." Unless a bridge footing or other engineering infrastructure in the river is armored, the migrating hole could erode that physical structure as well.

The technical term for this river phenomenon is a "migrating head cut." Here's how it works:
The Kansas River is a sand bed river. Sand is a light sediment, and water transports it easily. When dredgers excavate into the riverbed, that hole creates a steep wall (or head cut) where the river depth suddenly increases. Water rushes rapidly over that wall, gaining speed and picking up sand from the upstream edge. At the same time, some sand falls into the hole. The water passing over the hole then picks up new sediment downstream, causing erosion there as well. The hole starts to expand, both upstream and downstream.

Over time, repeated dredging deepens and widens the river by removing sediment from the system. The result is that the river bottom lowers, along with the water level. This can leave the intakes for water treatment plants stranded. Dredging on the Missouri River has been scaled back recently because of similar problems propagating into the lower Kansas River and other tributaries to the Missouri.

When the river deepens, the water table in the floodplain lowers. Daniels said that this creates the potential for less water storage, which could affect the many municipal wells along the river. A lower water table also affects river vegetation and forests. For example, the cottonwood – the state tree of Kansas – can't survive unless its roots can reach a good water supply.

The deep dredge holes may affect fish populations, too. "The river's physical habitat is significantly different between dredged and un-dredged areas," noted Daniels.

However, dredging's most major environmental impacts for fish are not limited to the Kaw. Since migrating head cuts can also affect river tributaries, Daniels said the K-State study raises questions about risks to the habitat of endangered species (like the Topeka Shiner) that live in these smaller streams.

Daniels said that knowledge of the environmental impacts of dredging is incomplete without studying dredging's impacts on the entire Kansas River system.

"We need a new environmental impact study that considers the impacts of dredging on fish that live in the tributaries as well," said Daniels. Right now, the U.S. Army Corps of Engineers is depending on an environmental impact statement (EIS) dating from 1991.

Before Daniels and Paukert carried out their study, the effect of sand and gravel dredging on the Kansas River had not been seriously studied. This study was the first time such sophisticated measuring technology has been used.

"The Army Corps has studied similar conditions with sand dredging on the Missouri River," said Daniels. "They are aware of the problems, and if dredging is a problem for the Missouri River, then it's going to be a problem for the Kansas River. Simply shifting the problem from the Missouri to the Kansas is not a good strategy."

How fast will the dredge holes move? Water movement on the Kaw is greatly influenced by how much water the Army Corps releases from upstream reservoirs. Extreme rains plus reservoir releases can add a lot of extra velocity to the Kansas River system. In some circumstances, this may mean the dredge holes have the potential for very rapid movement.

Friends of the Kaw understands that sand is needed for a healthy construction economy and we believe enough geological studies provide evidence that sand can be reasonably and efficiently obtained from "off-river" pit mines in the Kansas River valley. Friends of the Kaw has reviewed the plans drafted by Land Plan Engineering for Penny's Concrete, Inc. proposed pit mine. We support this application for a pit mine by Penny's Concrete, Inc. However, we encourage the Douglas County Commission and Planning Commission to carefully consider and address the residential neighbors' concerns.

Sincerely,

Laura Calwell, Kansas Riverkeeper for Friends of the Kaw

Cc: Phil Struble, Land Plan Engineering

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OF LAWRENCE/DOUGLAS COUNTY

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Lawrence, Kansas

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James Dunn

Sally Hayden

Cille King

Ruth Lichtwardt

Marlene Merrill

Lawrence-Douglas County Planning Commission
Eudora Planning Commission
City Hall
Lawrence, Kansas 66044

RE: ITEM NO. 1: CONDITIONAL USE PERMIT FOR PENNY SAND PIT; N 1500 RD & E 1850 RD (MKM)

Dear Chairman Liese and Planning Commissioners:

The League of Women Voters of Lawrence/Douglas County bases its letters and communications on its adopted Environmental Positions. Based on excerpts from these Positions which read, to "...preserve the social and physical environment...avoid pollution of air, water, and land...[support] the conservation of agricultural land...at the county level...," we are asking that you carefully consider the environmental impact of the Penny Sand Pit excavation operation.

We recognize that the utilization of our natural resources is a necessary feature of human activities, but that we must also do it wisely and with careful consideration for preserving a sustainable environment. Therefore, based on the material available in the Staff Report, we cannot support the pit mining for sand proposed in the current request for **CUP-12-00099** and urge that the Planning Commissions deny the application.

Our reasons are as follows:

1. Contamination of the Eudora water supply is a distinct possibility based on the professional research of Professor Carl McElwee, a recognized authority on groundwater and water resources.

2. Contamination of nearby wells of neighboring properties would likely occur.

3. Chances for the permanent reorientation of the Kansas River course would be increased, especially in a flood, an environmental misfortune that many in Douglas County have attempted to avoid using containment measures.

4. Loss of irreplaceable Capability Class I and II agricultural soils would occur. *This loss would be permanent, whereas the gain from the sand production would be relatively short-lived.*

5. The effects of the mining operation would be counter to several statements and policies that *Horizon 2020* encourages us to follow.

6. Reclaiming the land and providing a safe and stable environment during the 30-year initial approval period of the CUP will be very expensive for the operator of the project. Maintaining the lake will also be someone's financial responsibility. *There is no requirement for providing a bond or other financial guarantee to the County in the event that the owner of the project goes bankrupt or otherwise fails.*

7. Because of the number of conditions required to be met, it can be predicted that these conditions will be costly to monitor and difficult to properly enforce. This will make it less of a positive revenue gain for the County.

For these reasons and others not mentioned here, we urge the Planning Commissions to recommend denial of this open pit mining **CUP-12-00099.** We appreciate the careful consideration that the Planning Commissions give to issues such as this. Thank you.

Best regards,

Melinda Henderson, President
LWV Lawrence/Douglas County

Alan Black, Chair
Land Use Committee

Comments on the Carl Nuzman report:

"Evaluation of Penny's Concrete and Sand LLC,

Proposed Sand Pit Operation on Ground Water"

By

Carl D. McElwee, Ph.D

Emeritus Professor

Geology Department

University of Kansas

Lawrence, KS

September 18, 2012

Introduction

Mr. Nuzman has brought together a considerable amount of data regarding the proposed project. He is a respected member of the scientific community studying groundwater. As is always the case, the data must be interpreted and analyzed to draw conclusions. I would like to point out some places where the data may be interpreted and analyzed in an alternate and reasonable manner to arrive at different conclusions. In addition, I would like to bring out some other points that need to be considered in evaluating the possible impact of this pit mining operation.

Groundwater Gradient direction

The gradient of groundwater is the driving force that causes it to move. Mr.Nuzman mainly uses the water level data of Kansas Geological Survey (KGS) Bulletin 130, Part 1. The generalized static water table map that he uses (Exhibit D) gives too much weight to water moving down the Wakarusa River Valley (which joins the Kansas River Valley just south of the proposed sand pit). This distorts his ground water gradient and leads to the conclusion given in Exhibit F that the capture zone for the Eudora Well Field is south of the proposed pit.

On the other hand, if one considers the newer report KGS Bulletin 206, Part 2, it shows that the Kansas River is the major force and that water moves down the valley generally from west to east more or less parallel to the valley walls. The resulting groundwater gradient and flow direction is shown in Figure 1 below. This data shows that water will move from the proposed sand pit to the Eudora Well Field. I have done calculations of capture curves (area of groundwater capture in a given time by the well) and travel times based on work that I published in *Ground Water* (McElwee, 1991, A copy of that paper has been supplied to the DG CO Planning Office). That work shows that the minimum travel time between the proposed sand pit and the Eudora Well Field could be about 5.5 years. In addition, the 6 and 8 year capture curves significantly overlie the proposed sand pit, as shown in Figure 2 below. Details of this work are given in Appendix I.

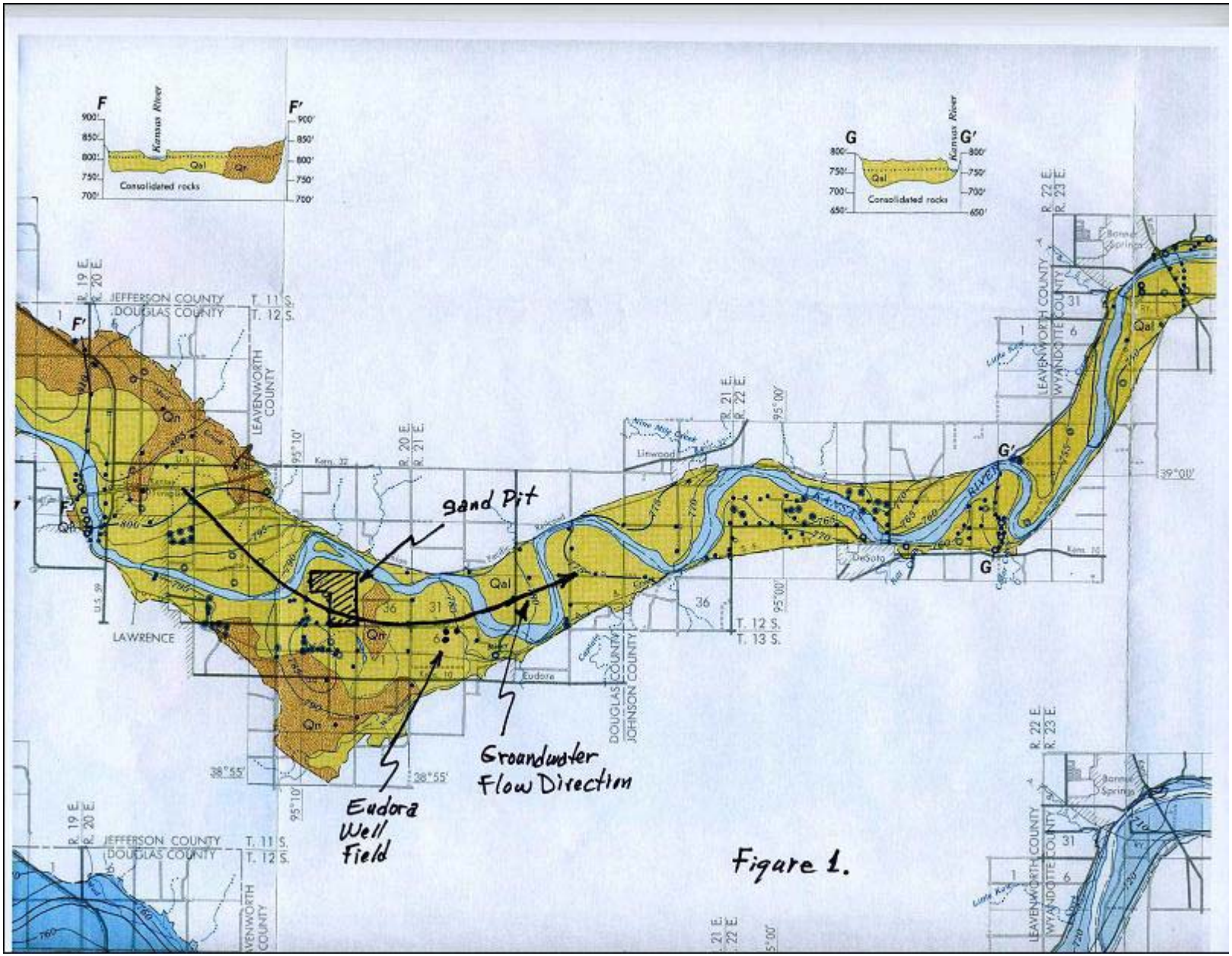
F
F'
Kansas River
Qal
Qr
Consolidated rocks
G
G'
Kansas River
Qal
Consolidated rocks
JEFFERSON COUNTY
DOUGLAS COUNTY
LEAVENWORTH COUNTY
WYANDOTTE COUNTY
JOHNSON COUNTY
LAWRENCE
Eudora
DeSoto
Linwood
Bonner Springs
Qal
Qn
Qm
Sand Pit
Groundwater Flow Direction
Eudora Well Field
T. 11 S.
T. 12 S.
T. 13 S.
R. 19 E.
R. 20 E.
R. 21 E.
R. 22 E.
R. 23 E.
95°10'
95°00'
38°55'
39°01'

Figure 1.

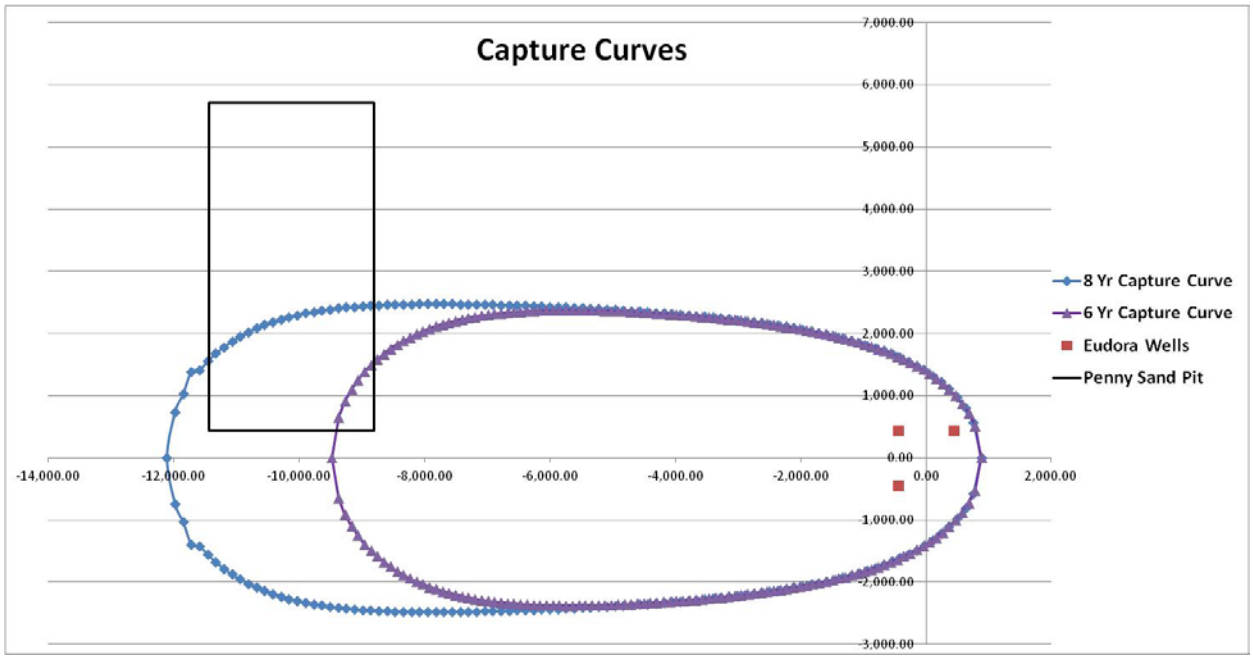

Figure 2.

Both of the KGS reports referred to are old and can't be relied on for absolute numbers. However, they do allow us to reach some general conclusions. In addition, there is a lot of variability in the aquifer (things change with space and time). So, the conclusion must be that one can't state with certainty that the proposed sand pit will have no effect on the Eudora Well Field. Of course there are many other private wells that are down-gradient from the proposed sand pit and much closer that could also be affected.

Effect of Pit on Water Levels and Quality in Aquifer

Mr. Nuzman states on page 8 that "The static water level elevation in the sand pit will be about the same as the water surface elevation in the Kansas River." That is probably true if the pit is close to the river. This means that the water level in the aquifer will be lowered around the pit, because the water levels in the aquifer are generally a little higher than the river level. This could negatively affect some nearby wells. Mr. Nuzman also states that "Sand pits beneficially support the yield of wells that are down-gradient from a pit that is within the area of influence of a well." In other words the well would be pumping water from the pit. This means

that the quality of the well water would depend on the quality of the water in the pit. In general, the quality of surface water in rivers and lakes is much poorer than the quality of groundwater. So there is the potential for pollution.

If this pit is allowed, a huge deep lake (about 70 feet deep on average) will be created. This will be a flow-through lake, which means that groundwater from up-gradient will flow in one side of the lake and flow out the down-gradient side of the lake. The net result is a continual mixing of the groundwater and the surface water from the pit, which then continues to flow down the valley in the aquifer to the next user of the groundwater.

As the well drilling logs in Mr. Nuzman's reports shows, the overburden (soil, silt, and clay) that must be removed to access the sand is substantial. It is in the range of 15-23 feet in most places, in some areas less and some areas more. However, most logs in the vicinity of the proposed sand pit indicate about 23 feet of overburden to be dealt with. This is a major logistics problem that must be dealt with while keeping any surface runoff out of the pit. There is the potential for pollution from surface runoff. This overburden material has been the filter material to keep pollutants out of the deeper aquifer, removing it exposes the aquifer. The resulting piles of surficial material may contain fertilizer and pesticide residue and daughter products from their decay. Apparently, the plan is to emplace at least some of this material back into the pit. If this is done, the overburden material should be extensively tested for possible pollutants before such use.

Mr. Nuzman mentions that a few investigations have been made on the effect of sand pits on groundwater quality and that they have not shown any significant human health effect. However, one can't infer from these few studies that there will never be a problem. In fact, at least one of those studies (KGS OFR 2008-4) did come to the conclusion that there was a measurable interconnection between the sand pit waters and the local aquifer and that there was a potential for pollution. The following is a direct quote from the conclusions of that study.

"The concentration distributions of pesticides and organics other than pesticides at the four pit sites in northwest Wichita, as well as the general pattern in iron, manganese, and ammonium ion concentrations in the downgradient well waters relative to the upgradient well and pit waters, indicate that surface water in the sand pits flows into the ground water in the southeast to south-southeast

direction of the ground-water flow at the study sites. The evidence for connection between the surface and ground waters at the two southern Wichita sites is not as strong as for the four northwest Wichita sites. However, distribution of some constituents and chemical properties do fit the general pattern of entrance of pit water into the ground water. This would be expected to occur most prominently when surface runoff into the pits increases the hydraulic gradient between the pit surface and ground-water levels. Thus, stormwater runoff containing contaminants can enter ground water through the sand pits and impact ground-water quality"

Effect of Pit on the River System

Material has previously been provided that shows the river bank in the vicinity of this proposed sand pit is unstable and has moved over time. Geologic history tells us this river will move again, we just don't know when. During a flood event the river could change course and breach the proposed sand pit. This would have a dramatic effect on the river system. Since the sand pit is deep (about 70 feet) and the river is very shallow, the pit would capture the bed load of the river and cause the river to become unstable. This would result in deepening the channel upstream (head cutting) and degradation of the channel downstream. It would take years for the river to reach a new stable equilibrium. Pits should not be allowed in areas where pit capture is a possibility.

Conclusions

I have shown that a reasonable interpretation of the available groundwater data indicates that the proposed sand pit could indeed have an effect on the Eudora Well Field and other local wells. The net effect will be a flow-through lake that mixes up-gradient aquifer water with sand pit water and sends it down-gradient into the aquifer and further down the valley. This behavior has been documented in studies of sand pits and aquifers. So, the conclusion is that any pollution must be prevented. The huge amount of overburden produced and its handling could be a source of pollution. Finally, the unstable nature of the river bank in this area makes it possible that the sand pit could capture the river during high flows and cause a channel change. If this were to happen, the river bed would be unstable for years until a new equilibrium was reached.

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Donald O. Whittemore, 2008, Water-Quality Effects of Stormwater Runoff into Sand Pits on Ground Water in Sedgwick County, Kansas, Kansas Geological Survey Open-file Report No. 2008-4.

Resume

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Present Address: 1564 E. 1850 Rd.

Lawrence, Kansas 66046 USA

Education:

B.A., William Jewell College, Physics, 1965

M.A., The University of Kansas, Physics, 1967

Ph.D., The University of Kansas, Physics, 1971

Professional Experience:

Professor of Geology, The University of Kansas, Lawrence, Kansas, 1997-2009, now retired.

Senior Scientist, Special Projects/Office of the Director, Kansas Geological Survey, The University of Kansas, Lawrence, Kansas, 1998-2002.

Senior Scientist, Mathematical Geology Section, Kansas Geological Survey, The University of Kansas, Lawrence, Kansas, 1987-1998.

Senior Scientist, Geophysics and Geochemistry Section, Kansas Geological Survey, The University of Kansas, Lawrence, Kansas, 1986-1987.

Associate Scientist, Geohydrology Section and Geophysics and Geochemistry Section, Kansas Geological Survey, The University of Kansas, Lawrence, Kansas, 1974-1986.

Geophysicist, Texaco Inc., Bellaire, Texas, 1970-1974.

Honors, Memberships, and Affiliations:

NSF Undergraduate Research Grant (2 years, 1963-1965)

Graduation with Honors, William Jewell College (1965)

NSF Traineeship for Graduate Work (4 years, 1965-1969)

Mobil Oil Fellowship (1 year, 1969-1970)

Sabbatical leave awarded for groundwater research in The Netherlands (Aug.-Dec., 1984)

Sabbatical leave awarded for groundwater research in the United Kingdom (Jan.- May, 1993)

Center for Teaching Excellence Outstanding Graduate Teaching Award, Dept. of Geology, Univ. of Kansas, 2001.

Sabbatical leave awarded to start writing a book on groundwater modeling, Fall Semester 2002.

Leo M. & Robert M. Orth Water Resources Scholarship, Dept. of Geology, 2008

Present Major Scientific Interests:

Theoretical description of flow systems • Characterization of aquifer heterogeneity by field, laboratory, and modeling activities • Model studies of groundwater availability in Kansas • Sensitivity of groundwater models to variations in transmissivity and storage • Modeling of chemical quality of groundwater systems • Application of seismic techniques to groundwater exploration and evaluation

Professional Journal Articles

McElwee, C.D., and Yukler, M.A., 1978, Sensitivity of groundwater flow models with respect to variations in transmissivity and storage: *Water Resources Research*, v. 14, no. 3, p. 451.

McElwee, C.D., 1980, Theis parameter evaluation from pumping tests by sensitivity analysis: *Ground Water*, v. 18, no. 1, p. 56.

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Appendix I.

This calculations presented here is based on work I did and published back in 1991 in the *Ground Water* journal. I have supplied to the Planning Department a copy of that article for reference. This work shows that the minimum travel time from the Penny sand pit to the Eudora Well Field is about 5.5 years. This is from the closest point of the pit to the center of the well field. I have also calculated the 6 and 8 year capture curves for the Eudora Well field. The work shows that these capture curves include significant portions of the proposed pit.

The important parameters are as follows:

K - hydraulic conductivity - I used 1000ft/day. This is a measure of how fast water moves in the aquifer. The Nuzman report uses data from a well test on Eudora No. 8 and reports 8800 gpd/ft2, which is 1176 ft/day. This also agrees with data I have personally collected from the Kansas River Valley.

I - Hydraulic gradient (slope) of the ground water system - I used .0005, which is about 5ft in 2 miles. Bulletin 130, Part 1 and Bulletin 206, part 2 from the Kansas Geological Survey show head maps of the area in question that support this number.

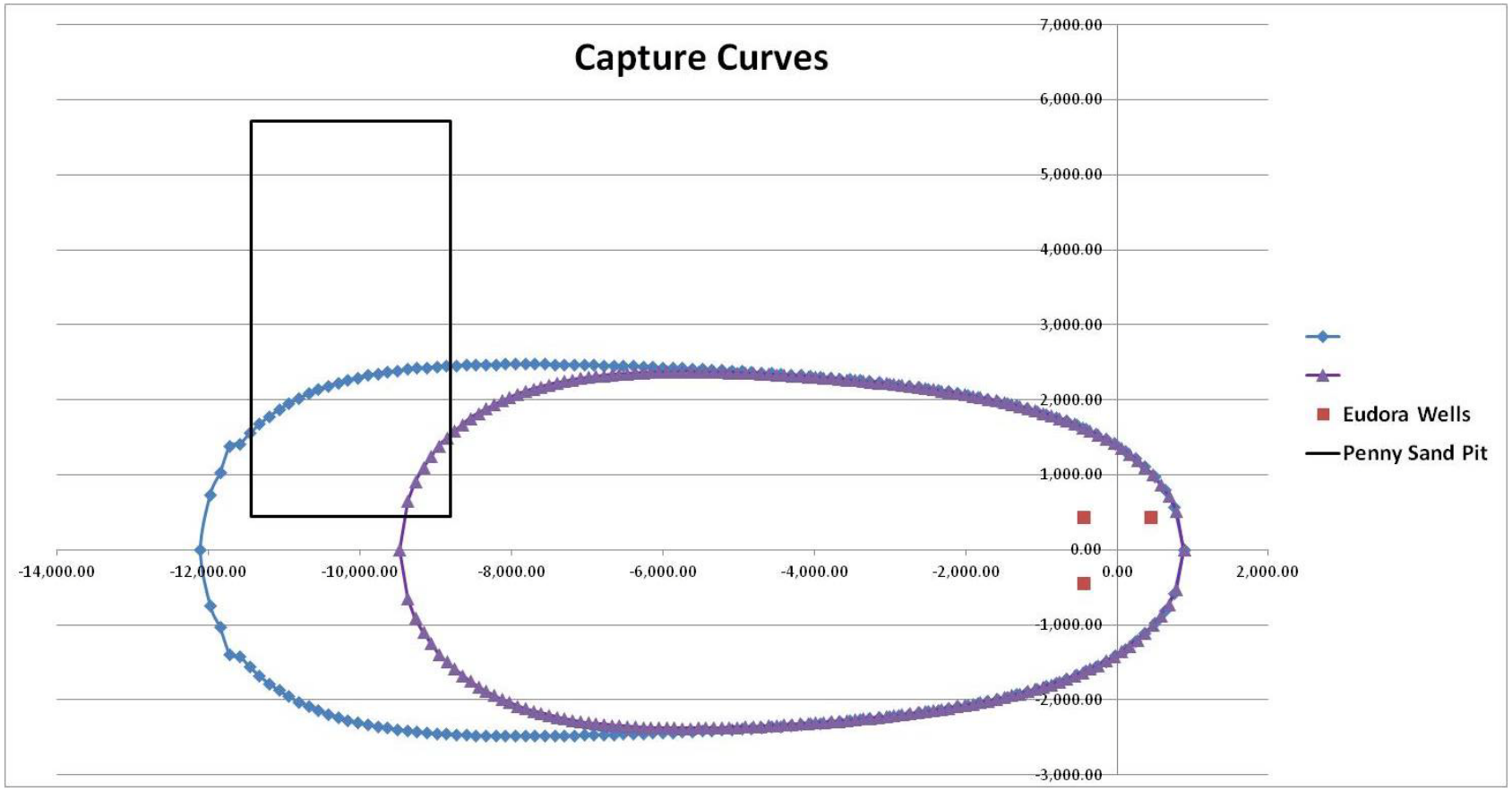
qo = -KI = -0.5 ft/day - average Darcy velocity in the aquifer - Multiplying the above two values gives this result.

B - Effective saturated thickness of aquifer - I used 30 feet. Although the aquifer has greater saturated thickness, the upper part is much finer material and has much less hydraulic conductivity. I have seen this consistently in my field work.

n - effective porosity (a measure of the pore space that water flows through) - I used 0.15 which is an average value suggested by the work of Bull 260, and also is consistent with my field work.

Q - Pump rate of the Eudora Well Field - I used 83425 ft3/day which is the approved water right of 227.77 MGY or about 433gpm.

These parameters can be used to calculate the average travel times and capture curves for parcels of water moving under the influence of the natural groundwater flow system and the influence of the pumping in the Eudora Well Field. The details of the background material to arrive at the formulas used in the following pages are given in the above referenced *Ground Water* article. The pages that follow show the capture curves for 6 and 8 years and the average minimum travel time between the sand pit and the Eudora Well Field. A capture curve outlines the area of groundwater that will flow to the pumping well in a given amount of time.


Capture Curves
7,000.00
6,000.00
5,000.00
4,000.00
3,000.00
2,000.00
1,000.00
0.00
-1,000.00
-2,000.00
-3,000.00
-14,000.00
-12,000.00
-10,000.00
-8,000.00
-6,000.00
-4,000.00
-2,000.00
0.00
2,000.00
Eudora Wells
Penny Sand Pit

qo =	-0.5	Average Darcy Velocity				
n =	0.15	Effective Porosity				
Q =	83425	Well Discharge				
B =	30	Effective Aquifer Thickness				
X =	-8800	Distance traveled along X axis				
t =		Time of travel				
	t =	**2005**	**days =**	**5.49**	**years**	

$$X = \frac{qo}{n}t + \frac{Q}{2\pi qoB} ln\left(1 + \frac{2\pi qoB}{Q}X\right)$$

$$t = \left[\frac{n}{qo}\right]\left[X - \frac{Q}{2\pi qoB} ln\left(1 + \frac{2\pi qoB}{Q}X\right)\right]$$

6 yr. Capture Curve Data

X(Ft)	Y(Ft)
8.8508E+02	0.0000E+00
7.8145E+02	-5.1844E+02
6.7783E+02	-7.2470E+02
5.7420E+02	-8.7735E+02
4.7057E+02	-1.0015E+03
3.6694E+02	-1.1069E+03
2.6331E+02	-1.1989E+03
1.5969E+02	-1.2804E+03
5.6059E+01	-1.3536E+03
-4.7568E+01	-1.4198E+03
-1.5120E+02	-1.4802E+03
-2.5482E+02	-1.5357E+03
-3.5845E+02	-1.5867E+03
-4.6208E+02	-1.6340E+03
-5.6571E+02	-1.6778E+03
-6.6933E+02	-1.7187E+03
-7.7296E+02	-1.7568E+03
-8.7659E+02	-1.7925E+03
-9.8022E+02	-1.8259E+03
-1.0838E+03	-1.8573E+03
-1.1875E+03	-1.8869E+03
-1.2911E+03	-1.9147E+03
-1.3947E+03	-1.9410E+03
-1.4984E+03	-1.9659E+03
-1.6020E+03	-1.9894E+03
-1.7056E+03	-2.0117E+03
-1.8092E+03	-2.0328E+03
-1.9129E+03	-2.0529E+03
-2.0165E+03	-2.0720E+03
-2.1201E+03	-2.0901E+03
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-2.3274E+03	-2.1239E+03
-2.4310E+03	-2.1396E+03
-2.5346E+03	-2.1546E+03
-2.6383E+03	-2.1689E+03
-2.7419E+03	-2.1825E+03
-2.8455E+03	-2.1956E+03
-2.9491E+03	-2.2081E+03
-3.0528E+03	-2.2200E+03
-3.1564E+03	-2.2314E+03
-3.2600E+03	-2.2423E+03

-3.3637E+03	-2.2527E+03
-3.4673E+03	-2.2627E+03
-3.5709E+03	-2.2722E+03
-3.6745E+03	-2.2813E+03
-3.7782E+03	-2.2899E+03
-3.8818E+03	-2.2982E+03
-3.9854E+03	-2.3060E+03
-4.0891E+03	-2.3135E+03
-4.1927E+03	-2.3206E+03
-4.2963E+03	-2.3272E+03
-4.3999E+03	-2.3335E+03
-4.5036E+03	-2.3394E+03
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-4.7108E+03	-2.3500E+03
-4.8144E+03	-2.3547E+03
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-5.9544E+03	-2.3733E+03
-6.0580E+03	-2.3712E+03
-6.1616E+03	-2.3681E+03
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-6.3689E+03	-2.3592E+03
-6.4725E+03	-2.3531E+03
-6.5761E+03	-2.3458E+03
-6.6797E+03	-2.3372E+03
-6.7834E+03	-2.3272E+03
-6.8870E+03	-2.3156E+03
-6.9906E+03	-2.3024E+03
-7.0943E+03	-2.2873E+03
-7.1979E+03	-2.2702E+03
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-7.6124E+03	-2.1781E+03
-7.7160E+03	-2.1480E+03

-7.8196E+03	-2.1145E+03
-7.9233E+03	-2.0773E+03
-8.0269E+03	-2.0360E+03
-8.1305E+03	-1.9903E+03
-8.2342E+03	-1.9396E+03
-8.3378E+03	-1.8833E+03
-8.4414E+03	-1.8209E+03
-8.5450E+03	-1.7515E+03
-8.6487E+03	-1.6740E+03
-8.7523E+03	-1.5871E+03
-8.8559E+03	-1.4891E+03
-8.9596E+03	-1.3913E+03
-9.0632E+03	-1.2478E+03
-9.1668E+03	-1.0945E+03
-9.2704E+03	-9.0492E+02
-9.3741E+03	-6.4783E+02
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-9.2704E+03	9.0492E+02
-9.1668E+03	1.0945E+03
-9.0632E+03	1.2478E+03
-8.9596E+03	1.3913E+03
-8.8559E+03	1.4891E+03
-8.7523E+03	1.5871E+03
-8.6487E+03	1.6740E+03
-8.5450E+03	1.7515E+03
-8.4414E+03	1.8209E+03
-8.3378E+03	1.8833E+03
-8.2342E+03	1.9396E+03
-8.1305E+03	1.9903E+03
-8.0269E+03	2.0360E+03
-7.9233E+03	2.0773E+03
-7.8196E+03	2.1145E+03
-7.7160E+03	2.1480E+03
-7.6124E+03	2.1781E+03
-7.5088E+03	2.2051E+03
-7.4051E+03	2.2293E+03
-7.3015E+03	2.2510E+03
-7.1979E+03	2.2702E+03
-7.0943E+03	2.2873E+03
-6.9906E+03	2.3024E+03
-6.8870E+03	2.3156E+03
-6.7834E+03	2.3272E+03

-6.6797E+03	2.3372E+03
-6.5761E+03	2.3458E+03
-6.4725E+03	2.3531E+03
-6.3689E+03	2.3592E+03
-6.2652E+03	2.3642E+03
-6.1616E+03	2.3681E+03
-6.0580E+03	2.3712E+03
-5.9544E+03	2.3733E+03
-5.8507E+03	2.3747E+03
-5.7471E+03	2.3754E+03
-5.6435E+03	2.3753E+03
-5.5398E+03	2.3746E+03
-5.4362E+03	2.3733E+03
-5.3326E+03	2.3715E+03
-5.2290E+03	2.3691E+03
-5.1253E+03	2.3662E+03
-5.0217E+03	2.3628E+03
-4.9181E+03	2.3590E+03
-4.8144E+03	2.3547E+03
-4.7108E+03	2.3500E+03
-4.6072E+03	2.3449E+03
-4.5036E+03	2.3394E+03
-4.3999E+03	2.3335E+03
-4.2963E+03	2.3272E+03
-4.1927E+03	2.3206E+03
-4.0891E+03	2.3135E+03
-3.9854E+03	2.3060E+03
-3.8818E+03	2.2982E+03
-3.7782E+03	2.2899E+03
-3.6745E+03	2.2813E+03
-3.5709E+03	2.2722E+03
-3.4673E+03	2.2627E+03
-3.3637E+03	2.2527E+03
-3.2600E+03	2.2423E+03
-3.1564E+03	2.2314E+03
-3.0528E+03	2.2200E+03
-2.9491E+03	2.2081E+03
-2.8455E+03	2.1956E+03
-2.7419E+03	2.1825E+03
-2.6383E+03	2.1689E+03
-2.5346E+03	2.1546E+03
-2.4310E+03	2.1396E+03
-2.3274E+03	2.1239E+03

-2.2238E+03	2.1074E+03
-2.1201E+03	2.0901E+03
-2.0165E+03	2.0720E+03
-1.9129E+03	2.0529E+03
-1.8092E+03	2.0328E+03
-1.7056E+03	2.0117E+03
-1.6020E+03	1.9894E+03
-1.4984E+03	1.9659E+03
-1.3947E+03	1.9410E+03
-1.2911E+03	1.9147E+03
-1.1875E+03	1.8869E+03
-1.0838E+03	1.8573E+03
-9.8022E+02	1.8259E+03
-8.7659E+02	1.7925E+03
-7.7296E+02	1.7568E+03
-6.6933E+02	1.7187E+03
-5.6571E+02	1.6778E+03
-4.6208E+02	1.6340E+03
-3.5845E+02	1.5867E+03
-2.5482E+02	1.5357E+03
-1.5120E+02	1.4802E+03
-4.7568E+01	1.4198E+03
5.6059E+01	1.3536E+03
1.5969E+02	1.2804E+03
2.6331E+02	1.1989E+03
3.6694E+02	1.1069E+03
4.7057E+02	1.0015E+03
5.7420E+02	8.7735E+02
6.7783E+02	7.2470E+02
7.8145E+02	5.1844E+02
8.8508E+02	0.0000E+00

8 yr. Capture Curve Data

X(Ft)	Y(Ft)
8.8516E+02	0.0000E+00
7.5519E+02	-5.7893E+02
6.2523E+02	-8.0688E+02
4.9526E+02	-9.7403E+02
3.6530E+02	-1.1087E+03
2.3533E+02	-1.2220E+03
1.0536E+02	-1.3199E+03
-2.4604E+01	-1.4059E+03

-1.5457E+02	-1.4824E+03
-2.8454E+02	-1.5510E+03
-4.1450E+02	-1.6130E+03
-5.4447E+02	-1.6694E+03
-6.7444E+02	-1.7210E+03
-8.0440E+02	-1.7683E+03
-9.3437E+02	-1.8118E+03
-1.0643E+03	-1.8521E+03
-1.1943E+03	-1.8893E+03
-1.3243E+03	-1.9240E+03
-1.4542E+03	-1.9562E+03
-1.5842E+03	-1.9863E+03
-1.7142E+03	-2.0144E+03
-1.8441E+03	-2.0408E+03
-1.9741E+03	-2.0655E+03
-2.1041E+03	-2.0887E+03
-2.2340E+03	-2.1106E+03
-2.3640E+03	-2.1313E+03
-2.4940E+03	-2.1507E+03
-2.6239E+03	-2.1692E+03
-2.7539E+03	-2.1866E+03
-2.8839E+03	-2.2031E+03
-3.0138E+03	-2.2188E+03
-3.1438E+03	-2.2337E+03
-3.2738E+03	-2.2479E+03
-3.4037E+03	-2.2614E+03
-3.5337E+03	-2.2742E+03
-3.6637E+03	-2.2865E+03
-3.7936E+03	-2.2982E+03
-3.9236E+03	-2.3093E+03
-4.0536E+03	-2.3200E+03
-4.1835E+03	-2.3302E+03
-4.3135E+03	-2.3399E+03
-4.4435E+03	-2.3493E+03
-4.5734E+03	-2.3582E+03
-4.7034E+03	-2.3668E+03
-4.8334E+03	-2.3750E+03
-4.9633E+03	-2.3829E+03
-5.0933E+03	-2.3904E+03
-5.2233E+03	-2.3976E+03
-5.3532E+03	-2.4046E+03
-5.4832E+03	-2.4112E+03
-5.6132E+03	-2.4175E+03

-5.7431E+03	-2.4236E+03
-5.8731E+03	-2.4293E+03
-6.0031E+03	-2.4348E+03
-6.1330E+03	-2.4401E+03
-6.2630E+03	-2.4450E+03
-6.3930E+03	-2.4497E+03
-6.5229E+03	-2.4540E+03
-6.6529E+03	-2.4581E+03
-6.7829E+03	-2.4619E+03
-6.9128E+03	-2.4653E+03
-7.0428E+03	-2.4684E+03
-7.1728E+03	-2.4712E+03
-7.3027E+03	-2.4735E+03
-7.4327E+03	-2.4755E+03
-7.5627E+03	-2.4769E+03
-7.6926E+03	-2.4779E+03
-7.8226E+03	-2.4784E+03
-7.9526E+03	-2.4782E+03
-8.0825E+03	-2.4774E+03
-8.2125E+03	-2.4758E+03
-8.3425E+03	-2.4734E+03
-8.4724E+03	-2.4701E+03
-8.6024E+03	-2.4657E+03
-8.7324E+03	-2.4602E+03
-8.8623E+03	-2.4534E+03
-8.9923E+03	-2.4451E+03
-9.1223E+03	-2.4351E+03
-9.2522E+03	-2.4234E+03
-9.3822E+03	-2.4095E+03
-9.5122E+03	-2.3934E+03
-9.6421E+03	-2.3746E+03
-9.7721E+03	-2.3530E+03
-9.9021E+03	-2.3281E+03
-1.0032E+04	-2.2995E+03
-1.0162E+04	-2.2669E+03
-1.0292E+04	-2.2297E+03
-1.0422E+04	-2.1874E+03
-1.0552E+04	-2.1393E+03
-1.0682E+04	-2.0848E+03
-1.0812E+04	-2.0230E+03
-1.0942E+04	-1.9528E+03
-1.1072E+04	-1.8730E+03
-1.1202E+04	-1.7819E+03

-1.1332E+04	-1.6775E+03
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-1.1722E+04	1.3905E+03
-1.1592E+04	1.4155E+03
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-1.0942E+04	1.9528E+03
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-1.0682E+04	2.0848E+03
-1.0552E+04	2.1393E+03
-1.0422E+04	2.1874E+03
-1.0292E+04	2.2297E+03
-1.0162E+04	2.2669E+03
-1.0032E+04	2.2995E+03
-9.9021E+03	2.3281E+03
-9.7721E+03	2.3530E+03
-9.6421E+03	2.3746E+03
-9.5122E+03	2.3934E+03
-9.3822E+03	2.4095E+03
-9.2522E+03	2.4234E+03
-9.1223E+03	2.4351E+03
-8.9923E+03	2.4451E+03
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-8.7324E+03	2.4602E+03
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-8.4724E+03	2.4701E+03
-8.3425E+03	2.4734E+03
-8.2125E+03	2.4758E+03
-8.0825E+03	2.4774E+03
-7.9526E+03	2.4782E+03
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-7.3027E+03	2.4735E+03
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-6.7829E+03	2.4619E+03
-6.6529E+03	2.4581E+03
-6.5229E+03	2.4540E+03
-6.3930E+03	2.4497E+03
-6.2630E+03	2.4450E+03
-6.1330E+03	2.4401E+03
-6.0031E+03	2.4348E+03
-5.8731E+03	2.4293E+03
-5.7431E+03	2.4236E+03
-5.6132E+03	2.4175E+03
-5.4832E+03	2.4112E+03
-5.3532E+03	2.4046E+03
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-5.0933E+03	2.3904E+03
-4.9633E+03	2.3829E+03
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-4.4435E+03	2.3493E+03
-4.3135E+03	2.3399E+03
-4.1835E+03	2.3302E+03
-4.0536E+03	2.3200E+03
-3.9236E+03	2.3093E+03
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-3.6637E+03	2.2865E+03
-3.5337E+03	2.2742E+03
-3.4037E+03	2.2614E+03
-3.2738E+03	2.2479E+03
-3.1438E+03	2.2337E+03
-3.0138E+03	2.2188E+03
-2.8839E+03	2.2031E+03
-2.7539E+03	2.1866E+03
-2.6239E+03	2.1692E+03
-2.4940E+03	2.1507E+03
-2.3640E+03	2.1313E+03
-2.2340E+03	2.1106E+03
-2.1041E+03	2.0887E+03
-1.9741E+03	2.0655E+03
-1.8441E+03	2.0408E+03

-1.7142E+03	2.0144E+03
-1.5842E+03	1.9863E+03
-1.4542E+03	1.9562E+03
-1.3243E+03	1.9240E+03
-1.1943E+03	1.8893E+03
-1.0643E+03	1.8521E+03
-9.3437E+02	1.8118E+03
-8.0440E+02	1.7683E+03
-6.7444E+02	1.7210E+03
-5.4447E+02	1.6694E+03
-4.1450E+02	1.6130E+03
-2.8454E+02	1.5510E+03
-1.5457E+02	1.4824E+03
-2.4604E+01	1.4059E+03
1.0536E+02	1.3199E+03
2.3533E+02	1.2220E+03
3.6530E+02	1.1087E+03
4.9526E+02	9.7403E+02
6.2523E+02	8.0688E+02
7.5519E+02	5.7893E+02
8.8516E+02	0.0000E+00

Wells X (map in)	Wells Y (map in)	Wells X (ft)	Wells Y (ft)
-0.25	0.25	-440	440
-0.25	-0.25	-440	-440
0.25	0.25	440	440

Pit X (map in)	Pit Y (map in)	Pit X (ft)	Pit Y (ft)
-5	0.25	-8800	440
-6.5	0.25	-11440	440
-6.5	3.25	-11440	5720
-5	3.25	-8800	5720
-5	0.25	-8800	440

GROUND WATER

Computer Notes

Capture Zones for Simple Aquifers

by Carl D. McElwee[a]

Abstract. **The protection and cleanup of aquifers is a matter of high priority for all states and the federal government. One concept that is receiving increased attention is that of wellhead protection. Capture zones showing the area influenced by a well within a certain time are useful for both aquifer protection and cleanup. If hydrodynamic dispersion is neglected, a deterministic curve defines the capture zone. Analytical expressions for the capture zones can be derived for simple aquifers. However, the capture zone equations are transcendental and cannot be explicitly solved for the coordinates of the capture zone boundary. Fortunately, an iterative scheme allows the solution to proceed quickly and efficiently even on a modest personal computer. Three forms of the analytical solution must be used in an iterative scheme to cover the entire region of interest, after the extreme values of the x coordinate are determined by an iterative solution. The resulting solution is a discrete one, and usually 100-1000 intervals along the x-axis are necessary for a smooth definition of the capture zone. The presented program is written in FORTRAN and has been used in a variety of computing environments. No graphics capability is included with the program; it is assumed the user has access to a commercial package. The superposition of capture zones for multiple wells is expected to be satisfactory if the spacing is not too close. Because this program deals with simple aquifers, the results rarely will be the final word in a real application. However, the program is useful as a first phase in developing wellhead protection or aquifer cleanup schemes.**

Introduction

The protection and cleanup of aquifers is a matter of high priority for all states and the federal government, as evidenced by the large number of laws and regulations that have been established in recent years. One concept that is receiving increased attention is wellhead protection, where certain potentially polluting activities are banned or regulated within an area that would affect a well within a certain time period. In terms of aquifer cleanup, one would like to know what area of an aquifer will be influenced by a discharge well within a certain time period. These areas are commonly referred to in the literature as capture zones. If hydrodynamic dispersion is neglected, a deterministic curve (sharp front) can be used to define the capture zone. Because real-world aquifers are very complex, exhibiting heterogeneity, anisotropy, and other complicating factors, the calculation of realistic capture zones is difficult. Possible techniques range from simple analytical methods to complex numerical procedures.

The calculation of sharp front movement for wells in infinite aquifers dates at least to Muskat (1937). More recently, Bear and Jacobs (1965) have investigated the movement of water bodies injected into isotropic homogeneous aquifers with uniform regional flow by analytical methods. Most ground-water texts present a steady-state analytical solution for the ground-water divide in an isotropic homogeneous aquifer with one pumping well located in a uniform regional flow field (see for example Todd, 1980, pp. 121-123); this corresponds to an infinite-time capture zone. Javandel et al. (1984, pp. 175-204) present semianalytical methods for calculating pathlines and time-related capture zones for multiple wells in simple aquifers (isotropic, homogeneous, uniform thickness, uniform regional flow, and steady state). However, their computer program is rather complex. EPA (1990) has recently sponsored development of a program to calculate wellhead protection areas (WHPA); but again the program is fairly complex. Javandel and Tsang (1986) propose infinite-time capture zone curves as a tool for aquifer cleanup; again, they use analytical methods for simple aquifers. A few authors have utilized numerical methods to calculate time-related capture zones in the presence of aquifer heterogeneity. Kinzelback (1986, pp. 227-230) presents the formalism for considering a heterogeneous velocity distribution. Shafer (1987) presents the formalism and gives examples of capture zones in heterogeneous aquifers.

The purpose of the present paper is to present a program for calculating time-related capture zones in simple aquifers. The program is short and efficient and adaptable to a range of computing environments from personal computers to mainframes. Because the program assumes simple

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Received February 1990, revised August 1990 and January 1991, accepted September 1990.

Discussion open until January 1, 1992.

aquifer conditions (isotropic, homogeneous, uniform thickness, uniform regional flow, and steady state), it should be used with care in a real-world situation. However, the program should be a useful initial planning tool for aquifer protection or cleanup.

Basic Equations

The basic equations that are used to describe the capture zone curves are taken from Bear and Jacobs (1965). As mentioned in the introduction, this formulation assumes an aquifer with a constant regional hydraulic conductivity (K). A regional flow direction and magnitude (q_o) also is assumed constant and given by the Darcy equation.

$$q_o = -K \frac{\partial h}{\partial s} \tag{1}$$

h is the regional hydraulic head (without the pumping well), and s is the direction of the head gradient perpendicular to lines of constant head. In what follows, it will be assumed the x axis is parallel (or antiparallel) to the regional flow direction. The aquifer is assumed to be of constant thickness (B) and constant effective porosity (n). At this point, a well pumping at a rate Q is superimposed upon the regional system, and a new steady-state head configuration is established. The object is to calculate the area of the aquifer that will contribute water to the well during a specified time period; or alternatively, to calculate the area affected by injection for a given time interval, after the well is in steady state with the regional system. The curves surrounding these affected areas are loosely called capture curves for a given time period. It is convenient to define three dimensionless parameters:

$$\bar{x} = \frac{2\pi q_o B}{Q} x \tag{2}$$

$$\bar{y} = \frac{2\pi q_o B}{Q} y \tag{3}$$

$$\bar{t} = \frac{2\pi q_o^2 B}{nQ} t \tag{4}$$

q_o, B, Q, and n are the previously defined Darcy velocity, aquifer thickness, pumpage rate, and effective porosity, respectively. x, y, and t are the space and time coordinates in the real world; whereas $\bar{x}$, $\bar{y}$, and $\bar{t}$ are their dimensionless counterparts. Using these dimensionless variables, Bear and Jacobs (1965) show that the capture curves are given by the following equation.

$$\exp(\bar{x} - \bar{t}) = \cos \bar{y} + \frac{\bar{x}}{\bar{y}} \sin \bar{y} \tag{5}$$

Unfortunately, equation (5) is a transcendental equation which cannot be solved explicitly for either $\bar{x}$ or $\bar{y}$.

There are two cases where equation (5) can be simplified somewhat. When $\bar{t} \to \infty$, equation (5) reduces to

$$\bar{x} = -\frac{\bar{y}}{\tan \bar{y}} \tag{6}$$

which is the familiar form for the ground-water divide (Todd, 1980, pp. 121-123). From equation (6), it is seen that as $\bar{x} \to \infty$, the limiting value of $\bar{y}$ is $\pm \pi$. The stagnation point occurs at $\bar{y} = 0$ and $\bar{x} = -1$; this result can be obtained from equation (6) by taking the limit as $\bar{y} \to 0$ (see Figure 1). Another useful simplification of equation (5) results when $\bar{y} = 0$; this corresponds to the two points where the capture curve crosses the $\bar{x}$ axis. Taking the limit as $\bar{y} \to 0$ of equation (5) gives the extreme values $\bar{x}_e$,

$$\exp(\bar{x}_e - \bar{t}) = 1 + \bar{x}_e \tag{7}$$

(See Figure 1 for examples of $\bar{x}_e$.) A slight rearrangement of equation (7) gives the form

$$\bar{t} = \bar{x}_e - \ln(1 + \bar{x}_e) \tag{8}$$

Equations (5) and (8) will form the basis for calculating capture curves at a given normalized time $\bar{t}$. Unfortunately, both are transcendental equations, so iterative techniques will be used to obtain their solution. The resulting curves will enclose the area of the aquifer containing water either injected or discharged by the well up to time $\bar{t}$. The curves represent sharp fronts (deterministic curves) because hydrodynamic dispersion has been neglected. Those who are not interested in the mathematical details of solution may wish to skip to the section describing the computer program availability.

Iterative Solution

The capture curves given by equation (5) are symmetric about the $\bar{x}$ axis; and the x axis is assumed to be parallel to the regional hydraulic gradient with its origin at the well. The requirement that the origin be at the well is relaxed in the computer program. From the discussion in the previous section, the limits on the coordinates are $-1 \leq \bar{x} \leq \infty$ and $-\pi \leq \bar{y} \leq \pi$. The solution that we shall obtain is a numerical one at discrete values of $\bar{x}$. The approach that we shall take involves solving equation (8) for the extreme values of $\bar{x}$ at a certain $\bar{t}$. The region bounded by these two extremes will be discretized to give a certain number of discrete values of $\bar{x}$ (usually between 100 and 1000). Let $\bar{x}_i$ represent one of these values. At that point with $\bar{t}$ and $\bar{x}$ known, equation (5) will be solved to obtain $\bar{y}$. Unfortunately, no single form of equation (5) seems to work well for the full range of coordinates. (Three forms will be used later.)

The extreme values of $\bar{x}$ are found by solving equation (8). Rearranging equation (8) slightly allows an iterative solution scheme to be developed (one-point method, Atkinson, 1989, pp. 76-83).

$$\bar{x}_e^{(m+1)} = \bar{t} + \ln[1 + \bar{x}_e^{(m)}] \tag{9}$$

The m in equation (9) is an iteration index. An initial guess for $\bar{x}_e$ must be known, but $\bar{x}_e = 0$ always seems to work well. Iteration continues on equation (9) until convergence occurs. If the initial guess for $\bar{x}_e$ is zero and $\bar{t}$ is positive, it is clear that equation (9) will converge on a positive value. If $\bar{t}$ is small, then $\bar{x}_e$ also will be small and the logarithmic term of equation (8) can be written as a series expansion to yield

$$\bar{t} = \frac{\bar{x}_e^2}{2} - \frac{\bar{x}_e^3}{3} + \frac{\bar{x}_e^4}{4} - \ldots \quad (10)$$

Solving for the lowest power of $\bar{x}_e$ gives

$$\bar{x}_e^{(m+1)} = \sqrt{2}\left[\bar{t} + \frac{\bar{x}_e^{(m)3}}{3} - \frac{\bar{x}_e^{(m)4}}{4} + \ldots\right]^{1/2} \quad (11)$$

Iterating equation (11) works well for small values of $\bar{t}$ and $\bar{x}_e$.

Equations (9) and (11) work well for the positive value of the $\bar{x}$ extremes; however, a slightly different version is needed to find the negative extreme value. Rearranging equation (7) slightly gives the following iterative solution.

$$\bar{x}_e^{(m+1)} = \exp(\bar{x}_e^{(m)} - \bar{t}) - 1 \quad (12)$$

Clearly, if $\bar{t} \to \infty$, equation (12) gives an extreme value of -1. If the initial guess for $\bar{x}_e$ is zero and $\bar{t}$ is positive, the result for the first iteration will be negative. Experience has shown that equation (12) converges rapidly on the negative value of $\bar{x}_e$.

Now that the extreme values of $\bar{x}$ are known for a particular $\bar{t}$, we can pick a discrete value $\bar{x}_i$ located between these two extremes. The only unknown in equation (5) is now $\bar{y}$, and an iterative solution can be set up. The most obvious iterative form is obtained from equation (5) by multiplying by $\bar{y}$ and $\exp(\bar{t} - \bar{x})$ to obtain

$$\bar{y}_i^{(m+1)} = \exp(\bar{t} - \bar{x}_i) \cdot [\bar{y}_i^{(m)} \cos \bar{y}_i^{(m)} + \bar{x}_i \sin \bar{y}_i^{(m)}] \quad \ldots . (13a)$$

However, numerical experiments show that equation (13a) does not have as wide a region of convergence as we would like. The convergence properties of equation (13a) can be changed by adding $\bar{y}_i$ to each side of the equation (Atkinson, 1989, pp. 76-83). The resulting equation which we shall use is

$$\bar{y}_i^{(m+1)} = \frac{\bar{y}_i^{(m)}}{2} + \frac{1}{2}\exp(\bar{t} - \bar{x}_i) \cdot [\bar{y}_i^{(m)} \cos \bar{y}_i^{(m)} + \bar{x}_i \sin \bar{y}_i^{(m)}] \quad (13b)$$

As long as $|\bar{y}_i| \leq \pi/2$ and $\bar{x} \geq 1$, equation (13b) works well.

An alternate form of equation (5) can be obtained by solving for $\cos \bar{y}$ and then taking the inverse cosine function.

$$\bar{y}_i^{(m+1)} = \cos^{-1}\left[\exp(\bar{x}_i - \bar{t}) - \frac{\bar{x}_i}{\bar{y}_i^{(m)}} \sin \bar{y}_i^{(m)}\right] \quad (14)$$

Numerical experiments show that this form works well for all values of $\bar{x}$ and $\bar{y}$ as long as $\bar{t} \leq 1$. For $\bar{t} \geq 1$, equation (14) can be used only for $\bar{x} \leq 1$.

The final form of equation (5) needed to fill in all remaining values of $\bar{x}$, $\bar{y}$, and $\bar{t}$ is given by rearranging and solving for the tangent of $\bar{y}_i$.

$$\tan \bar{y}_i = \left(\frac{\bar{y}_i}{\bar{x}_i}\right) \cdot \left(\frac{\exp(\bar{x}_i - \bar{t})}{\cos \bar{y}_i} - 1\right) \quad (15)$$

Using the trigonometric identity $\tan(-\theta) = \tan(\pi - \theta)$ allows us to rewrite equation (15) in iterative notation.

$$\bar{y}_i^{(m+1)} = \pi - \tan^{-1}\left[\left(\frac{\bar{y}_i^{(m)}}{\bar{x}_i}\right) \cdot \left(1 - \frac{\exp(\bar{x}_i - \bar{t})}{\cos \bar{y}_i^{(m)}}\right)\right] \quad \ldots . (16)$$

Numerical experiments show that this equation works well for $\bar{t} > 1$ and $\bar{x} > 1$ if $|\bar{y}_i| > \pi/2$. Clearly, equation (16) has a problem at $\bar{y} = \pi/2$ because the cosine function is zero. Therefore, special provision must be made to prevent equation (16) from being used too near the region where $\bar{y} = \pi/2$.

The iterative equations (13), (14), and (16) for $\bar{y}$ require an initial guess for the $m = 0$ iteration. That question was avoided in the above paragraphs where the equations were developed. However, in practice, this presents no problem. Using the extreme values of $\bar{x}$, a discrete set of $\bar{x}_i$'s are calculated by dividing the region between the extremes into an integral number of steps (usually between 100 and 1000). Solution then proceeds sequentially from the negative $\bar{x}$ extreme to the positive $\bar{x}$ extreme. At each of the extreme values of $\bar{x}$, we know that $\bar{y} = 0$. Therefore, as we step through the solution we will always know the value of $\bar{y}$ at the previous $\bar{x}$ value, and we can use this as the initial guess for $\bar{y}$ at the current value of $\bar{x}$. If at least 100 steps in $\bar{x}$ are used, the value of $\bar{y}$ does not change dramatically in one step and the above procedure is very efficient. As the solution proceeds, the appropriate equation (13), (14), or (16) is selected depending on the values of $\bar{t}$, $\bar{x}$, and the current value of $\bar{y}$.

Computer Program

A simple computer program to calculate capture curves based on the material presented here has been written in FORTRAN and is available at nominal cost from the Publication Sales Office of the Kansas Geological Survey. Computer Program Series #90-5 is a publication containing the material of this paper as well as a more detailed description of the program workings, a FORTRAN listing, some sample data sets with output, and an IBM compatible disk containing the program. We commonly run the program on an IBM AT compatible computer; however, it can be adapted easily to a wide variety of computer environments. Usually only the input and output statements need modification.

Results and Application

The results of using the algorithms discussed here are shown in Figure 1 for $\bar{t}$ values of 1, 3, 5, and ∞. The $\bar{t} = \infty$ curve corresponds to the normal ground-water divide. Equations (13), (14), and (16) can be applied only in certain regions of $\bar{t}$, $\bar{x}$, and $\bar{y}$ as discussed earlier. These various regions are shown on Figure 1, each with a different background pattern. Figure 1 was produced with a commercially available graphics package directly from the output file of the program. No graphics capability is included in the program; it is assumed that the user has access to a similar package.

In a real-world application, one will not be dealing with the dimensionless quantities $\bar{t}$, $\bar{x}$, and $\bar{y}$ but with actual time

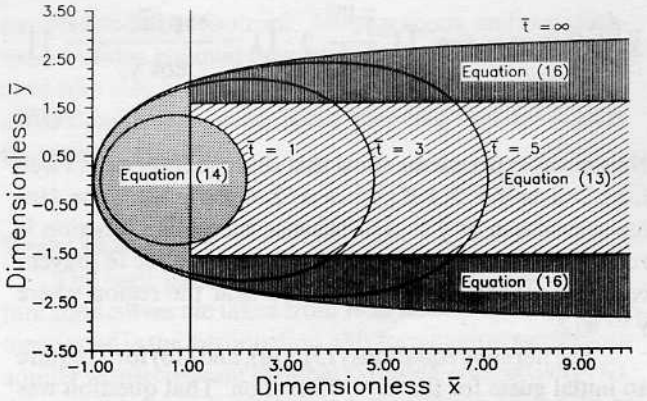

Fig. 1. Capture zones and regions of equation application.

and distances. However, equations (2), (3), and (4) provide the necessary conversions, so the simple user interface in the main program provides the connection to a specific application. Parameters may be given in any consistent set of units. To begin, one must know the average value of hydraulic conductivity and the regional hydraulic gradient vector (direction and magnitude). These quantities are used in equation (1) to calculate the specific discharge or Darcy velocity (q_o). Knowing the average regional thickness of the aquifer (B), the effective porosity (n), and the discharge (or injection) rate of the well (Q), the program can calculate $\bar{t}$ from equation (4) for the actual time of interest. The program then calculates the $\bar{x}_i$ and $\bar{y}_i$ of the capture curve of interest. These values of $\bar{x}$ and $\bar{y}$ are used with equations (2) and (3) to solve for the real-world coordinates x and y, which can then be plotted on an appropriate map base. Currently, the program assumes that the x axis is parallel to the regional hydraulic gradient; but, the well may be located at arbitrary coordinates. If the x axis assumption is not true, an appropriate rotation of coordinates will be needed before plotting on the desired map base.

Discussion

Strictly speaking, the program presented here only deals with one well in a uniform, homogeneous, isotropic aquifer with uniform, steady, regional flow. In practice these conditions are rarely satisfied. However, the type of analysis presented here can be very useful as a first phase in developing wellhead protection or aquifer cleanup schemes (Javandel and Tsang, 1986). If conservative aquifer parameters are used, the analysis presented here should outline a maximum capture zone. The program presented here only deals with one well; however, the approximate result for several wells can be obtained by applying the program once for each well and superimposing the results. As long as the capture zones do not overlap, the approximate result should be very good. As the well spacing gets smaller and the capture zones overlap, the approximate results will deviate more from the correct solution; as long as the well spacing is greater than or equal to $Q/\pi q_o B$, the results are expected to be acceptable (see Javandel and Tsang for details of superimposing multiple wells). For the final analysis, if heterogeneity and nonuniform flow are very important, a more complex program such as that presented by Shafer (1987) should be used.

The program presented here is useful for planning wellhead protection and aquifer cleanup schemes. However, the user must always be mindful of its limitations. The presented program is simple and can be embedded in many computing environments, including personal computers, work stations, and mainframes. We have used the program on a work station interfaced with a geographical information system (GIS) to plot capture zones for several wells in Kansas (Woods et al., 1987; Whittemore et al., 1987; and Merchant et al., 1988). The program is presented here in the hope that it will be useful to others.

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* * * * *

Carl D. McElwee graduated in 1965 from William Jewell College with a B.A. in Physics. He received the M.A. and Ph.D. degrees from the University of Kansas in 1967 and 1971, respectively. His research area was solid-state physics. From 1971 to 1974 he worked for Texaco, Inc., in Houston, Texas, as a Research Geophysicist. Since 1974 he has worked for the Kansas Geological Survey in the Geohydrology, Geophysics, and Advanced Projects Sections. His area of special interest is the quantitative description of aquifer systems by field measurements and modeling.

Sept. 9, 2012

Lawrence Douglas County
Metropolitan Planning Office
6 East 6th Street,
P.O. Box 708,
Lawrence, KS 66044

Planning Staff:

As interested property owners, we are writing this letter to object to the Conditional Use Permit (CUP) that Penny Sand Co. has applied for near 1500N and 1850E. This CUP asks permission for a pit mining operation for sand removal. This would completely change the agricultural setting of the area. If allowed, this CUP would subject the area to dramatically increased industrial activity, including noise, dust, and environment destruction. We ask that you deny the CUP for the following reasons:

(1)The affected area has some interesting Douglas County history associated with it and contains some historic houses.

(2) The river bank in the vicinity of this proposed pit mining operation is unstable and has moved considerably over recent times. If pit mining is allowed in this area, in times of flood the chances of a dramatic river channel change is magnified greatly.

(3) On this proposed 434 acre pit mining site, the majority of the area is covered by some of the highest quality soils as defined by the US Department of Agriculture. It seems very short sighted to produce sand for short term gain and lose the potential for significant food and fiber production indefinitely.

(4)There is a large amount of overburden (unusable soil, silt and clay) that must be removed (typically 23-24 feet). Removing this much overburden will create an environmental nightmare

(5) Opening this pit operation will expose one of the most prolific aquifers in this region to potential pollution. This aquifer is a magnificent resource that must be protected and preserved for the future.

(6)Several neighboring house wells could be affected by this pit. Just down the valley about 1 5/8 miles lies the Eudora Public Water Supply Well Field; it could also be affected by the proposed pit mining operation.

Thank you for your consideration of our concerns.

Penny Sand Pit Petition

Name	Address	Phone Number	email
Print: Carl McElwee	1564 E. 1850 Rd.	785	cmcelwee@ku.edu
Signature: Carl McElwee	Lawrence, KS 66046	843-4164	
Print: MARGERY McELWEE	1564 E 1850 Rd	785	
Signature: Margery McElwee	Lawrence KS 66046	843-4164	
Print: Rick Gaebler	1555 E 1850 Rd	785-393-	
Signature: Rick Gaebler	Lawrence KS	9028	
Print: Esther McCabria	1455 E 1900 Rd	542	BMccabria@aol.com
Signature: E. McCabria	Eudora, KS 66025	2492	
Print: Robert McCabria	1455 E 1900 Rd	542	"
Signature: Robert E McCabria	Eudora, KS 66025	2492	
Print: Scott	1964 N 1550 Rd	785	Scothjackson
Signature: Scott Jackson	Eudora 66025	331 6561	1964@yahoo.com
Print: Bruce Perkins	Eudor 66025	785	BrucePerkins55@
Signature: Bruce Perkins		764 6295	Gmail.com
Print: Philip R Ernst	826 Mass, Lawrence	843-2313	
Signature: Ernst			
Print: NORMA L. SCHMILZ	1610 E. GLENN DR.		
Signature: Norma L. Schmilz	LAWRENCE, KS 66044	843-0943	
Print: AL W DEATHE	1918 N 1500 RD		AWDVKD@
Signature: Al W Deathe	EUDORA KS	542-2352	SUNFLOWER.COM
Print: ViAnn K. Deathe	1918 N 1500 Rd		
Signature: ViAnn K Deathe	Eudora, KS 66025	542-2352	

Penny Sand Pit Petition

Name	Address	Phone Number	email
Print: Gregory Shype Signature: Gregory Shype	1394 E 1900 Rd Eudora, Ks 66025	785-542-227[illegible]	KSwikes@hotmail.com
Print: Virginia S. Strong Signature: Virginia S. Strong	3712 Trail Rd. Lawrence, Ks 66049	785 843-2293	
Print: DAVID VERTAČNIK Signature: David Vertačnik	1403E 1850 Road Lawrence, KS	785 842-4428	davidve ku.edu
Print: Wendy Leet Vertacnik Signature: Wendy Leet Vertacnik	1403 E. 1850 Rd Lawrence. KS 66046	785-842.4428	vertacnike sunflower.com
Print: Dr Karen Johnston Signature: K Johnston	1928 N 1500 Rd Eudora KS 66025	785 393 2933	drkarenjohnston@gmail.com
Print: Linda Knabe Signature: Linda Knabe	39460 W 145th ST Eudora, Ks 66025	785 542 2228	knabefarms@wildblue.net
Print: Richard Knabe Signature: Richard Knabe	Same		
Print: PETER SHENOUDA Signature: Peter Shenouda	1411 E. 1850 Road lawrence, KS 66046	785-856-3999	pshenouda@hotmail.com
Print: Building Blocks Daycare Signature: ~~Steve Boyer~~	1411 E. 1850 Road lawrence, KS 66046	785-856-3999	buildingblocks@sunflower.com
Print: Steve BOYER Signature: Steve Boyer	Eudora K.S. 2027 N 1500 RD	785-218-2491	
Print: Nancy Jackson Signature: Nancy Jackson	1964 N 1550th Rd Eudora, KS 66025	785-331-8743	nancyjackson66@gmail.com

Penny Sand Pit Petition

Name	Address	Phone Number	email
Print: Daniel C. Brune	242 E. Cairo Dr.	480-967-8622	dbrune@asu.edu
Signature: Daniel C. Brune	Tempe, AZ 85282		
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Penny Sand Pit Petition

Name	Address	Phone Number	email
Print: DOUGLAS GILMORE	826 W 59 Ter KC MO 64113	816 444 3516	
Signature: Douglas Gilmore			
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Print:			
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Building Blocks Daycare Center
1411 E 1850 Road
Lawrence, KS 66046
(785) 865-3999

To: ***Lawrence Douglas County***
Metropolitan Planning Office
6 East 6th Street,
P.O. Box 708,
Lawrence, KS 66044

We want to object to the greatly increased heavy truck traffic on 442 due to this application, which will interfere with our customers dripping off and picking up children. We are a licensed daycare center near the proposed Penny Sand Plant. We are licensed for 129 children that can attend our center. We have over 30 teachers that work at the center. Parents and teachers drive daily between 7 AM to 6 PM Monday through Friday. Few years back we requested the Burlington Rail Road and the State of Kansas to review the increased traffic going through 1850 Road. Within a few months of the study both the State and Burlington implemented a railroad crossing due to the increased traffic.

Please realize that we already have the following people using 442 (Old K 10).

- Up to 129 parents dropping children during the day.
- Over 30 teachers coming to our facility during the day.
- Public school buses coming to our facility to drop children at the center.
- Our current vans driving during the day to pick and bring back children from different schools in Lawrence and Eudora.
- Folks visiting Pendleton during the year to purchase vegetables and fruits.
- Folks that work in Eudora and travel to Lawrence for employment.
- Folks that live in KC and work in Lawrence use the back road (442) to get to work.

Currently everyone in the neighborhood have a well for water source to either their house or business. We can't afford to lose our only source of water. I just can't imagine digging that many acres won't affect our only water source to the facility. Without water we would lose our children and would be forced to close the facility as water is a requirement by KDHE and would eliminate over 30 jobs.

We request that you deny the permit for the safety of the children, teachers and everyone traveling on the highway.

Sincerely,

Peter Shenouda

Peter Shenouda

Sept. 25, 2012

Lawrence Douglas County
Metropolitan Planning Office
6 East 6th Street,
P.O. Box 708,
Lawrence, KS 66044

Ms. Mary Miller:

It is unfortunate that last night's Planning Commission meeting on Item 1 degenerated into a chaotic situation, resulting in deferral for a month before some information could be communicated to the Commissioners. As I have communicated to you some weeks ago I am unable to be at the Oct. 22 Planning Commission meeting due to a commitment scheduled months ago and which is unchangeable. As the property owner most affected by this proposed CUP involving the Penny Sand Pit, as the leader of the local property owner opposition group (see signed petition), and as a qualified groundwater professional (who has submitted material for review) it would seem to be deprivation of due process to hold the meeting to discuss this issue when I can not be present. Therefore, I am respectfully asking the Douglas County Planning Commission to defer this item until the November meeting.

Thank you for your consideration. If I may answer any questions, please contact me.

Carl McElwee
1564 E. 1850 Rd.
Lawrence, KS 66046
785-843-4164
cmcelwee@ku.edu

THE LAW OFFICES OF
DANIEL L. WATKINS
901 NEW HAMPSHIRE STREET, SUITE 200
LAWRENCE, KANSAS 66044

TELEPHONE: (785) 843-0181
DANWATKINS@SUNFLOWER.COM
FACSIMILE: (785) 749-5652

October 3, 2012

Mr. Bruce Liese, Chairman
Lawrence/Douglas County Planning Commission
c/o Scott McCullough, Director
6 East 6th Street
Lawrence, KS 66044

Dear Chair and Commissioners:

You have a request from Carl McElwee to defer the hearing regarding Bill Penny's application for a Conditional Use Permit to extract sand from a parcel of land east of Lawrence, Kansas and north of County Road 1500. While we appreciate Mr. McElwee's circumstances, we believe it is important to proceed with consideration of the application. Penny's has been diligent in meeting submittal schedules and delivering additional information to staff on a timely basis. The matter has already been deferred once due to the request of Eudora.

The Corps of Engineers has notified us that river dredging permits in this vicinity will be suspended beginning December 31, 2012. Our application was developed and submitted on a schedule that would allow dredging of sand from an off-river pit coincident with the loss of the river dredging permits if a permit application is considered and approved this fall. Deferral of this application for another month will make this schedule very difficult to meet.

Mr. McElwee has submitted considerable information for the Planning Commission to consider in its deliberations. While his presence could certainly add emotion to the arguments he has presented, the multiple written submissions and petitions fully convey his position.

We respectfully request the Lawrence-Douglas Metropolitan Planning Commission proceed with the public hearing on October 22, 2012.

Sincerely,

Dan Watkins

RECEIVED
OCT 15 2012
City County Planning Office
Lawrence, Kansas

MEMORANDUM

532 Oklahoma Street Lawrence, KS 66046 12 October 2012

To: Lawrence Douglas County Metropolitan Planning Office

From: Stan Roth, Retired Biology Teacher, USD 497 for 40 years

Re: Penny Sand Company Application for Continual Use Permit

Please deny the Penny Sand Company request for a pit mining operation for sand removal near roads 1500 North and 1850 East. This would negatively impact the surrounding agriculture activity that has sustained the local economy for decades. There are issues relating to environmental degradation that must be taken into account in the long term. The operation would result in displacement of overburden, result in instability of the nearby river channel bank, and negatively impact the ground water aquifer.

Also, the approval of this request would result in the disruption of the contemporary farming economy and adversely affect the Douglas County history of the area.

Douglas County Planning Commission
6 East 6th Street
Lawrence, Kansas 66044

October 11, 2012

Re: Proposed Conditional Use Permit for extension of sand and gravel extraction in an area adjacent to 1564 E. 1850 Road. This site lies directly south of the Kansas River midway between Lawrence and Eudora.

I recommend that this proposal be DENIED.

This conclusion is based on my many years of study and mapping of the Kansas River, including publication, in 2009, of an atlas of Historical Channel Changes of the Kansas River and its Major Tributaries. In reviewing available data I find several reasons that excavation within the proposed area could have several negative effects for the general public.

1) Potentially most serious would be pollution of the water supply for the city of Eudora. Underlying the flat valley floor in this region is a sequence of interlayered sand and gravel that approaches 100 feet in thickness. A large volume of water occupies the spaces between grains of this sediment. This water seeps slowly eastward in a downvalley direction, some being captured by both private and municipal wells. Less than two miles east of the proposed new excavation site is the well field that supplies potable water for the public water system of the City of Eudora. In other words, Eudora's water supply passes through sands lying beneath the proposed new extraction pit.

Any sand-and-gravel operation requires the presence of at least a few motors and transient vehicles that will inevitably leak contaminating fluids which can seep into and through subsurface sediments and become part of the downstream movement of the ground water. Furthermore, this area on the valley floor is subject to inundation during major floods. The high level surface flow also could pick up contaminants from the new sand pit and carry them downvalley to the Eudora well field.

Inspection of detailed maps or aerial photographs of the Kansas River Valley west of Eudora reveals that the proposed extraction site lies farther north (as well as west) of the Eudora well field. It might therefore be argued that pollutants from the proposed sand pit would pass downvalley north of the well field location and so have no influence on the wells. However, records of the location of the river channel during the past few hundred years show that the stream has locally been flowing from northwest to southeast. That means that sand bodies accumulating in the channel would be elongated in that direction, an orientation that could lead subsurface water movement to go from the pollutant source of the new pit directly to the Eudora well field.

This all means that opening a new sand and gravel extraction pit at the proposed location could seriously endanger the purity and integrity of Eudora's water supply.

2) Data currently available to me do not define the precise location of the well that supplies water to the house at 1564 E 1850 Rd. Excavation on the proposed new site for sand and gravel extraction could seriously impinge on the supply of water from that private well. In fact, opening and deepening of the new pit might divert all local groundwater flow from the well and leave the residence with no water supply at all. The situation certainly requires assessment.

3) At the northwestern corner of the proposed new operation the Kansas River follows a sharp, almost V-shaped bend to the north and then back to the southeast. This bend has been actively shifting shape and location during the past several decades. It can be assumed that this dynamic will continue at least into the near future. The trend suggests that the channel will soon cut off or cut through the sharp bend by eroding through the location of the present sand and gravel operation. This channel move could also cut away at least the northern part of the proposed new operation. Such a shift of channel position would negatively affect the new extraction operation, and might

establish a new channel dynamic that would affect streamflow in both downstream and upstream locations. Final effects and configurations cannot immediately be determined, but could involve unexpected erosion into productive cropland.

Several predictable effects of establishment of a new sand and gravel extraction operation adjacent to 1564 East 1850 Road between Lawrence and Eudora tend to have negative impacts on nearby parts of the local valley floor. However, it is endangerment of the well field for the City of Eudora municipal water supply that demands closest attention. Chance of contamination of that resource is completely unacceptable for the public welfare.

Wakefield Dort Jr.

Wakefield Dort, Jr.

Emeritus Professor Geology
The University of Kansas

Oct. 11, 2012

Lawrence Douglas County
Metropolitan Planning Office
6 East 6th Street,
P.O. Box 708,
Lawrence, KS 66044

Ms. Mary Miller:

As you know I will be out of town on Oct. 22, so I can not be at the Planning Commission meeting. So, I want to make sure that all is in readiness for that meeting. I have supplied you with additional information already and I want to alert you to additional incoming information.

First of all, the Eudora City Council meet on Monday Oct. 8 and as part of their regular meeting they held a study session concerning the Penny Sand Pit CUP. Penny Sand presented their plans for the site, then Mr. Nuzman reviewed his report. At that point I presented my report (of which you have a copy) summarizing my comments on Mr. Nuzman's report pointing out alternate interpretations and shortcomings. Then Doug Heimke of the Kansas Rural Water Association gave his thoughts on the project. Next, the Eudora City Council hydrogeology consultant Mr. Ned Marks made a presentation on the pertinent hydrogeology of the valley aquifer. Then Mr. Scott Michie advised them of certain planning considerations. Finally, the Eudora City Council deliberated on their position with regard to the Penny Sand Pit CUP. The net result was that they voted to oppose the CUP application and write a letter to your office to that effect. I must say that they made a great effort to study the situation carefully before making their decision.

We have exchanged emails regarding Dr. Juracek of the USGS. I provided you with a letter summarizing conversations that I had with him concerning the bank stability issue. The net result was that he agreed with what I had said about that. In addition, the other local expert on the Kansas River, Dr. Dort (who is retired from the KU Geology Dept.) is writing a letter opposing the CUP application based on water quality and bank instability issues. You should receive that letter soon.

I hope you will be rewriting the staff report to reflect all this new information. In particular water quality and bank instability issues must be reflected as areas of major concern. Your staff report points out that preservation of quality farm land is also a major consideration. Based on all this new information, I hope your rewritten staff report will recommend denial of the CUP application.

Since I can not be present for the Oct. 22 meeting, I have prepared a 5 minute video presentation which I would like to have played at the meeting. I am no longer asking for the consideration of this Penny Sand Pit CUP to be deferred to the Nov. meeting. I think that would be unfair to the many opponents who will be showing up for the second time, since it was deferred at the Sept. meeting. To defer it again and ask them to keep coming out for meeting after meeting would be wrong. I do ask for a fair hearing of all the available information and that a very thoughtful deliberation be made.

Thank you for your consideration. If I may answer any questions, please contact me.

Carl McElwee
1564 E. 1850 Rd.
Lawrence, KS 66046
785-843-4164
cmcelwee@ku.edu

Oct. 2, 2012

Lawrence Douglas County
Metropolitan Planning Office
6 East 6th Street,
P.O. Box 708,
Lawrence, KS 66044

Ms. Mary Miller,

After reading your staff report which contains the following information:

"Staff contacted a hydrologist with the USGS (United States Geological Survey) Midwest Division, Kyle E Juracek, for his opinion on the impact of the dredging operation and pit on the river channel. Mr. Juracek indicated that the location of a lake could result in channel change in the event of a flood but pointed out that the river channel may change as a result of a flooding event even without a lake in close proximity."

I felt that the situation involved in this request for a CUP had not been made entirely clear to Dr. Juracek. The situation is fairly complex and deserves some more description. After making an appointment to see Dr. Juracek, I showed him Dr. Dort's work characterizing the river bank movement over the last 100 plus years, gave him a plan view map of the proposed sand pit excavation area to create the lake, and explained to him that the sand excavation would proceed to bedrock in the area. We discussed the fact that the river is trying to cut off the meander in this area. I pointed out that the proposed excavation pit (about ¾ mile wide East to West) would nearly connect the two sides of the meander.

Dr. Dort's work shows the river bank in the vicinity of this proposed sand pit is unstable and has moved over time. Geologic history tells us this river will move again, we just don't know when. During a major flood event the river could try to move again and breach the proposed sand pit.

The presence of such a large deep pit as requested at this site would make it much easier (since so much material has been removed) for the river in times of flood to cut off the meander at this site by flowing through the pit area. This would create a huge nick point (deepened point in the river bed about

50-60 feet deep) that would have a destabilizing effect on the river bed, with head cutting upstream and bed degradation downstream for some time to come, until a new stable river bed gradient was created. This erosion of the river bed could propagate upstream to the Bowersock Dam and downstream an unknown distance.

I have sent a copy of this letter to Dr. Juracek for review and he has not disagreed with my statements. I encourage you to contact him and discuss this matter with him and to ask him any questions you may have.

Thank you for your consideration. If I may answer any questions, please contact me.

Carl McElwee
Emeritus Professor of Geology
University of Kansas
Lawrence, KS 66045
785-843-4164
cmcelwee@ku.edu

City Of Eudora, Kansas

Mayor Scott Hopson

October 17, 2012

Bruce Liese, Chairman
Lawrence – Douglas County Metropolitan Planning Commission
First floor, 6 E. 6th Street
Lawrence, Kansas 66044

Dear Mr. Liese,

The purpose of this letter is to inform the Douglas County Planning Commission of the vote by the Eudora City Council taken October 8, 2012 concerning the Conditional Use Permit (CUP) application by Penny Sand Company for proposed dredging operations near the Kansas River at the corner of North 1500 and East 1850 roads. The City Council voted unanimously to recommend denial of the CUP application.

The City Council heard two hours of testimony from hydrology experts, for and against the Penny Sand CUP application, and from the general public at their October 8th meeting. Eudora's recommendation for denial is based on public concern for protection of the aquifer and water table that serve as the sole source of water for the City's municipal well supply. Our analysis shows there is potential for surface water to negatively impact our water source should the CUP allow the removal of over-burden soil—built up over decades of natural flooding and silting—and the excavation to bedrock at depths of 50- to 70-feet below current grade at the site. We look forward to presenting this letter and a summary of these hydrology findings to your commission at an upcoming public hearing on this matter. Attached to this letter are several documents that were presented at the City Council meeting on October 8th. Thank you for considering the recommendation of our city council and for cooperating with our planning commission in this and other planning and zoning matters inside Eudora's designated "Planning Area."

Sincerely,

Scott Hopson

Scott Hopson
Mayor

Cc: Douglas County Commission (via e-mail)
Craig Weinaug, County Administrator (via e-mail)
Eudora City Council (via e-mail)
Scott McCullough, Director Planning and Development Services (via-e-mail)

(785)542-4111 (785)542-1237 Fax
4 East Seventh Street P.O. Box 650 • Eudora, Kansas 66025-0650

TERRANE RESOURCES CO

P.O. BOX 173 STAFFORD, KS 67578-0173 620-234-5200

17 September, 2012

Mr. John Harrenstein, City Manager
City of Eudora
P.O. Box 650
Eudora, KS 66025-0650

Re: Penny Sand CUP

Mr. Harrenstein,

This letter and enclosed Exhibit is in response to the City of Eudora's request we review and make recommendations regarding the proposed Penny Sand Facility CUP.

We have reviewed the data prepared by Dr. Carl McElwee, data submitted by Penny Sand, KGS publications, data prepared by Mr. Carl Nuzman and well log information.

Exhibit 1 is a copy of a map we modified from the Nuzman report. It shows the following:

The water table contours from the 1930 and 1974 KGS reports.
The 10 year area of influence delineated by Nuzman.
The 6 and 8 year areas of influence delineated by McElwee.
The proposed Penny Sand Facility
The test borings in the NW portion of the proposed sand facility.
Proposed observation well sites

The data indicates there has been a shift in the local ground water flow direction. The 1930 data indicates a WSW to ENE flow direction. Mr. Nuzman's Source Water Protection Area SWPA delineation tracks to the WSW from the City's well field. The 1974 data used by Dr. McElwee indicates the ground water flow has a more west to east orientation. Additionally, the 1974 shows there is less saturated thickness in the aquifer in and up-gradient of the City's well field. The SWPA delineated by McElwee extends more due west from the City's well field and further up-gradient.

It is important to understand both of these delineations are based on 83 and 39

year old water level data respectively. Both delineations used similar pumping scenarios by the City wells but do not include any potential impact local irrigation systems may have on the overall area of influence. Additionally, there is nothing in the data that suggest the existing sand operation is having any affect on the aquifer.

There are some fundamental aspects of aquifer characterization which need to be addressed. If the pumping of the City's wells remain constant (no decrease in pumping rate) and the saturated thickness decreases (lowering of the water table) then the cones of depression increase around each well. The increase in the size of the cone of depression will increase the area contributing water to the well field. If the saturated thickness continues to decrease due to seasonal or long term lowering of the water table then transmissivity and hydraulic conductivity characteristics of the aquifer can be affected. Therefore, any permanent lowering of the water table can have an impact on the area of influence to the well field which can have a deleterious effect on pumping rates.

The delineations prepared by Mr. Nuzman and Dr. McElwee represent the areas which will contribute water to the well field over time. The immediate cones of depression associated with the wells caused by pumping may not extend much more than ½ mile from the wells.

If the proposed sand pit has no affect on the water table, within the pit area, then it will yield water to the aquifer more readily than the surrounding aquifer and become a recharge area to the aquifer. If the water level in the pit is lower than the existing water level in the aquifer then it becomes a drain on that portion of the aquifer and will impact surrounding water levels in the aquifer.

Any changes to the water table can affect ground water flow direction. It appears there has been an apparent shift in the ground water flow direction by about 20 degrees between 1930 and 1974.

We have no data which indicates what affect the proposed sand pit will have on the water table. If there is no change to the water table then the affects should be minimal. However, if the sandpit caused a permanent lowering of the water table then it can have a negative affect on the recharge area to the City's well field. This will be readily apparent during periods of drought.

According to the conversation from the informal meeting held at Eudora it is our understanding the Division of Water Resources (DWR) assumes there will be no net loss of water from the aquifer under normal conditions due to evaporation. During periods of drought and extend periods of heat it would not be

unreasonable for this pit to lose and inch of water in a 24 hour period. That amount of water would equal 27,154 gallons per open acre of water. That value times 300 acres equals 8,146,200 gallons per day. This is the equivalent of 25 acre feet of water per day or a well that pumps 5657 gallons per minute 24/7.

At this time we would tend to agree with DWR's zero net loss on an average year. However, as we are currently seeing there are some years that do not get average rainfall. This is important because when the sandpit will be losing potentially large quantities of water due to evaporation the City will be pumping large quantities of water to meet demands.

Based on the limited data it appears there is the potential for impairment during periods of drought or extreme heat.

It is our understanding the sandpit will be excavated through the entire sand and gravel formation and extend to the bedrock. This process will open the entire saturated thickness to the pit. Should a contaminant enter the pit, whether it is biological or chemical, it will have access to the zone the City wells are completed in. The lower zone of the aquifer in this area is typically more prolific and has better transmissivity characteristics than the upper portions. Therefore, any contamination that makes it to the bottom of the aquifer will move faster than if it entered through the soil profile.

The well logs we rec'd from Penny Sand are informative but of limited use as they are only for a small area in the northwest portion of the sand operation. This area of the operation is remote to the City's well field. The installation of some observation wells around the perimeter of the proposed sand pit would be beneficial. At this time we recommend observation wells near the southwest and the southeast corners and near the middle of the east side of the proposed sand pit.

Additional observation wells between the proposed sand pit and the City's well field should be installed as well. Unless, existing wells can be identified, evaluated and utilized.

We do not have any recent data to evaluate the potential, negative or positive, impact of the proposed sandpit.

In order to evaluate any changes the proposed sand pit will have on the aquifer a comprehensive evaluation of the existing data, the installation of observation wells and collecting current and on going data will be needed.

Quite frankly, the delineations presented indicate the complexity of this area. Without current data, the actual effects on the aquifer are estimates at best.

Using existing wells and adding observation wells to fill in the gaps, data can be collected which will better identify, delineate and evaluate the potential affects to the aquifer.

Below is a brief outline of the proposed process we recommend the City of Eudora consider regarding Source Water Protection Area (SWPA) delineation.

Data Collection and Review
Review City files and select data for copies.
Review KDHE files at Lawrence, Topeka and State Archives as needed.
Compile well database and ground truth existing wells and associated data.
Recommend meeting with KRWA staff and bring them onboard to help with the SWPA plan compilation, implementation, presentation to neighbors and City and County Planning and Zoning Commissions.

Aquifer Testing and Observation Well Installation
Analysis of existing data may provide some of the information needed. We anticipate having to run at least one series of aquifer tests to determine the area of influence and evaluate potential well interference.

The existing data for the City wells and domestic wells can be utilized, additional observation wells may have to be installed. Some of the observation wells should be installed before the aquifer tests are run.

The wells shown in the KGS database will be of limited usage unless their locations are verified.

All wells and surface water access points, utilized in the testing process, will have to be surveyed in by a licensed surveyor.

Aquifer and Testing Data Compilation
Individual well and multiple well data will have to be evaluated.

The projection and plotting of actual areas of influence will be based on actual and current data. Once this is done we can estimate changes to the area of influence based on aquifer variables, changes in pumping rates, additional wells, saturated thickness changes, etc.

Additional Recommendations

We strongly suggest the City ask Penny Sand to postpone their meeting with Planning and Zoning. This would allow the City to obtain clarification of some of the data and present their concerns directly to Penny Sand and their consultants. It has been our experience that direct negotiations will be more beneficial and less expensive than trying to negotiate through the Planning and Zoning Process. If a mutual agreement can be reached between the City and Penny Sand, then the City simply recommends the modified plan be approved by Planning and Zoning.

Historically, it was thought the public should have complete and unrestricted access to a city's data and well field operations. We do not believe going into great detail as to how the City's wells function and the areas which directly impact the viability of the well field need be publicized.

We recommend the City monitor water levels in and around their well field. Either by utilizing existing wells if available or by installing a series of observation wells. From this network a detailed ground water flow regime map can be prepared. Additionally, seasonal variations in ground water flow can be monitored.

Once the City has a detailed Source Water Protection Area (SWPA) delineated then it can be referenced in future planning and zoning determinations.

We suggest requesting Penny Sand install, monitor and analyze samples and data from no less than three observation wells near the southwest and southeast corners and near the center of the east side of the proposed sand pit. If there are existing wells on the property, which can be used, they should be evaluated and used if possible. It would be beneficial if these wells could be installed before excavation begins. Samples should be collected in the spring and late fall to establish a baseline on quality and water levels should be measured monthly.

The main component as to whether this proposed sandpit will be an issue will depend how much impact the City's well field has on the aquifer. It is possible the data to make that determination already exists. Much of the data gathered during the construction of the wells should be available. It is important the wells be evaluated as they are operated, not as a single event or pumping well.

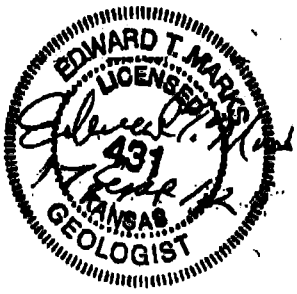
John, this is a complex issue, which may be exactly as Mr. Nuzman and Dr. McElwee have described it. It has been our experience it takes detailed analysis of the data to establish areas of influence and develop a meaningful SWPA delineation.

As Always if you or any of your colleagues have any questions do not hesitate to contact us.

Respectfully submitted

Edward "Ned" T. Marks, Geologist
Terrane Resources Co.
terrane@sbcglobal.net

Encl.



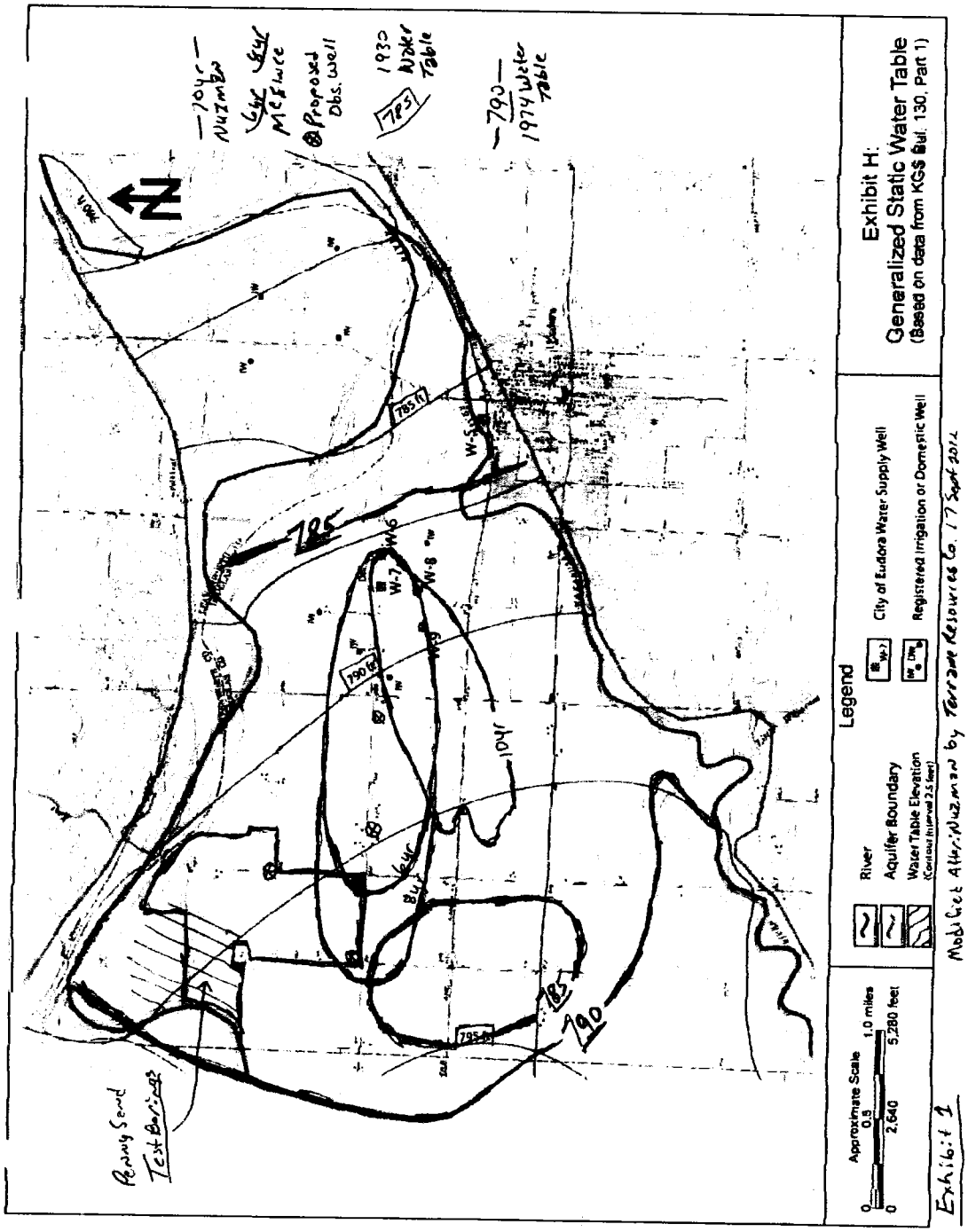


Exhibit H:
Generalized Static Water Table
(Based on data from KGS Bul. 130, Part 1)
Legend
River
Aquifer Boundary
Water Table Elevation
(Contour Interval 2.5 feet)
City of Eudora Water Supply Well
Registered Irrigation or Domestic Well
Approximate Scale
0.5
1.0 miles
0
2,640
5,280 feet
N
1042 — Muzzman
Use Gas McFarlane
@ Proposed Obs. well
1930 Water Table
1974 Water Table
Penny Sand Test Borings
Exhibit 1
Modified After Muzzman by Terrane Resources Co. 17 Sept 2012

KANSAS
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WATER
association
Quality water, quality life

P.O. Box 226 • Seneca, KS 66538 • 785/336-3760
FAX 785/336-2751 • http://www.krwa.net

October 11, 2012

Mayor Scott Hopson
City of Eudora
P.O. Box 650
Eudora, Kansas 66025-0650

RE: Sand and Gravel
Dredging Proposal

Dear Mr. Hopson:

Thank you for allowing me the opportunity to present written information and to speak before the city council on October 8, 2012. It was obvious that the city council wanted to take the time to understand the issue and by inviting all of the interested parties to speak, they have a very good understanding of the risks and benefits moving a nearby sand and gravel dredging operation off of the Kansas River and onto the floodplain.

It should be clear to most people that removing material from the river bed will cause the river system to react to the disturbance. Sand and gravel doesn't regenerate in the river. This material in the Kansas River and its alluvium is a mixture of the material deposited from the glaciers and material eroded from the Flint Hills, the Dakota Sandstone and the Rocky Mountains. The likelihood of "new" sand and gravel coming downstream is severely limited by the existing large dams on the Kansas River and its tributaries. Initially, this disturbance will affect the bed upstream and downstream as the river attempts to restore the previous slope with sediment in the channel and / or from the banks. As it is believed that the U.S. Army Corps of Engineers will suspend the permits allowing in-stream dredging on much of the Kansas River in 2013 because of these impacts to the river, companies that use or sell sand and gravel will be looking for new sources of this material.

Unfortunately, not much planning has occurred in the counties where the Kansas River and its associated sand and gravel resources are located. This lack of comprehensive planning to identify the best locations for off-stream sand and gravel dredging operations is causing conflicts between the sand and gravel companies hoping to move onto the floodplain and public water systems that depend on the groundwater in the sand and gravel aquifers. Other interested parties affected by this change in dredging policy are transportation departments, power companies, airports, pipelines, railroads, etc. Until this planning is done, public water systems, especially those water systems that do not have treatment facilities that are capable of treating surface water or groundwater under the direct influence of surface water, will need to be vigilant in protecting their source water supplies. They will have to be actively involved in the planning process.

I believe the city council was correct in reaching a decision to recommend denial of the conditional use permit. While it was speculated in one report that the off-stream sand dredging operation would not cause "contamination" of the aquifer, no evidence was presented in written form or verbally that the proposed pit could not introduce constituents common in surface water to the groundwater supply through the beds of gravel (exposed in the sides of the pit) which extend into the aquifer. Water systems such as yours, do not have a surface water treatment plant because of the natural filtration property of the relatively undisturbed aquifer. Creating a condition that could allow bacteria, viruses, protozoa such as *Cryptosporidium* (a parasite that is resistant to chlorine disinfection), or toxins from decaying algae to enter your water supply is unreasonable and unacceptable. A fact sheet on cryptosporidiosis is enclosed.

You can reach me by telephone at 785/640-4701, by e-mail at dhelmke@krwa.net or by writing to 6847 SE 29th Street, Tecumseh, Kansas 66542-9571. You can follow me on Twitter at @KRWA_WaterRghts. Please be reminded that the KRWA website at http://www.krwa.net has news and information for water and wastewater utilities, including water rights, source water protection and training opportunities.

Sincerely,

Douglas S. Helmke

Douglas S. Helmke, L.G.
Water Rights / Source Water Specialist
Kansas Rural Water Association

DSH
Enclosure
c: KRWA
JOHN HARRENSTEIN ✓

Facts About Cryptosporidiosis

What is cryptosporidiosis?

Cryptosporidiosis is a gastrointestinal illness caused by *Cryptosporidium*, a infectious pathogen that lives in the intestines of humans and mammals. Both the disease and the organism itself are commonly referred to as **Crypto**. Crypto is one of the most common causes of waterborne diseases in the United States: outbreaks related to recreational and drinking water increase every year. It is highly contagious and when left untreated, a person can become re-infected and/or infect others. Crypto is commonly transmitted by swallowing organisms from water, food, hands or other surfaces that have been contaminated with the organism. Crypto is most common during the summer and early fall. It occurs most frequently in young children (under the age of 10) and their caregivers. While anyone can be infected with Crypto, people with weakened immune systems (malnourished children, the elderly, patients receiving cancer chemotherapy patients with HIV/AIDS, etc.) can develop serious, life-threatening illnesses from Crypto.

Symptoms

Crypto symptoms usually begin within 2 to 10 days after exposure and generally last one to two weeks in people with healthy immune systems. Common symptoms include watery diarrhea, stomach cramps or pain, dehydration, nausea, vomiting, fever and weight loss.

Diagnosis

Diagnosis of Crypto can be complex and time-consuming because the organisms are very small and difficult to see under a microscope. Confirming a diagnosis of Crypto normally involves examining multiple stool samples over a period of several days.

Other Facts about Crypto

- The word "Crypto" comes from a Greek word meaning "hidden."
- Crypto is resistant to chlorine and other chemicals commonly used in recreational and drinking water.
- Crypto is not killed by alcohol gels and hand sanitizers.
- People can continue to pass Crypto in their stools for several weeks following illness.
- When doctors suspect Crypto, they sometimes treat patients before a definitive diagnosis is secured.
- If you suspect you or a loved one has Crypto you should consult your doctor or primary care clinician.
- Transmission of Crypto is not limited to ingesting contaminated water. Food and person-to-person transmission may be at least as important as drinking water and may be more likely to transmit higher dose exposures.

How Can Crypto be Prevented and Treated?

You can help to break the chain of transmission of Crypto if you:

- Avoid swallowing water while swimming, boating, or engaging in other recreational activities.
- Wash raw fruits and vegetables thoroughly with clean water before eating them.
- Wash you hands carefully before you eat, after using the restroom or changing diapers, after you have cared for anyone with diarrhea, and any time you may have been in contact with contaminated surfaces.
- Stay away from swimming pools and other recreational waters if you or a family member has had diarrhea.

Supportive Care and Treatment

- Doctors recommend drinking plenty of fluids to prevent dehydration during infection with Crypto and other illness causing diarrhea.
- A prescription medicine called nitazoxanide (Alinia®) may be used to treat Crypto in both adults and children 12 months of age and over.
- Nitazoxanide is available as a tablet for adults and as a liquid suspension. A three-day treatment regimen is recommended.
- Side effects of nitazoxanide are similar to those of a placebo (sugar pill).
- Nitazoxanide has not been shown to be effective for the treatment of diarrhea caused by Crypto in HIV-infected or patients or patients with weak immune systems.

National Foundation for Infectious Diseases
4733 Bethesda Avenue, Suite 750, Bethesda, MD 20814
(301) 656-0003 Web site: www.nfid.org August, 2008

Facts About Cryptosporidiosis

FACT: According to the CDC, Crypto has become one of the most common causes of waterborne diseases (recreational and drinking water) in the United States, with outbreaks increasing annually

FACT: Crypto is a chlorine-resistant pathogen that poses a serious public health threat because contamination of drinking or swimming pool water can lead to large community outbreaks

FACT: Crypto is spread by contact with contaminated water, food and surfaces. Swallowing water during recreational water activities is a common way Crypto is spread.

FACT: The tell-tale sign of Crypto infection is ***frequent, watery diarrhea that is not like other cases of diarrhea***. Other symptoms include dehydration, weight loss, stomach cramps or pain, fever, nausea and vomiting. Symptoms generally begin within two to ten days after exposure and last one to two weeks

FACT: Crypto is highly contagious and when left untreated, a person can become re-infected and/or infect others. Crypto can be shed in the stool for many weeks after symptoms clear

FACT: Dehydration is the most common problem people develop after being infected with Crypto

FACT: Persons with weak immune systems may develop prolonged illness with severe dehydration and other life-threatening complications

FACT: Maintenance of adequate fluid intake is vital for persons with Crypto and other types of diarrhea

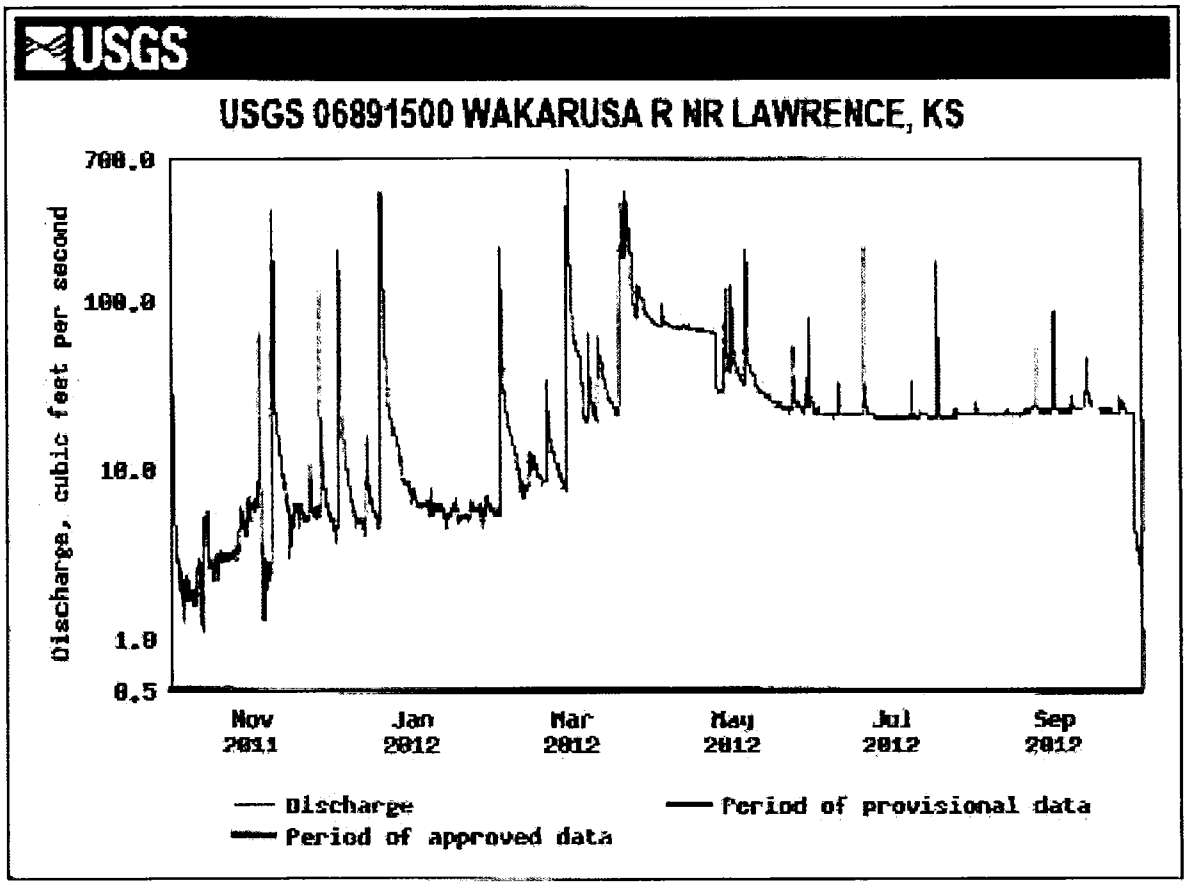
FACT: Persons who suspect diarrhea related to Crypto should consult a health-care provider.

National Foundation for Infectious Diseases
4733 Bethesda Avenue, Suite 750, Bethesda, MD 20814
(301) 656-0003 Web site: www.nfid.org August, 2008

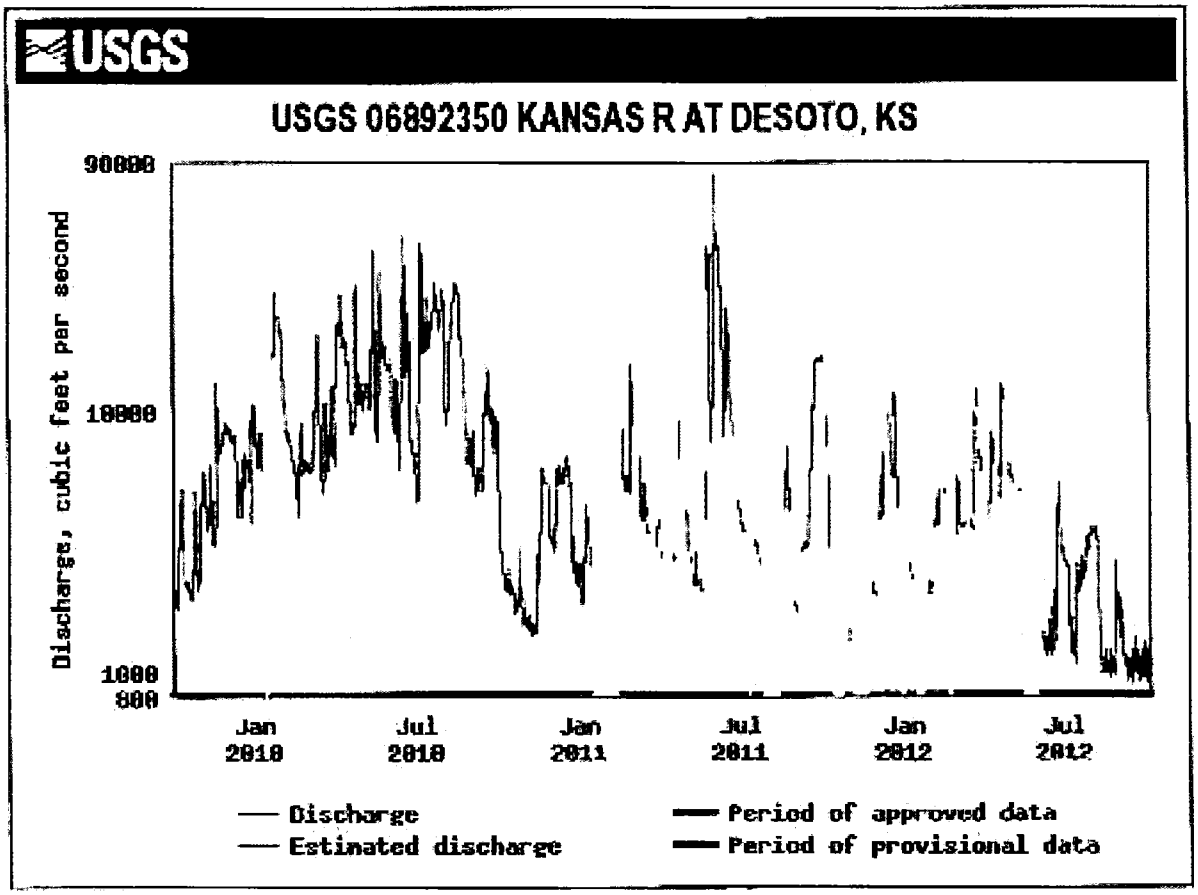
Comments Regarding the *Evaluation of a Sand Pit Operation for Penny's Concrete and Sand LLC* by Carl E. Nuzman

1. In Exhibit B, mentioned on page No. 3 of *Evaluation of Penny's Concrete and Sand LLC's Proposed Sand Pit Operation on Ground Water For the Lawrence Facility* dated September 12, 2012, Mr. Nuzman provides a "cross section" of "selected" wells, three with very detailed geologic information and two with incomplete information which do not fully penetrate the aquifer. The detailed well logs show coarse sand and gravel and one of the well logs shows boulders. This kind of material in an aquifer usually allows for high transmissivity, which is a measurement on how water flows through the aquifer formation. His report then discounts the recorded water levels on these well logs due to precipitation, drought, well test pumping, etc. and are therefore unreliable for water level use. His report then relies on "pre-development conditions", which haven't existed since the 1950's.

2. Mr. Nuzman concludes that the Wakarusa River is important to aquifer recharge, but does not supply any data showing flow in the Wakarusa River. Below is a graph showing recent flow. (From http://waterdata.usgs.gov/ks/nwis/rt)



The above graph shows instantaneous water flow in the Wakarusa River near Lawrence since October 1, 2011. Notice that some events of "high" flow have occurred but most was below 10 c.f.s. until March of this year. Releases from Clinton Reservoir contributed to an average flow of about 20 c.f.s. since June of 2012.



This graph shows the measured flow in the Kansas River near De Soto. Note that the average flow is over 100 times greater than the Wakarusa River and therefore more likely to contribute more recharge to the alluvial aquifer. At some times, flow is more than a 1,000 times greater.

3. On Page 5, Mr. Nuzman concludes that the "overappropriated" condition of the aquifer will serve to intercept any contaminants upgradient from the public water supply wellfields. Of the 4,868 acre-feet appropriated in his "effective" area, 3,686 acre-feet is the authorized total (over 75%) of just one water right. Water Right, File No. 9,391, which was last used in 2002, was recently obtained by the City of Lawrence. The City of Lawrence will not be "drawing" contaminants away from the other public water suppliers by the operation of this water right if it draws contaminants toward their wells.

4 In Section 6, no detailed information is given, including the name of the "particle tracking" analysis software that was used to generate the map identified as Exhibit F. Reference is given to K.G.S. Bulletin No. 130, part 1, which was published in 1958, which does not include a particle tracking model. It is likely (but not determined) that water level data from the 1958 report was used when the un-named software was used to generate the map. His previous comments about overappropriation are ignored when he uses the water level data from the 1950's to explain the normal conditions of today.

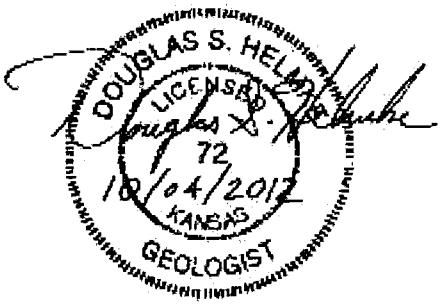
5. In Section 8, the report seems to contradict previous comments regarding the sand pit's lack of influence on water quality. Mr. Nuzman states that sand pits beneficially support the yield of wells that are down-gradient from a pit that is within the area of influence of a well. If this is true, the quality of the water in the pit will be extended into the aquifer some unknown distance.

6. In Section 9, "Conclusions", it is stated that present regulations require 200 feet of separation between a well and a surface water source. This regulation applies to public water supply wells where the screen of a well is less than 50 feet from the surface of the ground unless approved surface water treatment is employed. This regulation is drafted to account for wells in close proximity to rivers. It was not written to account for wells near pits that fully penetrate the aquifer. If the water being pumped by public water supply wells have biological, chemical or turbidity characteristics similar to surface water, it would be surprising that KDHE would not rule that the water is under the direct influence of surface water.

7. Mr. Nuzman does not mention this conclusion taken directly from Bulletin No. 130, part 1: "Wisconsinan and Recent alluvium in this portion of the Kansas River valley has an average thickness of 55 feet. This alluvium is an excellent aquifer, because the lower portion everywhere consists of several feet of permeable sand or gravel. Surficial silts several feet thick generally overlie the coarse-textured deposits and, where sandy, permit recharge from local precipitation. During periods of heavy pumpage the ground-water body, which normally discharges into Kansas River, receives large quantities of recharge from the river, increasing severalfold the amount of ground water available to properly spaced and constructed wells. Adequate quantities of ground water of fair quality are available for future municipal, irrigational, and industrial expansion in this part of the Kansas River valley."

A fully-penetrating pit likely is a greater contributor of recharge to the aquifer with minimal filtration, than a river that does not fully penetrate the aquifer. How much influence the pit has on groundwater quality has not been adequately determined. No analysis has been performed which will evaluate the behavior of the aquifer during periods of high pumpage by multiple wells, minimal precipitation in the immediate area and high flow in the Kansas River due to upstream reservoir releases, either. This worse-case scenario should be evaluated before making a determination that a sand pit will have no impact on groundwater water quality.

Submitted to the City of Eudora
October 4, 2012
Douglas S. Helmke, L.G.
Kansas Rural Water Association



Comments on the Carl Nuzman report:

"Evaluation of Penny's Concrete and Sand LLC,

Proposed Sand Pit Operation on Ground Water"

By

Carl D. McElwee, Ph.D

Emeritus Professor

Geology Department

University of Kansas

Lawrence, KS

September 18, 2012

Introduction

Mr. Nuzman has brought together a considerable amount of data regarding the proposed project. He is a respected member of the scientific community studying groundwater. As is always the case, the data must be interpreted and analyzed to draw conclusions. I would like to point out some places where the data may be interpreted and analyzed in an alternate and reasonable manner to arrive at different conclusions. In addition, I would like to bring out some other points that need to be considered in evaluating the possible impact of this pit mining operation.

Groundwater Gradient direction

The gradient of groundwater is the driving force that causes it to move. Mr.Nuzman mainly uses the water level data of Kansas Geological Survey (KGS) Bulletin 130, Part 1. The generalized static water table map that he uses (Exhibit D) gives too much weight to water moving down the Wakarusa River Valley (which joins the Kansas River Valley just south of the proposed sand pit). This distorts his ground water gradient and leads to the conclusion given in Exhibit F that the capture zone for the Eudora Well Field is south of the proposed pit.

On the other hand, if one considers the newer report KGS Bulletin 206, Part 2, it shows that the Kansas River is the major force and that water moves down the valley generally from west to east more or less parallel to the valley walls. The resulting groundwater gradient and flow direction is shown in Figure 1 below. This data shows that water will move from the proposed sand pit to the Eudora Well Field. I have done calculations of capture curves (area of groundwater capture in a given time by the well) and travel times based on work that I published in *Ground Water* (McElwee, 1991, A copy of that paper has been supplied to the DG CO Planning Office). That work shows that the minimum travel time between the proposed sand pit and the Eudora Well Field could be about 5.5 years. In addition, the 6 and 8 year capture curves significantly overlie the proposed sand pit, as shown in Figure 2 below. Details of this work are given in Appendix I.

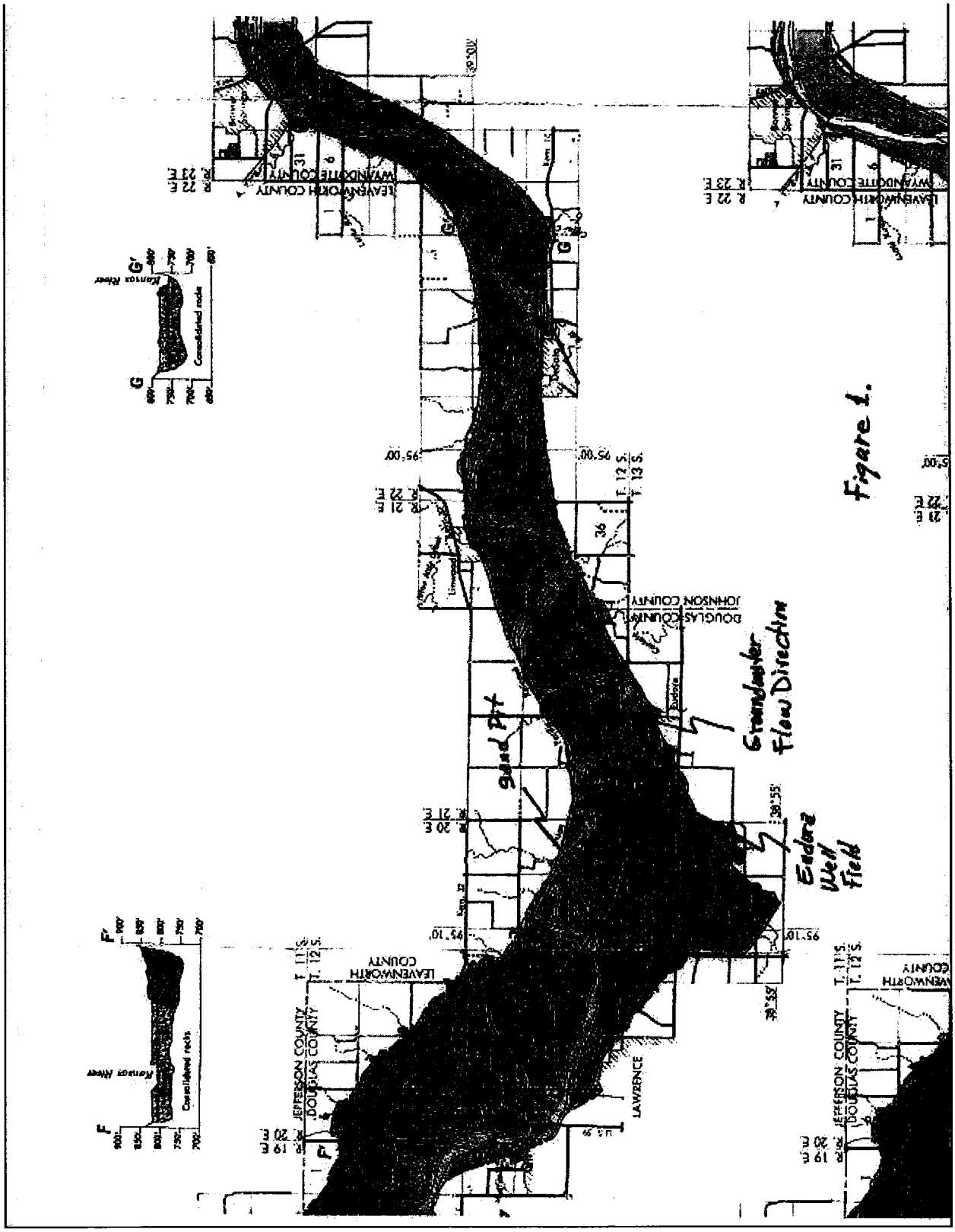


Figure 1.
Groundwater Flow Direction
Eudora Well Field
Eudora
LAWRENCE
JEFFERSON COUNTY
DOUGLAS COUNTY
LEAVENWORTH COUNTY
WYANDOTTE COUNTY
JOHNSON COUNTY
Kansas River
Consolidated rocks

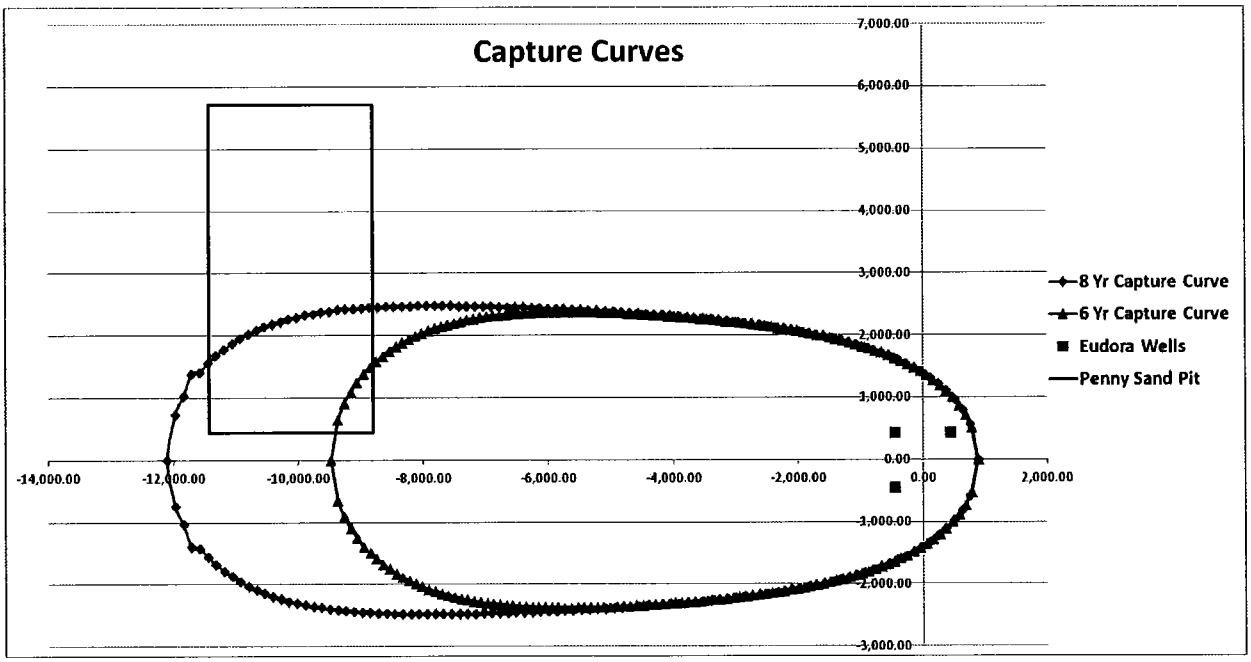


Figure 2.

Both of the KGS reports referred to are old and can't be relied on for absolute numbers. However, they do allow us to reach some general conclusions. In addition, there is a lot of variability in the aquifer (things change with space and time). So, the conclusion must be that one can't state with certainty that the proposed sand pit will have no effect on the Eudora Well Field. Of course there are many other private wells that are down-gradient from the proposed sand pit and much closer that could also be affected.

Effect of Pit on Water Levels and Quality in Aquifer

Mr. Nuzman states on page 8 that "The static water level elevation in the sand pit will be about the same as the water surface elevation in the Kansas River." That is probably true if the pit is close to the river. This means that the water level in the aquifer will be lowered around the pit, because the water levels in the aquifer are generally a little higher than the river level. This could negatively affect some nearby wells. Mr. Nuzman also states that "Sand pits beneficially support the yield of wells that are down-gradient from a pit that is within the area of influence of a well." In other words the well would be pumping water from the pit. This means

that the quality of the well water would depend on the quality of the water in the pit. In general, the quality of surface water in rivers and lakes is much poorer than the quality of groundwater. So there is the potential for pollution.

If this pit is allowed, a huge deep lake (about 70 feet deep on average) will be created. This will be a flow-through lake, which means that groundwater from up-gradient will flow in one side of the lake and flow out the down-gradient side of the lake. The net result is a continual mixing of the groundwater and the surface water from the pit, which then continues to flow down the valley in the aquifer to the next user of the groundwater.

As the well drilling logs in Mr. Nuzman's reports shows, the overburden (soil, silt, and clay) that must be removed to access the sand is substantial. It is in the range of 15-23 feet in most places, in some areas less and some areas more. However, most logs in the vicinity of the proposed sand pit indicate about 23 feet of overburden to be dealt with. This is a major logistics problem that must be dealt with while keeping any surface runoff out of the pit. There is the potential for pollution from surface runoff. This overburden material has been the filter material to keep pollutants out of the deeper aquifer, removing it exposes the aquifer. The resulting piles of surficial material may contain fertilizer and pesticide residue and daughter products from their decay. Apparently, the plan is to emplace at least some of this material back into the pit. If this is done, the overburden material should be extensively tested for possible pollutants before such use.

Mr. Nuzman mentions that a few investigations have been made on the effect of sand pits on groundwater quality and that they have not shown any significant human health effect. However, one can't infer from these few studies that there will never be a problem. In fact, at least one of those studies (KGS OFR 2008-4) did come to the conclusion that there was a measurable interconnection between the sand pit waters and the local aquifer and that there was a potential for pollution. The following is a direct quote from the conclusions of that study.

"The concentration distributions of pesticides and organics other than pesticides at the four pit sites in northwest Wichita, as well as the general pattern in iron, manganese, and ammonium ion concentrations in the downgradient well waters relative to the upgradient well and pit waters, indicate that surface water in the sand pits flows into the ground water in the southeast to south-southeast

direction of the ground-water flow at the study sites. The evidence for connection between the surface and ground waters at the two southern Wichita sites is not as strong as for the four northwest Wichita sites. However, distribution of some constituents and chemical properties do fit the general pattern of entrance of pit water into the ground water. This would be expected to occur most prominently when surface runoff into the pits increases the hydraulic gradient between the pit surface and ground-water levels. Thus, stormwater runoff containing contaminants can enter ground water through the sand pits and impact ground-water quality"

Effect of Pit on the River System

Material has previously been provided that shows the river bank in the vicinity of this proposed sand pit is unstable and has moved over time. Geologic history tells us this river will move again, we just don't know when. During a flood event the river could change course and breach the proposed sand pit. This would have a dramatic effect on the river system. Since the sand pit is deep (about 70 feet) and the river is very shallow, the pit would capture the bed load of the river and cause the river to become unstable. This would result in deepening the channel upstream (head cutting) and degradation of the channel downstream. It would take years for the river to reach a new stable equilibrium. Pits should not be allowed in areas where pit capture is a possibility.

Conclusions

I have shown that a reasonable interpretation of the available groundwater data indicates that the proposed sand pit could indeed have an effect on the Eudora Well Field and other local wells. The net effect will be a flow-through lake that mixes up-gradient aquifer water with sand pit water and sends it down-gradient into the aquifer and further down the valley. This behavior has been documented in studies of sand pits and aquifers. So, the conclusion is that any pollution must be prevented. The huge amount of overburden produced and its handling could be a source of pollution. Finally, the unstable nature of the river bank in this area makes it possible that the sand pit could capture the river during high flows and cause a channel change. If this were to happen, the river bed would be unstable for years until a new equilibrium was reached.

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Resume

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Professional Journal Articles

McElwee, C.D., and Yukler, M.A., 1978, Sensitivity of groundwater flow models with respect to variations in transmissivity and storage: *Water Resources Research*, v. 14, no. 3, p. 451.

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Appendix I.

This calculations presented here is based on work I did and published back in 1991 in the *Ground Water* journal. I have supplied to the Planning Department a copy of that article for reference. This work shows that the minimum travel time from the Penny sand pit to the Eudora Well Field is about 5.5 years. This is from the closest point of the pit to the center of the well field. I have also calculated the 6 and 8 year capture curves for the Eudora Well field. The work shows that these capture curves include significant portions of the proposed pit.

The important parameters are as follows:

K - hydraulic conductivity - I used 1000ft/day. This is a measure of how fast water moves in the aquifer. The Nuzman report uses data from a well test on Eudora No. 8 and reports 8800 gpd/ft2, which is 1176 ft/day. This also agrees with data I have personally collected from the Kansas River Valley.

I - Hydraulic gradient (slope) of the ground water system - I used .0005, which is about 5ft in 2 miles. Bulletin 130, Part 1 and Bulletin 206, part 2 from the Kansas Geological Survey show head maps of the area in question that support this number.

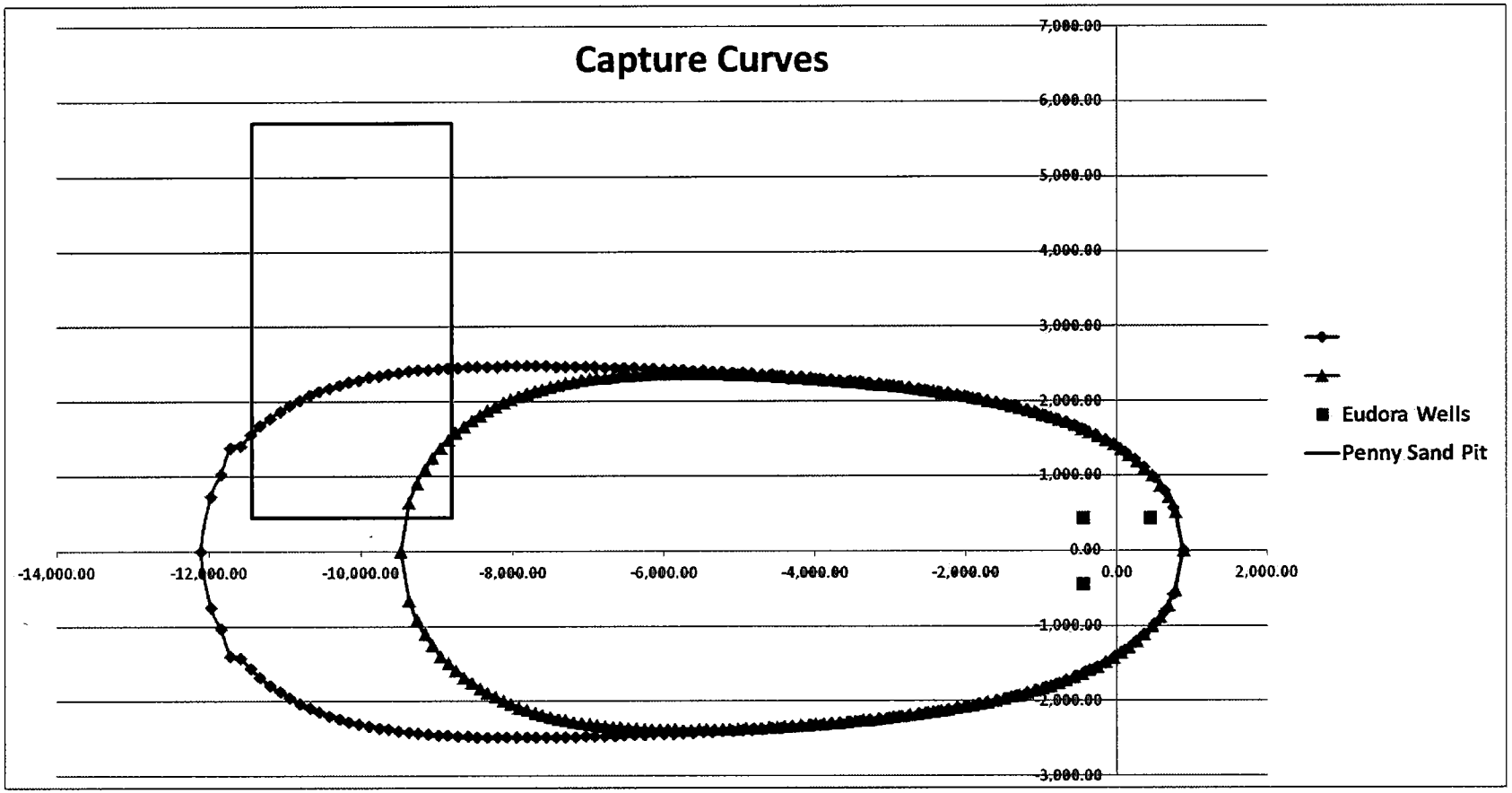
qo = -KI = -0.5 ft/day - average Darcy velocity in the aquifer - Multiplying the above two values gives this result.

B - Effective saturated thickness of aquifer - I used 30 feet. Although the aquifer has greater saturated thickness, the upper part is much finer material and has much less hydraulic conductivity. I have seen this consistently in my field work.

n - effective porosity (a measure of the pore space that water flows through) - I used 0.15 which is an average value suggested by the work of Bull 260, and also is consistent with my field work.

Q - Pump rate of the Eudora Well Field - I used 83425 ft3/day which is the approved water right of 227.77 MGY or about 433gpm.

These parameters can be used to calculate the average travel times and capture curves for parcels of water moving under the influence of the natural groundwater flow system and the influence of the pumping in the Eudora Well Field. The details of the background material to arrive at the formulas used in the following pages are given in the above referenced *Ground Water* article. The pages that follow show the capture curves for 6 and 8 years and the average minimum travel time between the sand pit and the Eudora Well Field. A capture curve outlines the area of groundwater that will flow to the pumping well in a given amount of time.


Capture Curves
7,000.00
6,000.00
5,000.00
4,000.00
3,000.00
2,000.00
1,000.00
0.00
-1,000.00
-2,000.00
-3,000.00
-14,000.00
-12,000.00
-10,000.00
-8,000.00
-6,000.00
-4,000.00
-2,000.00
0.00
2,000.00
Eudora Wells
Penny Sand Pit

qo =	-0.5	Average Darcy Velocity
n =	0.15	Effective Porosity
Q =	83425	Well Discharge
B =	30	Effective Aquifer Thickness
X =	-3800	Distance traveled along X axis
t =		Time of travel

$$X = \frac{qo}{n}t + \frac{Q}{2\pi qoB} ln\left(1 + \frac{2\pi qoB}{Q}X\right)$$

$$t = \left[\frac{n}{qo}\right]\left[X - \frac{Q}{2\pi qoB} ln\left(1 + \frac{2\pi qoB}{Q}X\right)\right]$$

t = 2005 days = 5.49 years

6 yr. Capture Curve Data

X(Ft)	Y(Ft)
8.8508E+02	0.0000E+00
7.8145E+02	-5.1844E+02
6.7783E+02	-7.2470E+02
5.7420E+02	-8.7735E+02
4.7057E+02	-1.0015E+03
3.6694E+02	-1.1069E+03
2.6331E+02	-1.1989E+03
1.5969E+02	-1.2804E+03
5.6059E+01	-1.3536E+03
-4.7568E+01	-1.4198E+03
-1.5120E+02	-1.4802E+03
-2.5482E+02	-1.5357E+03
-3.5845E+02	-1.5867E+03
-4.6208E+02	-1.6340E+03
-5.6571E+02	-1.6778E+03
-6.6933E+02	-1.7187E+03
-7.7296E+02	-1.7568E+03
-8.7659E+02	-1.7925E+03
-9.8022E+02	-1.8259E+03
-1.0838E+03	-1.8573E+03
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-2.0165E+03	-2.0720E+03
-2.1201E+03	-2.0901E+03
-2.2238E+03	-2.1074E+03
-2.3274E+03	-2.1239E+03
-2.4310E+03	-2.1396E+03
-2.5346E+03	-2.1546E+03
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-3.3637E+03	-2.2527E+03
-3.4673E+03	-2.2627E+03
-3.5709E+03	-2.2722E+03
-3.6745E+03	-2.2813E+03
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-5.8507E+03	-2.3747E+03
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-3.8818E+03	2.2982E+03
-3.7782E+03	2.2899E+03
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-2.9491E+03	2.2081E+03
-2.8455E+03	2.1956E+03
-2.7419E+03	2.1825E+03
-2.6383E+03	2.1689E+03
-2.5346E+03	2.1546E+03
-2.4310E+03	2.1396E+03
-2.3274E+03	2.1239E+03

-2.2238E+03	2.1074E+03
-2.1201E+03	2.0901E+03
-2.0165E+03	2.0720E+03
-1.9129E+03	2.0529E+03
-1.8092E+03	2.0328E+03
-1.7056E+03	2.0117E+03
-1.6020E+03	1.9894E+03
-1.4984E+03	1.9659E+03
-1.3947E+03	1.9410E+03
-1.2911E+03	1.9147E+03
-1.1875E+03	1.8869E+03
-1.0838E+03	1.8573E+03
-9.8022E+02	1.8259E+03
-8.7659E+02	1.7925E+03
-7.7296E+02	1.7568E+03
-6.6933E+02	1.7187E+03
-5.6571E+02	1.6778E+03
-4.6208E+02	1.6340E+03
-3.5845E+02	1.5867E+03
-2.5482E+02	1.5357E+03
-1.5120E+02	1.4802E+03
-4.7568E+01	1.4198E+03
5.6059E+01	1.3536E+03
1.5969E+02	1.2804E+03
2.6331E+02	1.1989E+03
3.6694E+02	1.1069E+03
4.7057E+02	1.0015E+03
5.7420E+02	8.7735E+02
6.7783E+02	7.2470E+02
7.8145E+02	5.1844E+02
8.8508E+02	0.0000E+00

8 yr. Capture Curve Data

X(Ft)	Y(Ft)
8.8516E+02	0.0000E+00
7.5519E+02	-5.7893E+02
6.2523E+02	-8.0688E+02
4.9526E+02	-9.7403E+02
3.6530E+02	-1.1087E+03
2.3533E+02	-1.2220E+03
1.0536E+02	-1.3199E+03
-2.4604E+01	-1.4059E+03

-1.5457E+02	-1.4824E+03
-2.8454E+02	-1.5510E+03
-4.1450E+02	-1.6130E+03
-5.4447E+02	-1.6694E+03
-6.7444E+02	-1.7210E+03
-8.0440E+02	-1.7683E+03
-9.3437E+02	-1.8118E+03
-1.0643E+03	-1.8521E+03
-1.1943E+03	-1.8893E+03
-1.3243E+03	-1.9240E+03
-1.4542E+03	-1.9562E+03
-1.5842E+03	-1.9863E+03
-1.7142E+03	-2.0144E+03
-1.8441E+03	-2.0408E+03
-1.9741E+03	-2.0655E+03
-2.1041E+03	-2.0887E+03
-2.2340E+03	-2.1106E+03
-2.3640E+03	-2.1313E+03
-2.4940E+03	-2.1507E+03
-2.6239E+03	-2.1692E+03
-2.7539E+03	-2.1866E+03
-2.8839E+03	-2.2031E+03
-3.0138E+03	-2.2188E+03
-3.1438E+03	-2.2337E+03
-3.2738E+03	-2.2479E+03
-3.4037E+03	-2.2614E+03
-3.5337E+03	-2.2742E+03
-3.6637E+03	-2.2865E+03
-3.7936E+03	-2.2982E+03
-3.9236E+03	-2.3093E+03
-4.0536E+03	-2.3200E+03
-4.1835E+03	-2.3302E+03
-4.3135E+03	-2.3399E+03
-4.4435E+03	-2.3493E+03
-4.5734E+03	-2.3582E+03
-4.7034E+03	-2.3668E+03
-4.8334E+03	-2.3750E+03
-4.9633E+03	-2.3829E+03
-5.0933E+03	-2.3904E+03
-5.2233E+03	-2.3976E+03
-5.3532E+03	-2.4046E+03
-5.4832E+03	-2.4112E+03
-5.6132E+03	-2.4175E+03

-5.7431E+03	-2.4236E+03
-5.8731E+03	-2.4293E+03
-6.0031E+03	-2.4348E+03
-6.1330E+03	-2.4401E+03
-6.2630E+03	-2.4450E+03
-6.3930E+03	-2.4497E+03
-6.5229E+03	-2.4540E+03
-6.6529E+03	-2.4581E+03
-6.7829E+03	-2.4619E+03
-6.9128E+03	-2.4653E+03
-7.0428E+03	-2.4684E+03
-7.1728E+03	-2.4712E+03
-7.3027E+03	-2.4735E+03
-7.4327E+03	-2.4755E+03
-7.5627E+03	-2.4769E+03
-7.6926E+03	-2.4779E+03
-7.8226E+03	-2.4784E+03
-7.9526E+03	-2.4782E+03
-8.0825E+03	-2.4774E+03
-8.2125E+03	-2.4758E+03
-8.3425E+03	-2.4734E+03
-8.4724E+03	-2.4701E+03
-8.6024E+03	-2.4657E+03
-8.7324E+03	-2.4602E+03
-8.8623E+03	-2.4534E+03
-8.9923E+03	-2.4451E+03
-9.1223E+03	-2.4351E+03
-9.2522E+03	-2.4234E+03
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-9.5122E+03	-2.3934E+03
-9.6421E+03	-2.3746E+03
-9.7721E+03	-2.3530E+03
-9.9021E+03	-2.3281E+03
-1.0032E+04	-2.2995E+03
-1.0162E+04	-2.2669E+03
-1.0292E+04	-2.2297E+03
-1.0422E+04	-2.1874E+03
-1.0552E+04	-2.1393E+03
-1.0682E+04	-2.0848E+03
-1.0812E+04	-2.0230E+03
-1.0942E+04	-1.9528E+03
-1.1072E+04	-1.8730E+03
-1.1202E+04	-1.7819E+03

-1.1332E+04	-1.6775E+03
-1.1462E+04	-1.5568E+03
-1.1592E+04	-1.4155E+03
-1.1722E+04	-1.3905E+03
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-1.2111E+04	0.0000E+00
-1.1982E+04	7.4132E+02
-1.1852E+04	1.0325E+03
-1.1722E+04	1.3905E+03
-1.1592E+04	1.4155E+03
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-1.1332E+04	1.6775E+03
-1.1202E+04	1.7819E+03
-1.1072E+04	1.8730E+03
-1.0942E+04	1.9528E+03
-1.0812E+04	2.0230E+03
-1.0682E+04	2.0848E+03
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-9.6421E+03	2.3746E+03
-9.5122E+03	2.3934E+03
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-8.7324E+03	2.4602E+03
-8.6024E+03	2.4657E+03
-8.4724E+03	2.4701E+03
-8.3425E+03	2.4734E+03
-8.2125E+03	2.4758E+03
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-5.6132E+03	2.4175E+03
-5.4832E+03	2.4112E+03
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-5.0933E+03	2.3904E+03
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-4.1835E+03	2.3302E+03
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6.2523E+02	8.0688E+02
7.5519E+02	5.7893E+02
8.8516E+02	0.0000E+00

Wells X (map in)	Wells Y (map in)	Wells X (ft)	Wells Y (ft)
-0.25	0.25	-440	440
-0.25	-0.25	-440	-440
0.25	0.25	440	440

Pit X (map in)	Pit Y (map in)	Pit X (ft)	Pit Y (ft)
-5	0.25	-8800	440
-6.5	0.25	-11440	440
-6.5	3.25	-11440	5720
-5	3.25	-8800	5720
-5	0.25	-8800	440

Douglas County Planning Commission
6 East 6th Street
Lawrence, Kansas 66044

October 11, 2012

Re: Proposed Conditional Use Permit for extension of sand and gravel extraction in an area adjacent to 1564 E. 1850 Road. This site lies directly south of the Kansas River midway between Lawrence and Eudora.

I recommend that this proposal be DENIED.

This conclusion is based on my many years of study and mapping of the Kansas River, including publication, in 2009, of an atlas of Historical Channel Changes of the Kansas River and its Major Tributaries. In reviewing available data I find several reasons that excavation within the proposed area could have several negative effects for the general public.

1) Potentially most serious would be pollution of the water supply for the city of Eudora. Underlying the flat valley floor in this region is a sequence of interlayered sand and gravel that approaches 100 feet in thickness. A large volume of water occupies the spaces between grains of this sediment. This water seeps slowly eastward in a downvalley direction, some being captured by both private and municipal wells. Less than two miles east of the proposed new excavation site is the well field that supplies potable water for the public water system of the City of Eudora. In other words, Eudora's water supply passes through sands lying beneath the proposed new extraction pit.

Any sand-and-gravel operation requires the presence of at least a few motors and transient vehicles that will inevitably leak contaminating fluids which can seep into and through subsurface sediments and become part of the downstream movement of the ground water. Furthermore, this area on the valley floor is subject to inundation during major floods. The high level surface flow also could pick up contaminants from the new sand pit and carry them downvalley to the Eudora well field.

Inspection of detailed maps or aerial photographs of the Kansas River Valley west of Eudora reveals that the proposed extraction site lies farther north (as well as west) of the Eudora well field. It might therefore be argued that pollutants from the proposed sand pit would pass downvalley north of the well field location and so have no influence on the wells. However, records of the location of the river channel during the past few hundred years show that the stream has locally been flowing from northwest to southeast. That means that sand bodies accumulating in the channel would be elongated in that direction, an orientation that could lead subsurface water movement to go from the pollutant source of the new pit directly to the Eudora well field.

This all means that opening a new sand and gravel extraction pit at the proposed location could seriously endanger the purity and integrity of Eudora's water supply.

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3) At the northwestern corner of the proposed new operation the Kansas River follows a sharp, almost V-shaped bend to the north and then back to the southeast. This bend has been actively shifting shape and location during the past several decades. It can be assumed that this dynamic will continue at least into the near future. The trend suggests that the channel will soon cut off or cut through the sharp bend by eroding through the location of the present sand and gravel operation. This channel move could also cut away at least the northern part of the proposed new operation. Such a shift of channel position would negatively affect the new extraction operation, and might

establish a new channel dynamic that would affect streamflow in both downstream and upstream locations. Final effects and configurations cannot immediately be determined, but could involve unexpected erosion into productive cropland.

Several predictable effects of establishment of a new sand and gravel extraction operation adjacent to 1564 East 1850 Road between Lawrence and Eudora tend to have negative impacts on nearby parts of the local valley floor. However, it is endangerment of the well field for the City of Eudora municipal water supply that demands closest attention. Chance of contamination of that resource is completely unacceptable for the public welfare.

Wakefield Dort Jr.

Wakefield Dort, Jr.

Emeritus Professor Geology
The University of Kansas

Virginia Strong
3712 Trail Road
Lawrence, Kansas 66049

RECEIVED
OCT 22 2012
City County Planning Office
Lawrence, Kansas

October 22, 2012

Lawrence-Douglas County Planning Commission
6 East 6th Street
Lawrence, Kansas 66044

Subject: Penny Sand Pit Conditional Use Permit Hearing

To the Commissioners:

I believe that if you approve the Conditional Use Permit (CUP) requested on behalf of William Penny and Van LLC to be considered at tonight's Commisssion meeting, you will be aiding a crime against nature and *demolishing* thousands of cubic yards of prime Kaw Valley soil. I form this belief upon the common sense in continuing to make this land available for farming, and around the unintended consequences of granting the permit. As a member of the family that for several decades owned one of the adjoining parcels (on the southeast corner of the intersection of North 1500 Road and East 1900 Road), my concerns are informed by familiarity with the immediate neighborhood and its history of use, as follows:

- The prospect of a quarry dug deeper than 25 feet below the present ground level makes me question its consequences for the quality of the local aquifer, which already leaves something to be desired.
- For several years copper acetoarsenite (a highly toxic and water-insoluble pesticide and dye) was applied for pest control to some of the land under discussion, at the time planted in potatoes. Can the permit applicants rule out any reasonable possibility that remnants of that pesticide might be disturbed and made airborne by the proposed development?
- The fully excavated gravel pit is proposed to be turned into a lake, which would become a breeding ground for hordes of mosquitoes — as if we need more of those swarming around. There is also the question of how a quarry would fare in the event of a catastrophic flood, which ought to be investigated regardless of any guarantees.
- The parcel under discussion is a well-known and established resting place for migrating geese. The consequences of destroying its present character would presumably be unfortunate for the geese, the neighbors (as such), or both.
- My understanding is that the land purchases making up the parcel under discussion were made at a bargain, a fact that can be verified as a matter of public record. Would Mr. Penny be in a position to apply for the CUP at issue, if he had been called upon to purchase the land at par value? *[Continued on next page]*

- *[Continued from previous page]* If the proposed quarry is dug, how likely is it that the affected land — both that covered by the quarry, and adjoining land — could be sold at par value at any time in the foreseeable future?
- In what time frame does the proposed quarry promise to deliver higher tax revenues to the County than it could if farmed?

Finally, how much of this development process is illuminated by greed, and how much by the desire to put the targeted land to a use about which the residents of Douglas County can feel some pride?

In summary I count a number of concerns about the permit application, including at least two conceivable threats to public health that are peculiar to the area that it covers. Were I to put it more subjectively and succinctly, I could call the development plan behind the permit application hare-brained. However, that would insult the hares. I request that you consider the concerns that led to that judgment.

Sincerely,
Virginia Schaake Strong
(785) 843-2293

CC: Lawrence *Journal-World*

Oct. 2, 2012

Lawrence Douglas County
Metropolitan Planning Office
6 East 6th Street,
P.O. Box 708,
Lawrence, KS 66044

Ms. Mary Miller,

After reading your staff report which contains the following information:

"Staff contacted a hydrologist with the USGS (United States Geological Survey) Midwest Division, Kyle E Juracek, for his opinion on the impact of the dredging operation and pit on the river channel. Mr. Juracek indicated that the location of a lake could result in channel change in the event of a flood but pointed out that the river channel may change as a result of a flooding event even without a lake in close proximity."

I felt that the situation involved in this request for a CUP had not been made entirely clear to Dr. Juracek. The situation is fairly complex and deserves some more description. After making an appointment to see Dr. Juracek, I showed him Dr. Dort's work characterizing the river bank movement over the last 100 plus years, gave him a plan view map of the proposed sand pit excavation area to create the lake, and explained to him that the sand excavation would proceed to bedrock in the area. We discussed the fact that the river is trying to cut off the meander in this area. I pointed out that the proposed excavation pit (about ¾ mile wide East to West) would nearly connect the two sides of the meander.

Dr. Dort's work shows the river bank in the vicinity of this proposed sand pit is unstable and has moved over time. Geologic history tells us this river will move again, we just don't know when. During a major flood event the river could try to move again and breach the proposed sand pit.

The presence of such a large deep pit as requested at this site would make it much easier (since so much material has been removed) for the river in times of flood to cut off the meander at this site by flowing through the pit area. This would create a huge nick point (deepened point in the river bed about

50-60 feet deep) that would have a destabilizing effect on the river bed, with head cutting upstream and bed degradation downstream for some time to come, until a new stable river bed gradient was created. This erosion of the river bed could propagate upstream to the Bowersock Dam and downstream an unknown distance.

I have sent a copy of this letter to Dr. Juracek for review and he has not disagreed with my statements. I encourage you to contact him and discuss this matter with him and to ask him any questions you may have.

Thank you for your consideration. If I may answer any questions, please contact me.

Carl McElwee
Emeritus Professor of Geology
University of Kansas
Lawrence, KS 66045
785-843-4164
cmcelwee@ku.edu

Douglas County Planning Commission
6 East 6th Street
Lawrence, Kansas 66044

October 11, 2012

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Wakefield Dort Jr.

Wakefield Dort, Jr.

Emeritus Professor Geology
The University of Kansas

PLANNING COMMISSION REPORT
Regular Agenda - Public Hearing Item

PC Staff Report
10/22/2012

ITEM NO. 3 CS TO RS5; .1 ACRE; 833 CONNECTICUT ST (MJL)

Z-12-00147: Consider a request to rezone approximately .1 acre from CS (Strip Commercial) to RS5 (Single-Dwelling Residential), located at 833 Connecticut Street. Submitted by Leslie Soden, property owner of record.

STAFF RECOMMENDATION: Staff recommends approval of the request to rezone approximately 4,679 SF from CS (Commercial Strip) District to RS5 (Single-Dwelling Residential) District based on the findings presented in the staff report and forwarding it to the City Commission with a recommendation for approval.

Reason for Request: *Zone to current use.*

KEY POINTS
- The proposal is consistent with the comprehensive plan and the neighborhood plan.
- The proposal is zoning to the current use.
- Residential zoning would help to maintain existing housing stock.

ASSOCIATED CASES/OTHER ACTION REQUIRED
- DR-12-00149: Design Review, administratively approved and to be confirmed by the HRC on October 18, 2012

PLANS AND STUDIES REQURIED
- *Traffic Study* – Not required for rezoning.
- *Downstream Sanitary Sewer Analysis* – Not required for rezoning.
- *Drainage Study* – Not required for rezoning.
- *Retail Market Study* – Not applicable to residential request.

ATTACHMENTS
- Zoning map

PUBLIC COMMENT RECEIVED PRIOR TO PRINTING
- None

Project Summary:
Proposed request is for the rezoning of property located at 833 Connecticut Street.

1. CONFORMANCE WITH THE COMPREHENSIVE PLAN

Applicant's Response: *Identified as low density residential*

Staff Discussion: The future land use map identifies this property as low-density residential. Chapter 6 – Residential Land Use, Goal 3: Neighborhood Conservation, Policy 3.2: Protect Existing Housing Stock speaks to preserving existing dwelling units.

Staff Finding – The subject property was originally developed with a single-dwelling in the late 1890's and has been maintained as such to date. Chapter 6 discusses protecting low-density residential neighborhoods and preserving existing dwelling units. This rezoning is in conformance with the comprehensive plan.

2. ZONING AND USE OF NEARBY PROPERTY, INCLUDING OVERLAY ZONING

Current Zoning and Land Use: CS (Commercial Strip) District; Developed with a single-dwelling residential

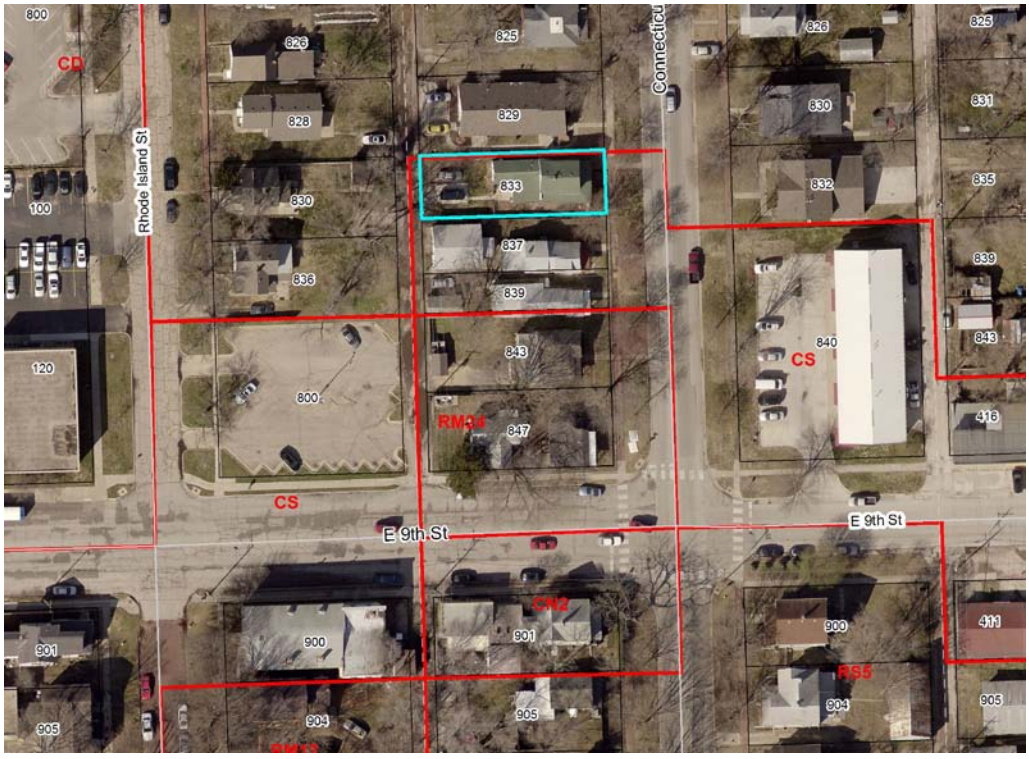
Surrounding Zoning and Land Use:

North: RM24 (Multi-Family Residential) District; Developed with a duplex

East: RM24 District; Developed with a duplex and a single-family residence
CS District; strip center with office/commercial uses

South: CS District; Developed with a single-family home

West: RM24 District; developed with single-family homes and a duplex



Staff Finding – The zoning and use of the surrounding properties are a mix of multi-dwelling residential and commercial strip zoning. The land uses are a mix of commercial/office and single-family and multi-family residential.

3. CHARACTER OF THE NEIGHBORHOOD

Applicant's Response: *single-family residences*

Staff Discussion: The neighborhood is a mix of uses and zonings. The closer to Massachusetts Street, the more mix there is. The lots are generally small with homes built in the late 1800's or early 1900's.

Staff Finding – The neighborhood character is a mix of residential densities with some small scale commercial/office mainly along the east/west streets.

4. PLANS FOR THE AREA OR NEIGHBORHOOD, AS REFLECTED IN ADOPTED AREA AND/OR SECTOR PLANS INCLUDING THE PROPERTY OR ADJOINING PROPERTY

This property is within the East Lawrence Neighborhood Association boundaries and within the boundaries of the East Lawrence Neighborhood Revitalization Plan.

Staff Finding – The neighborhood plan speaks to maintaining appropriate land use and zoning, and protecting residential zoning, especially single-family uses. Though the subject property is not currently zoned residentially, it is developed with a single-family residence. The area where the subject property is located, the surrounding land use is single-family residential and could be considered the appropriate land use. In order to protect the land use, the zoning should match the use and be changed to a single-family residential zoning district.

5. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED UNDER THE EXISTING ZONING REGULATIONS

Applicant's Response: *Currently zoned as CS, the lot size is too small to develop as CS, has always been used as residential.*

Staff Discussion: The property is zoned commercial and developed with a single-family structure. This lot is 4,679 square feet and would need many variances or to be combined with surrounding lots in order to redevelop commercially.

Staff Finding – The subject property is not suitable for the uses to which it has been restricted. The lot is small for commercial development and sits in the middle of residential structures.

6. LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED

Applicant's Response: *built in approximately 1880 and always used as residential.*

Staff Discussion: This property was developed in 1880 with a single-family residence.

Staff Finding – The subject property has not been vacant for over 100 years and has remained as developed, as a single-family residence.

7. EXTENT TO WHICH APPROVING THE REZONING WILL DETRIMENTALLY AFFECT NEARBY PROPERTIES

Applicant's Response: *None - no change in use.*

Staff Discussion: The properties on either side of the subject property are residentially developed. The use is not proposed to change at this time and will allow for the protection of the existing structure.

Staff Finding –Approving the rezoning will not detrimentally affect nearby properties. The rezoning will help to protect the existing use and prevent the demolition of the existing housing stock to redevelop commercial uses as it is zoned. Approval of the proposed change would be beneficial for those properties currently used for single-family housing in the immediate area. The proposed changes will also act as protection against encroachment of non-residential uses into the adjacent residential neighborhood. Regulations added as a result of this rezoning would include the review and regulations applicable to any parcels used as rental housing.

8. THE GAIN, IF ANY, TO THE PUBLIC HEALTH, SAFETY AND WELFARE DUE TO THE DENIAL OF THE APPLICATION, AS COMPARED TO THE HARDSHIP IMPOSED UPON THE LANDOWNER, IF ANY, AS A RESULT OF DENIAL OF THE APPLICATION

Applicant's Response: *Correct zoning of actual usage helps property owner in obtaining mortgages, rebuilding in case of disaster, helps protect neighborhood plan in promoting/protecting single family residences*

Evaluation of this criterion includes weighing the benefits to the public versus the benefit of the owners of the subject property. Benefits are measured based on anticipated impacts of the rezoning request on the public health, safety, and welfare.

Staff Discussion: There would be no public gain if the proposed rezoning was denied verses it being approved. The hardship to the landowner could be difficulty selling the property since the zoning does not match the land use. The use is a registered nonconforming use as it was established before zoning regulations were adopted in the city. This registration offers certain protections though lenders sometimes do not look favorably on nonconforming use situations such as this.

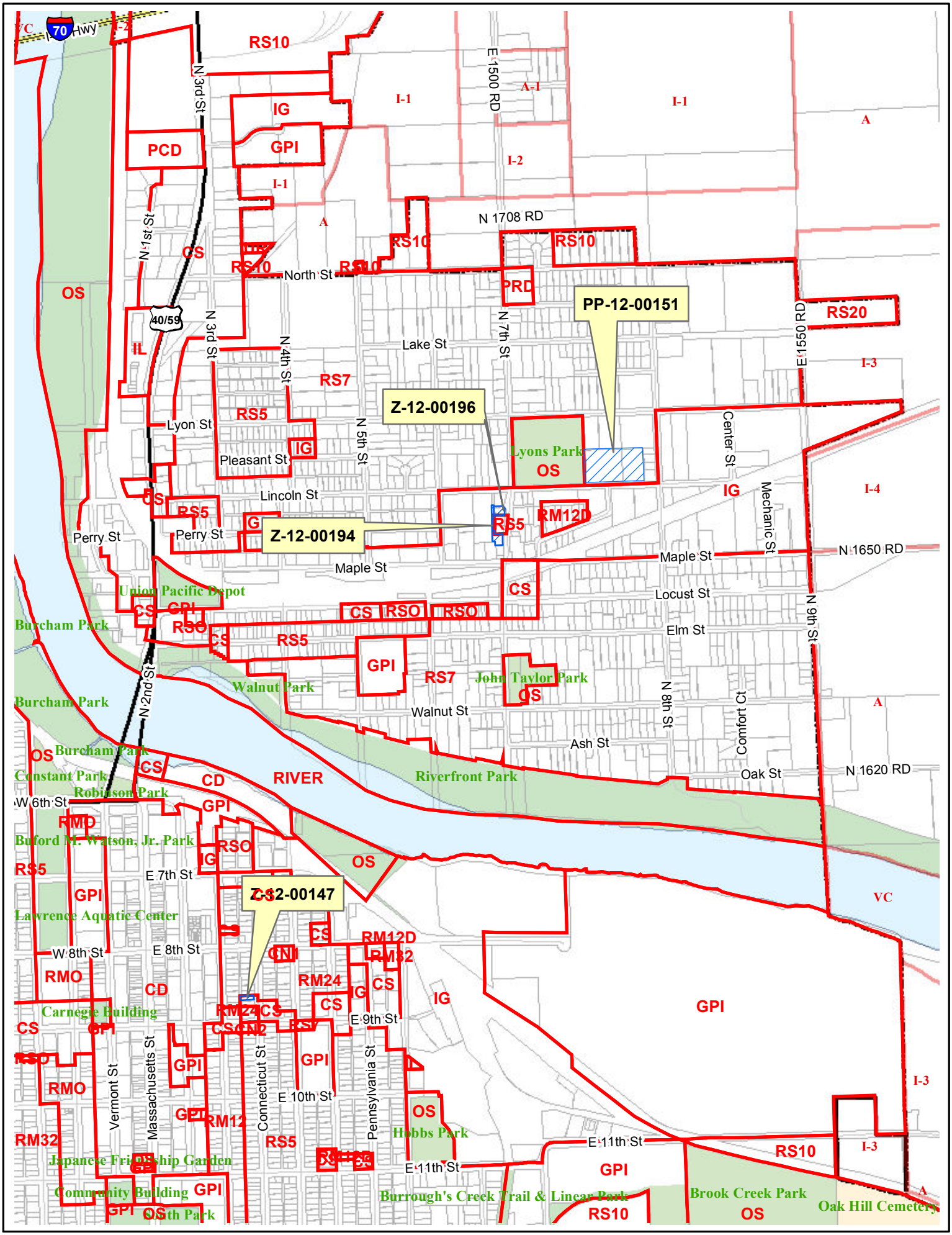
Staff Finding – The hardship imposed on the landowner as a result of the denial of this application could be greater than the gain to the public. The public would have no gain regarding health safety or welfare if the application were denied. The property is developed as a single-family structure and would remain as such. Approval of the rezoning would be consistent with the use, could help to maintain existing housing stock in the neighborhood, and assign an appropriate land use designation to the property for its current and intended land use as a single-family home.

9. PROFESSIONAL STAFF RECOMMENDATION

The subject property is currently developed as a single-family structure and zoned for commercial use. The property owner would like to zone the property to the existing use to help maintain the existing housing stock in the neighborhood. The surrounding properties are a mix of different residential densities and a small amount of commercial/office uses. The properties directly

adjacent are developed with residential uses. The property is currently a registered nonconforming use and is for sale. Even with the registered status, it may be difficult to sell the property as developed with the commercial zoning. The property is a small lot and would be difficult to redevelop as a commercial use without variances and/or assembling nearby properties. The neighborhood plan supports maintaining appropriate land use and zoning, and protecting residential zoning, especially single-family uses. Rezoning the property to the RS5 District would protect the existing use remove the nonconforming use status and help to implement the neighborhood plan.

Staff recommends approval of the request to rezone approximately 4,679 SF from CS (Commercial Strip) District to RS5 (Single-Dwelling Residential) District based on the findings presented in the staff report and forwarding it to the City Commission with a recommendation for approval.


PP-12-00151
Z-12-00196
Z-12-00194
Z-12-00147
RS10
I-1
I-2
A-1
A
IG
PCD
GPI
CS
OS
IL
RS7
RS5
RS20
I-3
I-4
RM12D
RM32
RM24
RM12
RMO
CD
RSO
CN1
CN2
PRD
Lyons Park
Burcham Park
Walnut Park
John Taylor Park
Riverfront Park
Constant Park
Robinson Park
Buford M. Watson, Jr. Park
Lawrence Aquatic Center
Carnegie Building
Hobbs Park
Japanese Friendship Garden
Community Building
Burrough's Creek Trail & Linear Park
Brook Creek Park
Oak Hill Cemetery
Union Pacific Depot
RIVER
VC
N 1708 RD
E 1500 RD
E 1550 RD
N 1650 RD
N 1620 RD
N 1st St
N 2nd St
N 3rd St
N 4th St
N 5th St
N 7th St
N 8th St
N 9th St
Center St
Mechanic St
Comfort Ct
Vermont St
Massachusetts St
Connecticut St
Pennsylvania St
North St
Lake St
Lyon St
Pleasant St
Lincoln St
Perry St
Maple St
Locust St
Elm St
Walnut St
Ash St
Oak St
W 6th St
E 7th St
W 8th St
E 8th St
E 9th St
E 10th St
E 11th St
40/59
70
Hwy

PLANNING COMMISSION REPORT
REGULAR AGENDA — NON PUBLIC HEARING ITEM

PC Staff Report
10/22/12

ITEM NO 4: PRELIMINARY PLAT FOR LINCOLN SUBDIVISION (MKM)

PP-5-6-12: Consider a Preliminary Plat for Lincoln Subdivision, an 8-lot subdivision containing approximately 3.679 acres, located in the 700 Block of Lincoln Street (east of Lyon Park on the north side of Lincoln Street). Submitted by Grob Engineering Services, LLC, for Bluejacket Ford, LLC, property owner of record.

STAFF RECOMMENDATION:
Staff recommends approval of the Lincoln Subdivision Preliminary Plat subject to the following conditions:

1. Provision of a revised plat with the following changes:
   a. Correction of typographical error in Financing Note No 4.
   b. Addition of Building Envelope (BE) to the legend.
   c. Note the width of the new sidewalk as 5 ft.
2. Provision of a revised drainage study per City Stormwater Engineer's approval.
3. Per the variance approval, recording of the final plat is contingent upon approval of a Floodplain Development Permit.

Applicant's Reason for Request:
Subdivision is required prior to development of property.

KEY POINTS
- The property is heavily encumbered with regulatory floodway fringe.
- Variances from the Floodplain Management Regulations to allow the placement of fill on the property as shown on the plat have been approved by the Board of Zoning Appeals.

SUBDIVISION CITATIONS TO CONSIDER
- This application is being reviewed under the Subdivision Regulations for Lawrence and Unincorporated Douglas County, effective Jan 1, 2007.

ATTACHMENTS
Attachment A: Preliminary Plat

ASSOCIATED CASES/OTHER ACTION REQUIRED
Associated Cases:
B-12-00179 Variances from Floodplain Management Regulations to allow the placement of fill within the setback from the lot line, within the perimeter setback, and more than 20 ft from the structure. Approved by Board of Zoning Appeals on October 4, 2012.

Other Action Required for Subdivision:
- Submittal of final plat for administrative approval and recordation.
- City Commission acceptance of dedication of easements and rights-of-way on the final plat.
- Submittal and approval of public improvement plans for sanitary sewer improvements and provision of means of assurance of completion shall be submitted prior to the recording of the final plat.

Other Action Required Prior to Development:

- Submittal and approval of Floodplain Development Permit.
- Submittal and approval of building plans prior to release of building permits for development.

PLANS AND STUDIES REQUIRED

- *Downstream Sanitary Sewer Analysis* – Downstream Sanitary Sewer Analysis provided by Grob Engineering Services dated August 20, 2012 has been reviewed and is accepted for this project.
- *Drainage Study* – Drainage Study approved with minor revisions.

PUBLIC COMMENT

Ted Boyle, President of the North Lawrence Improvement Association, called to inquire about the lot sizes being proposed with this development.

A neighboring property owner, Barbara Hallard, visited the Planning Office to discuss the retaining wall that is currently retaining the fill for her property. The fill that is being applied for the subject property will meet the existing fill for her property so the retaining wall will not be necessary.

Site Summary	
Gross Area (acres):	3.697
Existing Right-of-Way (acres):	0.368
Additional Right-of-Way (acres):	0
Net Area (acres)	3.697
Number of Existing Lots:	2 lots, remainder is unplatted
Number of Proposed Lots:	8
Minimum Lot Area:	19,282 sq ft
Maximum Lot Area:	26,441 sq ft
Average Lot Area	22,861 sq ft

GENERAL INFORMATION

Current Zoning and Land Use: RS7 (Single-Dwelling Residential) and FP (Floodplain Management Regulations Overlay) Districts; Undeveloped.

Surrounding Zoning and Land Use:

To the north and east:

RS7 (Single-Dwelling Residential) and FP (Floodplain Management Regulations Overlay) Districts; *Detached Dwellings.*

To the west:

OS (Open Space) and FP (Floodplain Management Regulations Overlay) Districts; *Active Recreation,* Lyons Park.

To the south:

IG (General Industrial) and FP (Floodplain Management Regulations Overlay) Districts; *Construction Sales and Services, Detached Dwelling*

(Figure 1)

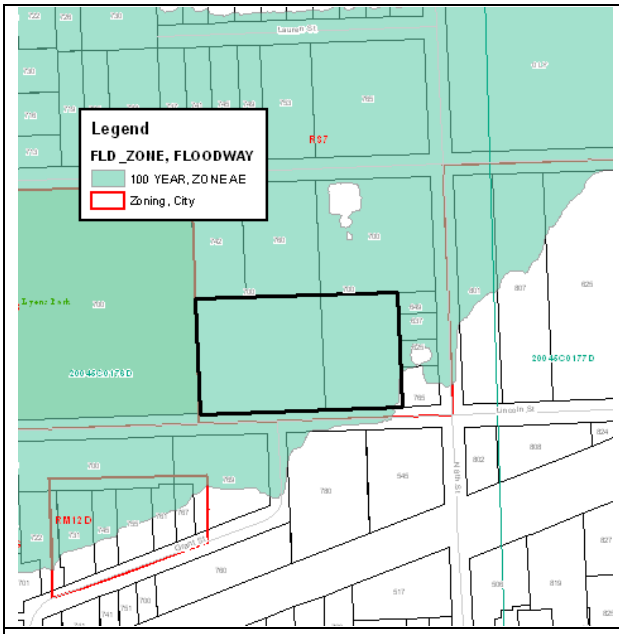


Figure 1a. Zoning of area.

Figure 1b. Land use in area.

STAFF REVIEW

The property is being divided into 8 lots for residential development with this plat. The property is nearly completely encumbered with the Regulatory Floodway Fringe; therefore, a floodplain development permit is required. The proposal includes the placement of fill across the front of all 8 lots to create a uniform building platform for the houses out of the floodplain. Variances have been requested (B-12-00179) from Sections 20-1204(e)(2)(ii)(a), 20-1204(e)(1)(i), and 20-1204(e)(2)(ii)(b) to allow the placement of fill within 5 ft of the perimeter lot lines, within the required setback, and more than 20 ft from the structure. The Board of Zoning Appeals approved the requested variances at their October 4th meeting subject to the following conditions:

- Approval of a local Floodplain Development Permit.
- Approval of Preliminary and Final Plats showing the proposed building envelopes.

Compliance with Zoning Regulations for the RS7 District.

Per Section 20-601(b) of the Development Code, the RS7 (Single-Dwelling Residential) District requires a minimum lot area of 7,000 sq ft, a minimum frontage on a public or private street of 40 ft, and a minimum lot width of 60 ft. The lots being created with this plat comply with these requirements.

Zoning and Land Use

The subject property is currently undeveloped. The proposal is to build detached residences on the eight lots being platted. As variances were required to allow the placement of fill more than 20 ft from the structures primarily to provide adequate space for construction of driveways with an acceptable slope, building envelopes for the principal structures are shown on the plat to establish the maximum building area. The plat should include the Building Envelope (BE) in the legend. Any development on the property will require approval of a floodplain development permit.

Streets and Access
The property is adjacent to Lincoln Street, an improved City Street which is classified as a 'local street' in the Major Thoroughfares Map. Access for this development will be taken from Lincoln Street through individual driveways.

Utilities and Infrastructure
City sewer and water lines are currently located in the Lincoln Street right-of-way. The applicant proposes to tap the sanitary sewer line located ease of the property and extend a main to serve this development. The sanitary sewer line is shown within a 10 ft utility easement along the south property line. Water line taps will be extended in four locations to serve the new lots. Public improvement plans will be required for the sanitary sewer improvements. The public improvement plans must be submitted, approved, and acceptable means of assuring completion provided prior to recording of the final plat. A new 5 ft wide sidewalk will be installed along the Lincoln Street frontage. The width of the sidewalk should be noted on the plat.

Easements and Rights-of-way
A drainage easement is being dedicated with this plat. It is 15 ft wide along the west property line and 50 ft wide along the north property line. The wider easement is necessary along the north property line to accommodate a detention area. A 5 ft wide utility easement is being dedicated along the east property line in addition to the 20 ft wide utility easement located on the adjacent lot to the east. A 15 ft wide easement along the south property line will contain the sanitary sewer line. The waterline is located within the street right-of-way.

Stormwater/Drainage
A drainage study was provided to the City Stormwater Engineer. The applicant intends to direct the stormwater flow resulting from the new impervious surface on the south side of the lots to Lincoln Street. There should be little, if any, increase in stormwater from the north portion of the lots, without the fill. New drainage culverts will be installed at each driveway location. Details should be shown on the public improvement plans.

Protection of Environmentally Sensitive Lands
Section 20-810(k) of the Subdivision Regulations lists the environmentally sensitive lands and the protection measures which are required when platting residentially zoned property. The property is nearly completely encumbered with the Regulatory Floodway Fringe (Figure 2) which is one of the listed sensitive lands. Per Code, environmentally sensitive lands are to be protected during platting through placement in a tract or easement and protection measures noted on the plat. The maximum amount that can be required to be protected is limited to 20% of the subject property; however, incentives are provided for protection above this required amount. The plat shows an environmental easement along the north side of the property. Protection measures noted on the plat include the requirement that no fill shall be placed in this area and that no structures shall be built in the protected area easement.

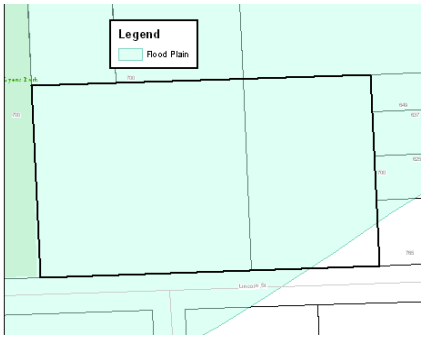
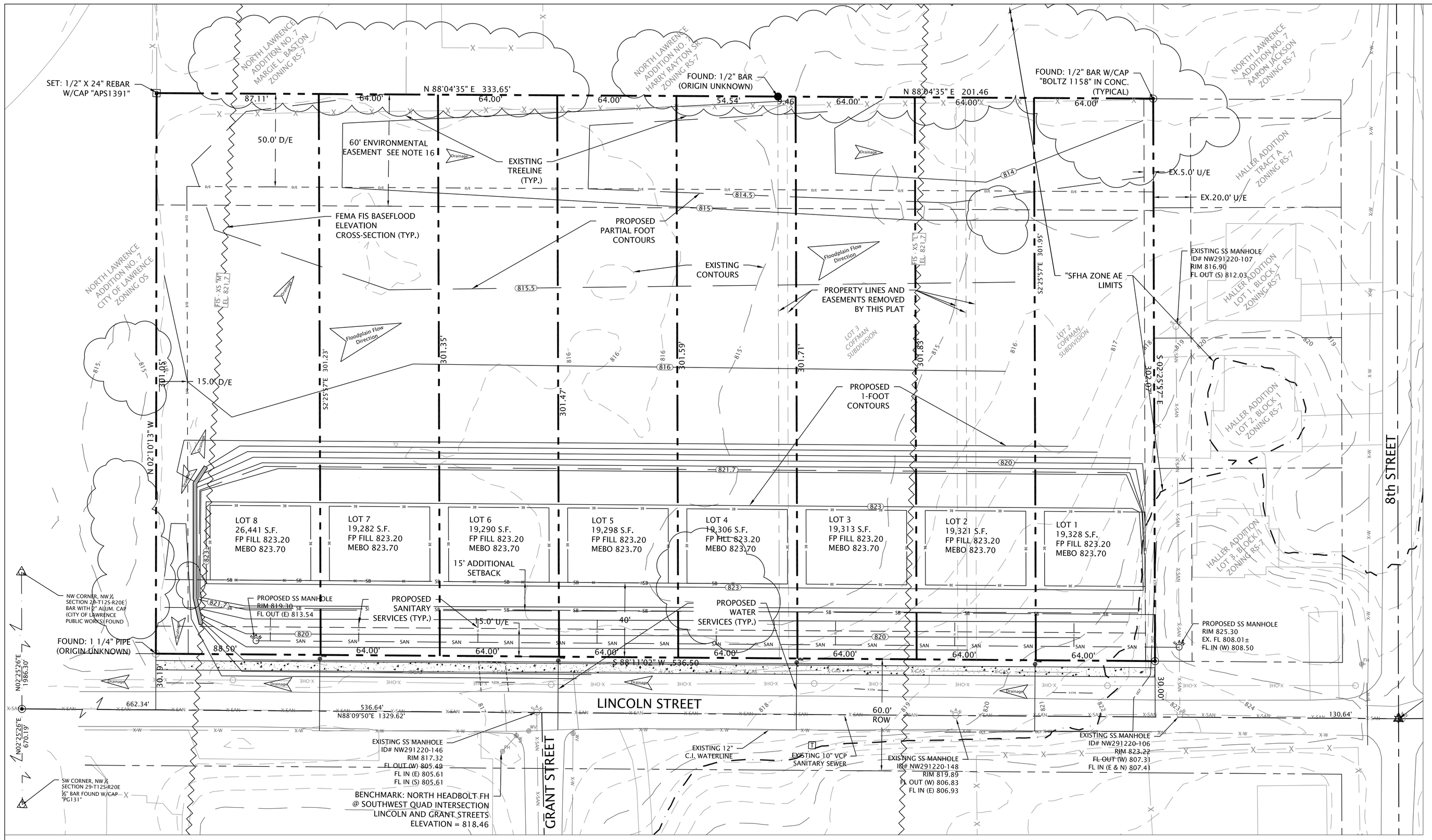


Figure 2. Environmentally sensitive lands on subject property.

Conformance
The preliminary plat, as conditioned, is in conformance with the standards and requirements of the Subdivision Regulations and the Development Code.



LEGAL DESCRIPTION - LINCOLN SUBDIVISION

AN UNPLATTED TRACT OF LAND AND A REPLAT OF LOT 2 AND LOT 3, COFFMAN SUBDIVISION, ALL IN NORTH LAWRENCE ADDITION NO. 7, LOCATED IN THE NORTHWEST QUARTER OF SECTION 29, TOWNSHIP 12 SOUTH, RANGE 20 EAST OF THE SIXTH PRINCIPAL MERIDIAN, IN THE CITY OF LAWRENCE, DOUGLAS COUNTY, KANSAS, NOW DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT, WITH A 1/2" IRON BAR, ON THE WEST LINE OF SAID QUARTER SECTION, SAID POINT BEING 670.19 FEET NORTH OF THE SOUTHWEST CORNER OF SAID QUARTER SECTION; THENCE NORTH 88°09'50" EAST, 662.34 FEET; THENCE NORTH 02°10'13" WEST, 30.19 FEET TO THE POINT OF BEGINNING; THENCE NORTH 02°10'13" WEST, 301.05 FEET; THENCE NORTH 88°04'35" EAST, 333.65 FEET TO THE NORTHWEST CORNER OF SAID LOT 3; THENCE NORTH 88°04'35" EAST, 201.46 FEET TO THE NORTHEAST CORNER OF SAID LOT 2, THENCE SOUTH 02°25'57" EAST, 302.07 FEET; THENCE SOUTH 88°11'02" WEST, 536.50 FEET TO THE POINT OF BEGINNING. THE ABOVE CONTAINS 3.709 ACRES MORE OR LESS.

GENERAL NOTES

1. Developer: Bluejacket Ford LLC, 4100 W. 6th Street, Lawrence, Kansas 66049
   Land Planner/Engineer: Grob Engineering Services, LLC, 3210 Mesa Way, Suite A, Lawrence, Kansas 66049
   Surveyor: All Points Surveying, LLP, P.O. Box 4444, Lawrence, KS 66046
2. Aerial and topographic information obtained from aerial survey performed by Sanborn Mapping for the City of Lawrence and Douglas County 2006. Specific topographic and boundary information for property & directly adjacent obtained from field survey provided by All Points Surveying, August 2012.
3. Typical Soil Type: Ev - Eudora-Kimo complex; Km - Kimo silty clay loam
4. Existing Land Use: Vacant
5. Proposed Land Use: Single Family Residential
6. Current Zoning: RS-7
7. The property is mostly encumbered by Zone AE of "Special Flood Hazard Area" with a Base Flood Elevation of 821.7 per FEMA Flood Insurance Study and Map Number: 20045C0176D, Map Revised: August 5, 2010. The Flood Insurance Study cross-sections which establish the base flood elevations are shown on this plat. A MEBO elevation of 823.7 shall be established for all lots. A Floodplain Development Permit will be required prior to any land disturbance.
8. If a basement is built on a lot where a MEBO has been established, the building design is encouraged to incorporate a sump pump.
9. Proposed utility locations, elevations, and sizes are preliminary and will be finalized during final design of improvements.
10. Drainage culverts (12" min. dia.) will be installed at each residential driveway location to provided driveway connection to Lincoln Street.
11. Drainage easements shall be maintained by property owners. No person may construct, maintain, or allow any natural or non-natural structures or vegetative barriers (including but not limited to trees, shrubbery, berms, fences, and walls) upon drainage easements that the Director of Public Works finds impedes, detains, retains, or otherwise interferes with the drainage of stormwater regardless of the source of the stormwater.
12. New telephone, cable television and electrical lines (except high voltage lines) must be located underground. The developer is responsible for the cost of relocation of existing utilities, if necessary to serve the subdivision.
13. Soils investigations shall be performed before primary structures are erected on lots with slopes greater than 3:1, or non-engineered fill greater than 12 inches. A soils engineer licensed by the State of Kansas, shall perform investigations, and a report of the investigation shall be submitted to the City of Lawrence Codes Enforcement Division. Other lots may be required to be investigated where excavation reveals indications of unsuitable conditions.
14. Pursuant to City Code Chapter IX Article 09-903(B), a Stormwater Pollution Prevention Plan (SWP3) must be provided for this project. This project will not be released for building permits until an approved SWP3 has been obtained.
15. To decrease the slope of the proposed driveways, a voluntary additional front yard setback of 15' is proposed and shown.
16. Pursuant to City Development Code Section 20-1101(d-f) and Subdivision Regulations Section 20-810(k), the SFHA represent environmentally sensitive areas and thus 20% of the area shall be protected. To achieve this requirement, an "enviromental easement" has been established on this plat. Protective measures for this easement shall be that no fill shall be placed in this area and that no structures shall be built in the protected area easement.

PROVISION AND FINANCING OF ROADS, SEWER, WATER AND OTHER PUBLIC SERVICES

1. No new public right-of-way or streets will be created as part of this subdivision. No improvements are proposed for Lincoln Street. Sidewalks will be constructed in accordance with Public Improvement Standards Section 20-811(c).
2. This subdivision will provide connection to the City of Lawrence public water source.
3. This subdivision will provide connection to City of Lawrence public sanitary sewer system.
4. Purchasers of lots within this subdivision will not be subject to special tax assessments or other costs for fees specific to the subdivision to par for the capital costs of streets, roads, water lines and treatment, and/or wastewater lines and treatment.
5. The provisions of improved roads, water or wastewater service will not depend on a vote, petition or other collective action of property owners in the subdivision.
6. The above mentioned public improvements will be financed and completed by the Subdivision Developer.

FLOODPLAIN DEVELOPMENT VARIANCES

On October 4, 2012, the Lawrence Board of Zoning Appeals approved the following variances to the Land Development Code for Floodplain Development. A Floodplain Development Permit was issued on October ??, 2012.

1. Pursuant to Land Development Code Section 20-1204(e)(1)(i), *"Fill shall not be placed in the Setback areas except at approved Access Points"*. The Owners of this property request a variance to this requirement to allow fill placement in the Setback areas to provide a more uniform front and side yards thus provide less steep driveways.
2. Pursuant to Land Development Code Section 20-1204(e)(2)(ii)a, *"No fill dirt shall be placed closer than five (5) feet to the perimeter Lot Line(s) of the property"*. The Owner requests a variance to this requirement for the Interior Lot Lines between the proposed lots. No fill is proposed for the exterior side yards.
3. Pursuant to Land Development Code Section 20-1204(e)(2)(ii)b, *"No fill dirt shall be placed greater than 20 feet from the structure"*. The Owner requests a variance to this requirement for the rear yard to allow for a 20 foot section of reasonably flat yard area above the existing floodplain. The fill will slope from the flatter area at 3 horizontal to 1 vertical (max.) for an additional 14 feet. Only minimal grading is proposed in the yard areas that will remain within the floodplain.

LEGEND

OHW	OVERHEAD WIRE	SAN	SANITARY MANHOLE
OHE	OVERHEAD ELECTRICAL	STM	STORM MANHOLE
UGT	UNDERGROUND TELEPHONE		STORM DRAIN
GAS	GAS	GA	GUY ANCHOR
W	WATERLINE		UTILITY POLE
SAN	SANITARY SEWER LINE	WM	WATER METER
SS	SANITARY SEWER SERVICE	WV	WATER VALVE
STM	STORMWATER LINE	FH	FIRE HYDRANT
	PROPERTY LINE		TRAFFIC SIGNAL STR.
	OFF SITE SURVEYED PROP.	GV	GAS VALVE
	CENTERLINE	GM	GAS METER
	PAVEMENT	LP	LIGHT POLE
	UTILITY EASEMENT		SIGN
SB	BUILDING SETBACK LINE	E	ELECTRIC BOX
		C	CABLE TV BOX

NOTE: "X" IN UTILITY LINE DENOTES EXISTING FEATURE

B/B	BACK OF CURB TO BACK OF CURB
ROW	RIGHT-OF-WAY
C/L	CENTERLINE
D/E	DRAINAGE EASEMENT
U/E	UTILITY EASEMENT
A/E	ACCESS EASEMENT
(P)	PLATTED
(M)	MEASURED
(CM)	CALCULATED FROM MEASUREMENTS
●	FOUND BAR - 2" UNLESS OTHERWISE NOTED - ORIGIN UNKNOWN
▣	SET 2" x 24" REBAR W/CAP "APS 1391"

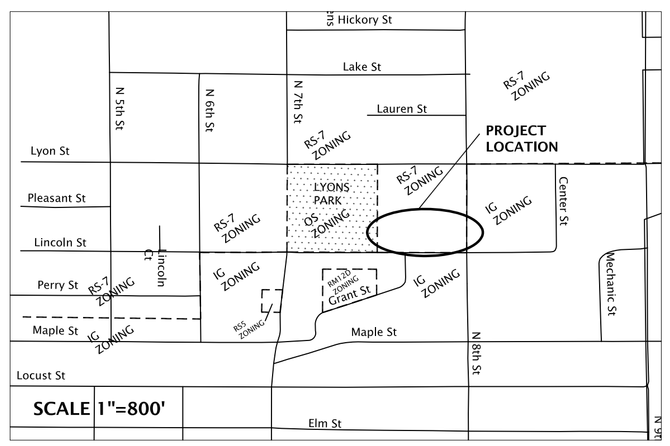
REFERENCED DOCUMENTS

1. A final plat of COFFMAN SUBDIVISION, recorded with the Douglas County Register of Deeds, on April 27, 1967.
2. A final plat of Haller Addition, recorded with the Douglas County Register of Deeds, in Plat Book 17, Page 282, on May 7, 2001.

PROJECT BENCH MARK:

1. NATIONAL GEODETIC SURVEY VERTICAL BENCHMARK IS A DISK MARKED "B 276 RESET 1956" SET IN A CONCRETE HEADWALL AT THE INTERSECTION OF HIGHWAYS 40,59, AND 24. THE DISK IS 74.0 FEET EAST OF THE CENTER LINE OF THE NORTHBOUND LANE OF HIGHWAY 59, IN THE TOP OF THE NORTHEAST END OF THE SOUTH HEADWALL OF A 6-FOOT CONCRETE CULVERT. ELEVATION = 816.38 FT.
2. NORTH HEAD BOLT ON FIRE HYDRANT AT SOUTHWEST CORNER OF LINCOLN STREET AND GRANT STREET. ELEVATION = 818.46.

LOCATION MAP



SITE SUMMARY

Gross Area of Subdivision:	3.697 AC
Area within RS-7 Zoning District	3.697 AC
Previously Dedicated Right-of-Way:	0.368 AC
Additional Dedicated Right-of-Way:	0.000 AC
Public Dedication other than Roads: Drainage Easement	0.701 AC
Private Environmental Easement	0.737 AC
Total Number of Lots:	8
Minimum Lot Size:	0.443 AC
Maximum Lot Size:	0.607 AC
Average Lot Size:	0.462 AC

THIS DOCUMENT IS FOR PLANNING PURPOSES ONLY - NOT FOR CONSTRUCTION

SCALE: 1" = 30'

0 30' 60'

a preliminary plat for

LINCOLN SUBDIVISION

GES
GROB ENGINEERING SERVICES, LLC
3210 Mesa Way, Suite A * Lawrence, Kansas 66049
P.O. Box 502 * Lawrence, Kansas 66044
Phone 785 856-1900 * Fax 785 856-1901

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PRELIMINARY PLAT
LINCOLN SUBDIVISION
LAWRENCE, KANSAS

DESIGNED BY
JDG

CHECKED BY
JDG

ISSUE DATE
August 20, 2012

REVISIONS
September 24, 2012
October 12, 2012

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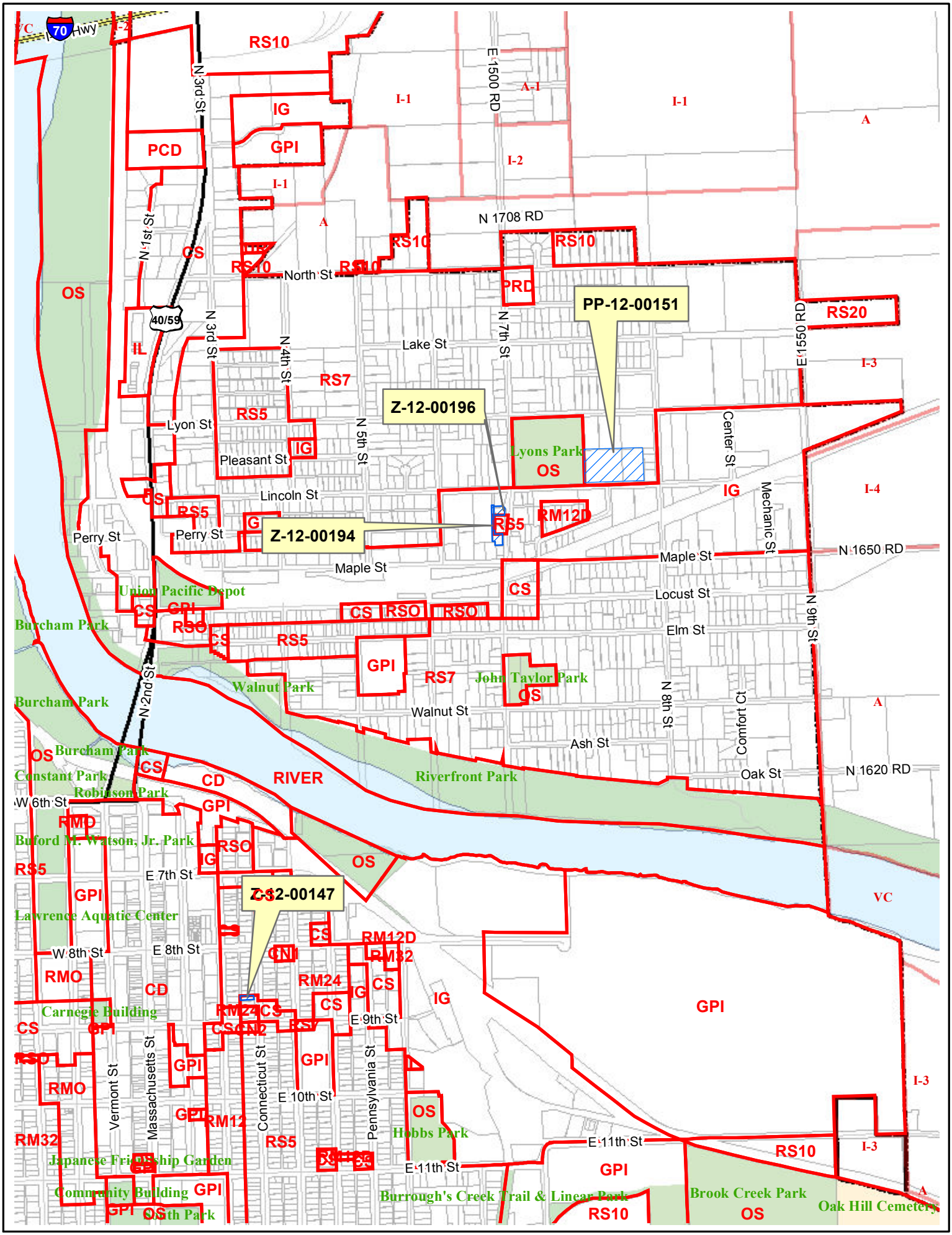
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CN1
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PRD
Lyons Park
Burcham Park
Walnut Park
John Taylor Park
Riverfront Park
Constant Park
Robinson Park
Buford M. Watson, Jr. Park
Lawrence Aquatic Center
Carnegie Building
Hobbs Park
Japanese Friendship Garden
Community Building
Burrough's Creek Trail & Linear Park
Brook Creek Park
Oak Hill Cemetery
Union Pacific Depot
RIVER
VC
N 1708 RD
E 1500 RD
E 1550 RD
N 1650 RD
N 1620 RD
N 1st St
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PLANNING COMMISSION REPORT
Regular Agenda -- Public Hearing Item

PC Staff Report
10/22/12

ITEM NO. 5 TEXT AMENDMENT TO THE LAND DEVELOPMENT CODE; TRUCK STOP USE (MJL)

TA-12-00182: Consider text amendments to the City of Lawrence Land Development Code, Chapter 20, Article 4 to change the Truck Stop use from permitted to permitted with a Special Use Permit in the IG (General Industrial) District. *Initiated by City Commission on 8/28/12.*

RECOMMENDATION: Staff recommends the Planning Commission forward a recommendation for approval of the proposed amendments TA-12-00182 to Section 20-403 of the Land Development Code to the City Commission.

Reason for Request: To permit the Truck Stop use in the city by Special Use Permit only.

RELEVANT GOLDEN FACTOR:
- The change is consistent with the goals of the comprehensive plan.

PUBLIC COMMENT RECEIVED PRIOR TO PRINTING
- None

OVERVIEW OF PROPOSED AMENDMENT
In 2011, as part of the text amendment to create a new industrial district, it was identified that the Truck Stop use should be a separate use from the Gas and Fuel Sales use. In April 2012, the text amendment was approved which included a definition for the Truck Stop use to be permitted with a Special Use Permit (SUP) in the CR (Regional Commercial) District and permitted by right in the IG (General Industrial) District. There was concern at the City Commission meeting regarding the Truck Stop use permitted by right in any district. The possible negative externalities involved with the use was a concern and it was suggested that the SUP process could potentially mitigate the externalities. The City Commission initiated the text amendment on August 28, 2012 to require a SUP for the approval of any Truck Stop use application within the city. To date, no applications have been submitted to develop a truck stop in the city.

Key: *P = Permitted* *S = Special Use* *- = Use not allowed*	*Base Zoning Districts*														
	CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*
Truck Stop	–	–	–	–	–	–	S	–	–	–	–	~~P~~ S	–	–	–

CONFORMANCE WITH THE COMPREHENSIVE PLAN
The general goals of the comprehensive plan are to protect the public health, safety and welfare of the residents of the community. Additionally, the plan goals discuss development that is compatible with its surroundings and the community. By requiring a SUP, for the Truck Stop use, the City Commission has the ability to address site issues and potential negative externalities of a proposal.

CRITERIA FOR REVIEW AND DECISION-MAKING

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

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

This text amendment is a change in condition. With further information regarding the possible negative externalities of a Truck Stop use, it is desired to have the opportunity to place conditions and standards on a proposal in order to address site specific issues.

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

The proposed text amendment is consistent with the comprehensive plan goals and proposes a means to protect the health, safety and welfare of the citizens of Lawrence. Additionally, the plan speaks to compatibility of development to the surroundings and the pursuit of quality.

20-403 NONRESIDENTIAL DISTRICT USE TABLE

Key: *A = Accessory* *P = Permitted* *S = Special Use* ** = Standard Applies* *- = Use not allowed*		*Base Zoning Districts*															*Use-Specific Standards (Sec. 20-)*
		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
RESIDENTIAL USE GROUP																	
Household Living	Accessory Dwelling	P*	–	P*	–	–	–	–	–	–	–	–	–	–	–	–	534
	Attached Dwelling	P*	–	P*	–	–	–	–	–	–	–	–	–	–	P*	–	503
	Cluster Dwelling	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	702
	Detached Dwelling	P*	–	P	–	–	–	–	–	–	–	–	–	–	P*	P*	508
	Duplex	P*	–	P*	–	–	–	–	–	–	–	–	–	–	–	–	503
	Manufactured Home	–	–	–	–	–	–	–	–	–	–	–	–	–	P	P	
	Manufactured Home, Residential-Design	P*	–	–	–	–	–	–	–	–	–	–	–	–	–	–	513
	Mobile Home	–	–	–	–	–	–	–	–	–	P	–	P	–	P	P	
	Mobile Home Park	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	Multi-Dwelling Structure	–	P*	P*	–	P*/S*	P*		P*	–	–	–	–	–	S	P	517
	Non-Ground Floor Dwelling	P*	P*	P*	–	P*	P*	–	P*	–	–	–	–	–	–	–	517/542
	Work/Live Unit	P*	P*	P*	–	P*/S*	P*	–	P*	–	P*	–	–	–	–	–	517/541
	Zero Lot Line Dwelling	P*	–	P	–	–	–	–	–	–	–	–	–	–	–	–	531
	Home Occupation, Type A or B	–	–	P*	–	–	–	–	–	–	–	–	–	–	–	–	
Group Living	Assisted Living	–	–	P	–	–	–	–	–	–	–	–	–	–	S	S	
	Congregate Living	–	–	P*	–	–	–	–	–	–	–	–	–	–	–	–	546
	Dormitory	–	–	–	–	–	–	–	–	–	–	–	–	–	–	P	
	Fraternity or Sorority House	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	Group Home, General (11 or more)	S	S	S	S	S	S	S	S	–	–	–	–	–	–	P	
	Group Home, Limited (10 or less)	P	–	P	–	–	–	–	–	–	–	–	–	–	–	–	
PUBLIC AND CIVIC USE GROUP																	
Community Facilities	Cemetery	P*	P*	–	P*	–	P*	P*	P*	P*	P*	–	–	P*	P*	–	505
	College/University	S	P	P	P	P	P	P	P	P	P	–	P	–	P	P	
	Cultural Center/ Library	S	P	P	S	P	P	–	–	P	–	–	–	S	P	A	
	Day Care Center	S*	P*	S*	S*	S*	P*	P*	P*	P*	P*	A*	P*	–	–	–	507
	Day Care Home, Class A	P	P	P*	–	P	P	–	P	–	–	–	–	–	–	–	
	Day Care Home, Class B	S*/A*	P*	S*	–	P	P	–	P	–	–	–	–	–	–	–	507
	Detention Facilities	–	–	–	–	–	–	–	–	–	S	S	S	–	S	–	

Key: *A = Accessory* *P = Permitted* *S = Special Use* ** = Standard Applies* *- = Use not allowed*		*Base Zoning Districts*														*Use-Specific Standards (Sec. 20-)*
		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
	Lodge, Fraternal & Civic Assembly	S*	S*	S*	S*	P*	P*	P*	P*	–	P*	–	–	–	P*	–	512
	Postal & Parcel Service	–	P	P	P	P	P	P	P	P	P	P	P	–	P	–	
	Public Safety	S	P	P	P	P	P	P	P	P	P	P	P	–	P	–	
	School	P	P	P	P	P	P	P	P	–	–	–	–	–	P	–	
	Funeral and Interment	–	P*	–	P*	P*	P*	P*	P*	P*	P*	–	–	A*	–	–	505
	Temporary Shelter	S*/A*	S*/A*	S*/A*	S*/A*	S*/A*	S*/A*	S*/A*	S*/A*	S*	S*/A*	–	S*	–	S*	S*/A*	544/522
	Social Service Agency	P	P	P	P	P	P	P	P	P	P	–	P	–	P	P	
	Community Meal Program	S/A*	S/A*	S/A*	S/A*	S/A*	S/A*	S/A*	S/A*	S	S/A*	–	S	–	S	S/A*	522
	Utilities, Minor	P*/S*	P*/S*	P*/S	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	–	530
	Utilities and Service, Major	S	S	S	S	S	S	S	S	S	S	P	P	S	P	–	
Medical Facilities	Extended Care Facility, General	–	S	–	S	–	–	–	–	S	–	–	–	–	–	P	
	Extended Care Facility, Limited	P	P	P	P	–	–	–	–	–	–	–	–	–	S	P	
	Health Care Office, Health Care Clinic	P	S	P	P	P	P	P	P	P	P	–	–	–	P	A	
	Hospital	–	–	–	–	–	–	–	–	–	–	–	–	–	–	P	
	Outpatient Care Facility	P*	P*	P*	P*	P*	P*	P*	P*	–	-	–	–	–	P*	P*	519
Recreational Facilities	Active Recreation	S	P	P	S	S	P	P	P	P	P	–	S	S	A*/S*	A	532
	Entertainment & Spectator Sports, General	–	–	–	–	P	P	P	P	–	–	–	–	–	S	–	
	Entertainment & Spectator Sports, Limited	–	P	P	–	P	P	P	P	–	–	–	–	S	P	–	
	Participant Sports & Recreation, Indoor	–	P	P	–	P	P	P	P	P	P	–	–	–	P	A	
	Participant Sports & Recreation, Outdoor	–	–	S	–	–	P	P	P	P	P	–	–	–	A*/S*	–	532
	Passive Recreation	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
	Nature Preserve/ Undeveloped	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
	Private Recreation	P	P	P	–	P	P	–	P	–	–	–	–	P	P	P	

Key: *A = Accessory* *P = Permitted* *S = Special Use* ** = Standard Applies* *- = Use not allowed*		*Base Zoning Districts*															*Use-Specific Standards (Sec. 20-)*
		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
Religious Assembly	Campus or Community Institution	P*	P*	P*	P*	P*	P*	P*	P*	–	P*	–	–	–	–	A*	522
	Neighborhood Institution	P*	P*	P*	P*	P*	P*	P*	P*	–	P*	–	–	–	–	–	522
COMMERCIAL USE GROUP																	
Animal Services	Kennel	–	–	–	–	–	P	P	P	–	P	–	P	–	–	–	
	Livestock Sale	–	–	–	–	–	S	S	S	–	P	–	P	–	–	–	
	Sales and Grooming	P	P	P	P	P	P	P	P	–	P	–	P	–	–	–	
	Veterinary	–	P	P	P	P	P	P	P	P	P	–	P	–	–	–	
Eating & Drinking Establishments	Accessory Bar	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	–	–	–	–	–	509
	Accessory Restaurant	–	–	–	–	–	–	–	–	A	–	–	–	–	–	–	
	Bar Or Lounge	–	–	S*	–	P*	P*	P*	P*	–	–	–	–	–	–	–	509
	Brewpub	–	P*	S*	–	P*	P*	P*	P*	–	–	–	–	–	–	–	509
	Fast Order Food	P*	P*	P	P*	P*	P*	P*	P*	–	P*	–	–	–	–	A*	511/509
	Fast Order Food, Drive-In	–	S	–	–	–	P	P	P	–	P	–	–	–	–	–	
	Nightclub	–	–	–	–	P*	–	P*	P*	–	–	–	–	–	–	–	509
	Private Dining Establishments	P*	P*	–	P*	P*	P*	P*	P*	P*	–	–	–	–	–	–	539
	Restaurant, Quality	P*	P*	P	P*	P*	P*	P*	P*	P*	P*	–	–	–	–	–	524
Office	Administrative and Professional	P*	P*	P*	P*	P*	P*	P*	P*	P*	P*	A	P*	–	P*	A*	518
	Financial, Insurance & Real Estate	P*	P*	P*	P*	P*	P*	P*	P*	P*	P*	–	–	–	–	A*	510
	Other	P*	P*	P*	P*	P*	P*	P*	P*	P*	P*	A	P*	–	–	–	537
Parking Facilities	Accessory	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	535
	Commercial	–	S	S	S	S	P	P	P	P	P	P	P	–	P	A	
Retail Sales & Service	Building Maintenance	–	P	S	–	P	P	P	P	–	P	P	P	–	A	A	
	Business Equipment	–	P	P	–	P	P	P	P	P	P	P	–	–	–	–	
	Business Support	–	P	P	P	P	P	P	P	P	P	P	P	–	–	A	
	Construction Sales and Service	–	–	–	–	–	P	P	P	–	P	–	P	–	–	A	

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		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
	Food and Beverage	P*	P*	P*	P*	P*	P*	P*	P*	–	P*	–	–	–	–	A*	511
	Mixed Media Store	P*	P*	P*	P*	P*	P*	P*	P*	–	P*	–	–	–	–	–	516/528
	Personal Convenience	P*	P*	P*	–	P*	P*	P*	P*	–	P*	–	–	–	–	A*	520
	Personal Improvement	P*	P*	P*	–	P*	P*	P*	P*	–	P*	–	–	–	A*	A*	521
	Repair Service, Consumer	P*	P*	P*	–	P*	P*	P*	P*	–	P*	–	–	–	–	–	523
	Retail Sales, General	P*	P*	P*	P*	P*	P*	P*	P*	–	P*	–	–	–	–	A*	525
	Retail Establishment, Large	–	–	–	–	–	P*	P*	S*	–	–	–	–	–	–	–	526
	Retail Establishment, Medium	–	P*	P*	–	P*	P*	P*	P*	–	–	–	–	–	–	–	526
	Retail Establishment, Specialty	–	P*	P*	–	P*	P*	P*	P*	–	–	–	–	–	–	–	526
Sexually Oriented Businesses	Sexually Oriented Media Store	–	–	P*	–	–	-	-	-	–	–	–	-	–	–	–	528
	Physical Sexually Oriented Business	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	528
	Sex Shop	–	–	–	–	–	P*	P*	P*	–	–	–	–	–	–	–	528
	Sexually Oriented Theater	–	–	–	–	–	P*	P*	P*	–	–	–	–	–	–	–	528
Transient Accommodation	Bed and Breakfast	P*	–	P*	–	–	–	–	–	–	–	–	–	–	–	–	504
	Campground	–	–	–	–	–	P	P	P	–	–	–	–	S	–	–	
	Hotel, Motel, Extended Stay	–	–	P	–	P	P	P	P	–	P	–	–	–	–	A	
Vehicle Sales & Service	Cleaning (Car Wash)	–	S	–	–	–	P	P	P	–	P	A	P	–	–	–	
	Fleet Storage	–	–	–	–	–	P	P	P	–	P	P	P	–	–	A	
	Gas and Fuel Sales	–	S	S	–	–	P	P	P	–	P	P	P	–	–	–	
	Truck Stop	–	–	–	–	–	–	S	–	–	–	–	P S	–	–	–	

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		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
	Heavy Equipment Repair	–	–	–	–	–	P	P	P	–	P	P	P	–	–	–	
	Heavy Equipment Sales/Rental	–	–	–	–	–	P	P	P	–	P	–	P	–	–	–	
	Inoperable Vehicles Storage	–	–	–	–	–	P	P	P	–	P	P	P	–	–	–	
	Light Equipment Repair	–	S	–	–	S	P	P	P	–	P	–	P	–	–	–	
	Light Equipment Sales/Rental	–	P*	–	–	S	P	P	P	–	P	–	P	–	–	–	545
	RV and Boats Storage	–	–	–	–	–	P	P	P	–	P	–	P	–	–	–	
INDUSTRIAL USE GROUP																	
Industrial Facilities	Explosive Storage	–	–	–	–	–	–	–	–	–	–	–	P	–	–	–	
	Industrial, General	–	–	–	–	–	–	–	–	–	P	P	P	–	–	–	
	Industrial, Intensive	–	–	–	–	–	–	–	–	–	–	–	P	–	–	–	
	Laundry Service	–	–	–	–	–	P	P	P	–	P	P	P	–	–	–	
	Manufacturing & Production, Ltd.	–	–	P	–	S	S	S	S	P	P	P	P	–	–	–	
	Manufacturing & Production, Tech.	–	–	–	–	S	P	P	P	P	P	P	P	–	–	–	
	Research Service	–	–	–	S	S	P	P	P	P	P	P	P	–	–	–	
	Scrap and Salvage Operation	–	–	–	–	–	–	–	–	–	S*	–	S*	–	–	–	527
Wholesale, Storage & Distribution	Exterior Storage	–	–	–	–	–	A*	A*	A*	A*	A*	A*	A*	–	A*	A*	538
	Heavy	–	–	–	–	–	S	S	S	–	S	–	P	–	–	–	
	Light	–	–	–	–	–	P	P	P	P	P	P	P	–	S	–	
	Mini-Warehouse	–	–	–	–	–	P	P	P	–	P	–	P	–	–	–	
OTHER USES GROUP																	
Adaptive Reuse	Designated Historic Property	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	501
	Greek Housing Unit	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

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		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
Agriculture	Agricultural Sales	–	–	–	–	–	P	P	P	–	P	–	P	–	–	–	
	Agriculture, Animal	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	Agriculture, Crop	P	P	P	P	–	P	P	P	P	P	P	P	–	P	–	
Communications Facilities	Amateur & Receive-Only Antennas	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	536
	Broadcasting Tower	–	–	–	–	S	–	–	–	P	P	P	P	–	–	A	
	Communications Service Establishment	P	P	P	P	P	P	P	P	P	P	–	P	–	P	A	
	Telecommunications Antenna	A*	A*	A*	A*	S*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	529
	Telecommunications Tower	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	P*	S*	S*	A*	A*	529
	Satellite Dish	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	536
Mining	Mining	–	–	–	–	–	–	–	–	–	–	–	S*	–	–	–	515
Recycling Facilities	Large Collection	–	–	–	–	–	P	P	P	–	P	P	P	–	–	–	540
	Small Collection	P	P	P*	P	P	P	P	P	P	P	–	P	–	A	A	540
	Processing Center	–	–	–	–	–	–	–	–	–	P	S	P	–	–	–	

LEAGUE OF WOMEN VOTERS®
OF LAWRENCE/DOUGLAS COUNTY

RECEIVED
OCT 22 2012
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October 22, 2012

Mr. Bruce Liese, Chair and Members, Lawrence-Douglas County Metropolitan Planning Commission
Mayor Schumm, Mayor and Members of the City Commission
City Hall • Lawrence, KS 66044

RE. ITEM NO. 5: TEXT AMENDMENT TO THE LAND DEVELOPMENT CODE; TRUCK STOP USE (MJL)

Dear Chairman Liese and Planning Commissioners, Mayor Schumm and City Commissioners:

After reviewing the minutes from the August 28, 2012, City Commission meeting, we are of the understanding that that the City Commission asked that the truck stop use be removed from all zoning districts in our Land Development Code except for the IG District, and with that change, only permitted with a Special Use Permit.

We have attached the three pages from the minutes of that City Commission meeting for your review, but here are some important excerpts:

From the minutes for the CC Meeting 8/28/12:

"Cromwell said ... He thought we shouldn't think we will never have a truck stop, and he favored having it with an SUP in IG and not allowed in the other districts. Schumm said he agreed. Carter said he agreed with those suggestions. He thought a truck stop was unlikely but maybe add this to the work list. McCullough said they could initiate it. McCullough asked if Cromwell's intent was to allow truck stop in IG but no other district, not even CR. Cromwell said correct. Schumm asked what CR would be. McCullough said there are two, South Iowa and Downtown, that are designated CR in the comp plan, though they aren't zoned CR."

"Amyx said if it is appropriate under IG, should it be equally allowed under CR with an SUP. Cromwell said he didn't know how to understand that since we don't have any CR yet. McCullough said South Iowa is designated in the comp plan for CR. Dever said it is in our plan to use the area as automobile related land use such as car dealers. We may get some people up in arms if someone wants to zone South Iowa IG. Cromwell said having truck stop as an SUP in CR may be appropriate. Amyx said he would suggest SUP in CR. Schumm said let's go on to recycling. He said he supported Cromwell's position."

"**Moved by Cromwell, seconded by Carter,** to initiate text amendments to revise the recycling processing center use in the IL district from permitted to permitted with a special use permit; and to revise the truck stop use in the IG district from permitted to permitted with a special use permit. Motion carried unanimously."

We would appreciate your taking the action to follow this request by the City Commission and remove the Truck Stop use completely from the CR District, so that it does not exist in any of the districts except the IG, and then only with the Special Use Permit (SUP) requirement.

Thank you for considering our request.

Sincerely yours,

Melinda Henderson
President

Alan Black
Chair, Land Use Committee

Attachments: CC Minutes 8/28/12, Planning Staff Report for CC meeting 8/28/12

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ATTACHMENT A

Memorandum
City of Lawrence
Planning and Development Services

TO: **David L. Corliss, City Manager**

FROM: **Planning Staff**

CC: **Scott McCullough, Director of Planning and Development Services**
Sheila Stogsdill, Assistant Planning Director

Date: **June 12, 2012**

RE: **Potential Text Amendment to the Land Development Code Regarding the Truck Stop and Recycling Facilities**

This memo provides information on the Truck Stop and Recycling Processing Center uses per the direction of the City Commission.

Background
At the April 17, 2012 City Commission meeting, the Commission approved the separation of the Truck Stop use from the Gas and Fuel Sales use as part of the text amendment that created the IM (Medium Industrial) District.

Prior to the recent code amendments, the Truck Stop use was permitted in the CN2 (Neighborhood Commercial) and MU (Mixed Use) Districts with a Special Use Permit and in the CC (Community Commercial), CR (Regional Commercial), CS (Commercial Strip), IL (Limited Industrial), and IG (General Industrial) Districts by right. There are currently no Truck Stops within the city limits. With the approval of TA-10-16-11 on April 17, 2012, the Truck Stop use is now permitted only in the CR District with a Special Use Permit and IG District by right. The amendment prompted a discussion of the Truck Stop use's potential negative impact to a surrounding area and whether the Development Code should be revised so that the Truck Stop use is permitted only with a Special Use Permit in the CR and IG districts or even prohibited outright in the city. There are significant amounts of IG zoning in the city though there no properties currently zoned CR in the city.

The Commission also requested a review and discussion of the Recycling Processing Center use and its impacts on surrounding properties.

Discussion - Truck Stop

Currently the Truck Stop use is defined in Section 20-1766(4) of the Land Development Code and permitted as follows. There are no use standards for Truck Stop use.

TRUCK STOP
A fuel dispensing facility designed to primarily accommodate the trucking industry. Accessory uses common to a truck stop may include a convenience store, restaurant, shower facilities, overnight parking areas for semis and other commercial vehicles and scale facilities.

Key: *P =*		*Base Zoning Districts*

Permitted S = Special Use - = Use not allowed	*CN1*	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*
Truck Stop	–	–	–	–	–	–	S	–	–	–	–	P	–	–	–

The land use externalities associated with Truck Stops include: truck and passenger vehicle traffic, parking lot lighting, sound and smell from idling engines, substantial amounts of pavement, and other activity similar to a high activity commercial use. These impacts will vary depending on the size and amenities provided at the truck stop, such as convenience store, hotel, restaurant, etc. These impacts can be mitigated to an extent via special use approval in the CR district and with appropriate site planning in the IG district. The Development Code requires that certain elements, such as buffer yards, light mitigation, impervious limits, etc. be present to effectively transition between land uses.

During recent public comment, statements were made regarding the potential for criminal activity at truck stops. Drug trafficking, prostitution, theft, etc. can occur at truck stops; however, these crimes can and do occur at other types of land uses as well – hotels, bars, gas stations, etc. Through site design, including employing elements of Crime Prevention Through Environmental Design (CPTED), many of the crimes associated with truck stops can be deterred. The goal of CPTED is to prevent crime by influencing human behavior through the physical environment. Adequate lighting, security cameras, access control, limited amounts of truck parking, security signs, etc. can aid in mitigating the potential for crime at truck stops. The Lawrence Police Department currently reviews site plans and offers recommendations on such matters for other land use types and would participate in the review of a truck stop if one were proposed.

Whether there is demand for a truck stop of significant size within city limits is questionable since the trucking industry seems to be served, currently at least, by the Lawrence Service Center, milepost 209, along the Kansas Turnpike. It may be more likely that a supersized gas station, that technically meets the definition of a Truck Stop by accommodating a certain number of trucks and associated amenities, is developed at a location along K-10 Highway under the current code.

While there is a low likelihood of establishing a truck stop in the city due to the Lawrence Service Center on the Kansas Turnpike, if the Commission believes that the externalities mentioned above require Commission review, then a special use permit process would ensure that all issues were identified and addressed. The Development Code would need to be revised to require a special use permit for the use in the IG district.

City Commission options on this matter:

1. Maintain the Truck Stop use as currently permitted in the Land Development Code – special use in the CR district and permitted outright in the IG district.
2. Remove the use from the CR and IG districts in the Land Development Code.
3. Revise the code to require Special Use Permit approval for the Truck Stop use in the IG district similar to the CR district.
4. Revise the code to add use standards (such as site area, buffering, lighting, etc.) for the Truck Stop use.

Staff recommendation – Due to the low likelihood of this development type in the community and the land use transition elements required through the Development Code, staff recommends Option 1. If greater land use controls are desired, the Commission should consider implementing option 3 and initiate a text amendment to require special use permit approval for the Truck Stop use in the IG district.

Discussion - Recycling Processing Center

Currently the Recycling Processing Center use is defined in Section 20-1735 of the Land Development Code and

permitted as follows. There are no use standards for the Recycling Processing Center use.

RECYCLING FACILITIES

A facility for the collection and/or processing of Recyclable Materials. A recycling facility does not include storage containers or processing activity located on the Premises of a residential, commercial, or manufacturing use and used solely for the recycling of material generated by that residential property, business or manufacturer. Recycling facilities may include the following:

(2) Processing Center

A Building or enclosed space used for the collection and processing of Recyclable Materials. Processing means the preparation of material for efficient shipment, or to an end-user's specifications, by such means as baling, briquetting, compacting, flattening, grinding, crushing, mechanical sorting, shredding, cleaning, and remanufacturing.

*Key: A = Accessory P = Permitted S = Special Use * = Standard Applies - = Use not allowed*	*Base Zoning Districts*														
	CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*
Recycling Processing Center	–	–	–	–	–	–	–	–	–	P	S	P	–	–	–

The Recycling Processing Center use has been the subject of much discussion as it has related to the 12th and Haskell Recycling Center code issues. In that case, the use creating the offsite impacts was not, by code, a Recycling Processing Center, but rather an Open Use of Land. The Recycling Processing Center use is required, by definition, to be operated within a building or an enclosed space (Walmart processing center for example). The equivalent use in the current code for the use that caused impact for the neighbors at 1146 Haskell is the Salvage Operation use. The Salvage Operation use is permitted in IL and IG districts with a Special Use Permit.

There are currently two active applications to establish a recycling center in the community – one in North Lawrence and the relocation of 12th and Haskell Recycle Center. In both cases, a Special Use Permit for the Salvage Operation is required, even if there may be an element of Recycling Processing Center on the site. The code permits more than one primary use and the Recycling Processing Center would need to be within the building or enclosed space and the outdoor collection requires the Special Use Permit.

In staff's opinion, the Recycling Processing Center does not generate onerous externalities for the districts in which it is permitted. Staff does not believe any change is necessary for this use.

City Commission Options on this matter:

1. Revise the code to require Special Use Permit approval for the Recycling Processing Center use in the IL and IG districts.
2. Maintain the current code and find that the use generates minimal negative externalities.

Staff recommendation – Staff recommends that the Commission maintain the current code by implementing option 2.

Action Requested

Direct staff as appropriate.

Day said they looked at higher density, but they didn't get into the number of bedrooms, etc. They are entitled to the same volume, we just want to shape the volume through the guidelines.

Carter asked if there are additional places in the guidelines where mixed uses make sense.

McCullough said the plan itself does address that, but not necessarily guidelines.

Mayor Schumm called for public comment.

Candice Davis said she would like to thank staff for their work. This is fantastic. The consultants have done a great job. The neighborhood is unique and complicated. Guidelines are going to be important to the future of the neighborhood.

Marci Francisco thanked staff and the consultants. She said they had good conversations. They responded very well to insistence that we look at our alleys. This is a good starting point.

Carter said this was a great start, coupled with the good neighbor program which is in its infancy. We have in the past dealt more with the symptoms than the issues, and now we are getting at the issues. He said he was impressed with what he has seen so far.

Moved by Carter, seconded by Cromwell, to initiate the rezoning process to create Overlay Districts for the 5 areas identified in the Oread Neighborhood Plan and initiate text amendments to the Land Development Code to various sections regarding the design guidelines and consistency with the code. Motion carried unanimously.

2. Review staff memo related to the Truck Stop use and the Recycling Processing Center use and direct staff as appropriate.

Scott McCullough, Director of Planning & Development Services, presented the staff report.

Schumm asked why not have a special permit for recycling processing in IG.

McCullough said they could create a continuum of use, but one of the overwhelming public sentiments in this process was to not revise IG and IL while creating IM. This use wouldn't have the impacts of a truck stop. Here it was probably appropriate to have it as a SUP in IM.

Mayor Schumm called for public comment.

Gwen Klingenberg thanked staff for separating the truck stop issue out. We don't want to be business unfriendly, but if you did #3 and #4 and then mitigate the impacts it is business friendly and community friendly. She encouraged the use of the SUP and a mitigation plan.

Cromwell said regarding recycling it was okay to permitted use in IG but special use permit in the lighter districts. He thought we shouldn't think we will never have a truckstop, and he favored having it with an SUP in IG and not allowed in the other districts.

Schumm said he agreed.

Carter said he agreed with those suggestions. He thought a truck stop was unlikely but maybe add this to the work list.

McCullough said they could initiate it. McCullough asked if Cromwell's intent was to allow truck stop in IG but no other district, not even CR.

Cromwell said correct.

Schumm asked what CR would be.

McCullough said there are two, South Iowa and Downtown, that are designated CR in the comp plan, thoguth they aren't zoned CR.

Schumm asked if there are undeveloped area at K10 and Iowa that could be developed as a truck stop.

McCullough said he believed so.

Amyx asked if there are other places in IG that are appropriate and available for a truck stop.

McCullough said they looked at some of the newly created IG, such as at Farmers Turnpike and K10. It is somewhat hard to see it happening, considering the KTA stops nearby. A large fueling station could perhaps accommodate a truck or two.

Amyx said we could probably initiate it and have the full discussion later. When you look at the IG ground available he said he questions whether a truck stop would be appropriate. He asked if we currently have any CR zoning.

McCullough said no, but we anticipate development further south on Iowa at some point and CR may be appropriate.

Amyx said if it is appropriate under IG, should it be equally allowed under CR with an SUP.

Cromwell said he didn't know how to understand that since we don't have any CR yet.

McCullough said South Iowa is designated in the comp plan for CR.

Dever said it is in our plan to use the area as automobile related land use such as car dealers. We may get some people up in arms if someone wants to zone South Iowa IG.

Cromwell said having truck stop as an SUP in CR may be appropriate.

Amyx said he would suggest SUP in CR.

Schumm said let's go on to recycling. He said he supported Cromwell's position.

Dever asked if we are creating a new designation for recycling. What happens if someone is currently doing it?

McCullough said of the two noted in the memo, one had IG and one had an SUP for a scrap and salvage outdoor use. If initiated we would look to see if we are creating any nonconformities.

Amyx asked if we should do that first before initiating.

Dever said it could be computer recycling or some smaller operation that is unknown to us yet.

Amyx said he was okay with the suggestion to look at nonconforming use.

McCullough said it might be most efficient to initiate it and we would concurrently look at those issues and have them ready for the City Commission's consideration.

Moved by Cromwell, seconded by Carter, to initiate text amendments to revise the recycling processing center use in the IL district from permitted to permitted with a special use permit; and to revise the truck stop use in the IG district from permitted to permitted with a special use permit. Motion carried unanimously.

3. ***Consider adopting Resolution No. 6988, establishing a public hearing date of October 2, 2012 for the South Project Plan for the Redevelopment Plan on the 9th and New Hampshire Tax Increment Finance (TIF) District and consider adopting Resolution No. 6990, establishing a public hearing date of October 2, 2012 on the proposed Transportation Development District (TDD) for the 9th and New Hampshire Redevelopment District.***

Diane Stoddard, Assistant City Manager, presented the staff report.

Amyx asked if this had any change in the Springsted study.

Stoddard said no.

Mayor Schumm called for public comment. None was received.

Moved by Amyx, seconded by Dever, to adopt Resolution No. 6988, establishing a public hearing date of October 2, 2012 for the South Project Plan for the Redevelopment Plan on the 9th and New Hampshire Tax Increment Finance (TIF) District, and adopt Resolution No. 6990, establishing a public hearing date of October 2, 2012 on the proposed Transportation Development District (TDD) for the 9th and New Hampshire Redevelopment District

4. ***Consider motion to recess into executive session for approximately one hour for the purpose of consultation with attorneys for the City deemed privileged under the attorney-client relationship. The justification for the executive session is to keep discussions with the attorneys for the City confidential at this time.***

PLANNING COMMISSION REPORT
Regular Agenda -- Public Hearing Item

PC Staff Report
10/22/12

ITEM NO. 6 TEXT AMENDMENT TO THE LAND DEVELOPMENT CODE; RECYCLE PROCESSING CENTER USE (MJL)

TA-12-00183: Consider text amendments to the City of Lawrence Land Development Code, Chapter 20, Article 4 to change the Processing Center use (in the Recycling Facilities category) from permitted to permitted with a Special Use Permit in the IL (Limited Industrial) District. *Initiated by City Commission on 8/28/12.*

RECOMMENDATION: Staff recommends that the Planning Commission forward a recommendation for approval of the proposed amendments TA-12-00183 to Section 20-403 of the Land Development Code to the City Commission.

Reason for Request: To create a continuum of the use in the industrial districts. Currently it is permitted in the IL (Limited Industrial), permitted with a Special Use Permit in the IM (Medium Industrial), and permitted in the IG (General Industrial) Districts.

RELEVANT GOLDEN FACTOR:
- The change is consistent with the goals of the comprehensive plan.

PUBLIC COMMENT RECEIVED PRIOR TO PRINTING
- None

OVERVIEW OF PROPOSED AMENDMENT
In 2011 the City Commission directed staff to create a new industrial district that would fall intensity-wise between the IL District and the IG District. Staff initially proposed the IM District with changes to the IL and IG Districts in order to create a continuum across the districts in regard to allowed uses that are more intense being permitted less in the IL District and more in the IG District. As part of the process, staff was directed to only create the new IM District and not make changes to the IL and IG Districts. This created situations where uses were permitted in the less intense district, not permitted or permitted with a SUP in the middle district and then again in the intensive district. This is the case in the Processing Center use in the Recycling Facilities category in the Nonresidential use table. The use is permitted by right in IL, a SUP is required in IM and is permitted right in IG. The City Commission has directed staff to create the continuum by changing the permitted in the IL District to a SUP. Since the IL District is a less intensive district and can be used as a buffer between residential districts and more intensive industrial districts, the SUP process allows for more flexibility to address possible negative implications of the use when proposed near a lesser intensive district.

Key: A = Accessory P = Permitted S = Special Use * = Standard Applies - = Use not allowed	Base Zoning Districts														
	CN1	CN2	MU	CO	CD	CC	CR	CS	IBP	IL	IM	IG	OS	GPI	H
Recycling Processing Center	–	–	–	–	–	–	–	–	–	P S	S	P	–	–	–

CONFORMANCE WITH THE COMPREHENSIVE PLAN

The general goals of the comprehensive plan are to protect the public health, safety and welfare of the residents of the community. Additionally, the plan goals discuss development that is compatible with its surroundings and the community. By requiring a SUP, for the Recycle Processing Center use, the City Commission has the ability to address site issues and potential negative externalities of a proposal.

CRITERIA FOR REVIEW AND DECISION-MAKING

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

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

The proposed text amendment corrects an inconsistency in the code regarding having the lesser intense district permit the use by right, the middle intensive district requires a SUP and the most intense district permit by right. The uses should be permitted with a continuum as the intensity of the district increases.

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

The proposed text amendment is consistent with the comprehensive plan goals and proposes a means to protect the health, safety and welfare of the citizens of Lawrence. Additionally, the plan speaks to compatibility of development to the surroundings and the pursuit of quality.

20-403 NONRESIDENTIAL DISTRICT USE TABLE

Key: *A = Accessory* *P = Permitted* *S = Special Use* ** = Standard Applies* *- = Use not allowed*		*Base Zoning Districts*															*Use-Specific Standards (Sec. 20-)*
		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
RESIDENTIAL USE GROUP																	
Household Living	Accessory Dwelling	P*	–	P*	–	–	–	–	–	–	–	–	–	–	–	–	534
	Attached Dwelling	P*	–	P*	–	–	–	–	–	–	–	–	–	–	P*	–	503
	Cluster Dwelling	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	702
	Detached Dwelling	P*	–	P	–	–	–	–	–	–	–	–	–	–	P*	P*	508
	Duplex	P*	–	P*	–	–	–	–	–	–	–	–	–	–	–	–	503
	Manufactured Home	–	–	–	–	–	–	–	–	–	–	–	–	–	P	P	
	Manufactured Home, Residential-Design	P*	–	–	–	–	–	–	–	–	–	–	–	–	–	–	513
	Mobile Home	–	–	–	–	–	–	–	–	–	P	–	P	–	P	P	
	Mobile Home Park	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	Multi-Dwelling Structure	–	P*	P*	–	P*/S*	P*		P*	–	–	–	–	–	S	P	517
	Non-Ground Floor Dwelling	P*	P*	P*	–	P*	P*	–	P*	–	–	–	–	–	–	–	517/542
	Work/Live Unit	P*	P*	P*	–	P*/S*	P*	–	P*	–	P*	–	–	–	–	–	517/541
	Zero Lot Line Dwelling	P*	–	P	–	–	–	–	–	–	–	–	–	–	–	–	531
	Home Occupation, Type A or B	–	–	P*	–	–	–	–	–	–	–	–	–	–	–	–	
Group Living	Assisted Living	–	–	P	–	–	–	–	–	–	–	–	–	–	S	S	
	Congregate Living	–	–	P*	–	–	–	–	–	–	–	–	–	–	–	–	546
	Dormitory	–	–	–	–	–	–	–	–	–	–	–	–	–	–	P	
	Fraternity or Sorority House	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	Group Home, General (11 or more)	S	S	S	S	S	S	S	S	–	–	–	–	–	–	P	
	Group Home, Limited (10 or less)	P	–	P	–	–	–	–	–	–	–	–	–	–	–	–	
PUBLIC AND CIVIC USE GROUP																	
Community Facilities	Cemetery	P*	P*	–	P*	–	P*	P*	P*	P*	P*	–	–	P*	P*	–	505
	College/University	S	P	P	P	P	P	P	P	P	P	–	P	–	P	P	
	Cultural Center/ Library	S	P	P	S	P	P	–	–	P	–	–	–	S	P	A	
	Day Care Center	S*	P*	S*	S*	S*	P*	P*	P*	P*	P*	A*	P*	–	–	–	507
	Day Care Home, Class A	P	P	P*	–	P	P	–	P	–	–	–	–	–	–	–	
	Day Care Home, Class B	S*/A*	P*	S*	–	P	P	–	P	–	–	–	–	–	–	–	507
	Detention Facilities	–	–	–	–	–	–	–	–	–	S	S	S	–	S	–	

Key: *A = Accessory* *P = Permitted* *S = Special Use* ** = Standard Applies* *- = Use not allowed*		*Base Zoning Districts*														*Use-Specific Standards (Sec. 20-)*
		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
	Lodge, Fraternal & Civic Assembly	S*	S*	S*	S*	P*	P*	P*	P*	–	P*	–	–	–	P*	–	512
	Postal & Parcel Service	–	P	P	P	P	P	P	P	P	P	P	P	–	P	–	
	Public Safety	S	P	P	P	P	P	P	P	P	P	P	P	–	P	–	
	School	P	P	P	P	P	P	P	P	–	–	–	–	–	P	–	
	Funeral and Interment	–	P*	–	P*	P*	P*	P*	P*	P*	P*	–	–	A*	–	–	505
	Temporary Shelter	S*/A*	S*/A*	S*/A*	S*/A*	S*/A*	S*/A*	S*/A*	S*/A*	S*	S*/A*	–	S*	–	S*	S*/A*	544/522
	Social Service Agency	P	P	P	P	P	P	P	P	P	P	–	P	–	P	P	
	Community Meal Program	S/A*	S/A*	S/A*	S/A*	S/A*	S/A*	S/A*	S/A*	S	S/A*	–	S	–	S	S/A*	522
	Utilities, Minor	P*/S*	P*/S*	P*/S	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	P*/S*	–	530
	Utilities and Service, Major	S	S	S	S	S	S	S	S	S	S	P	P	S	P	–	
Medical Facilities	Extended Care Facility, General	–	S	–	S	–	–	–	–	S	–	–	–	–	–	P	
	Extended Care Facility, Limited	P	P	P	P	–	–	–	–	–	–	–	–	–	S	P	
	Health Care Office, Health Care Clinic	P	S	P	P	P	P	P	P	P	P	–	–	–	P	A	
	Hospital	–	–	–	–	–	–	–	–	–	–	–	–	–	–	P	
	Outpatient Care Facility	P*	P*	P*	P*	P*	P*	P*	P*	–	-	–	–	–	P*	P*	519
Recreational Facilities	Active Recreation	S	P	P	S	S	P	P	P	P	P	–	S	S	A*/S*	A	532
	Entertainment & Spectator Sports, General	–	–	–	–	P	P	P	P	–	–	–	–	–	S	–	
	Entertainment & Spectator Sports, Limited	–	P	P	–	P	P	P	P	–	–	–	–	S	P	–	
	Participant Sports & Recreation, Indoor	–	P	P	–	P	P	P	P	P	P	–	–	–	P	A	
	Participant Sports & Recreation, Outdoor	–	–	S	–	–	P	P	P	P	P	–	–	–	A*/S*	–	532
	Passive Recreation	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
	Nature Preserve/ Undeveloped	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
	Private Recreation	P	P	P	–	P	P	–	P	–	–	–	–	P	P	P	

Key: *A = Accessory* *P = Permitted* *S = Special Use* ** = Standard Applies* *- = Use not allowed*		*Base Zoning Districts*															*Use-Specific Standards (Sec. 20-)*
		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
Religious Assembly	Campus or Community Institution	P*	P*	P*	P*	P*	P*	P*	P*	–	P*	–	–	–	–	A*	522
	Neighborhood Institution	P*	P*	P*	P*	P*	P*	P*	P*	–	P*	–	–	–	–	–	522
COMMERCIAL USE GROUP																	
Animal Services	Kennel	–	–	–	–	–	P	P	P	–	P	–	P	–	–	–	
	Livestock Sale	–	–	–	–	–	S	S	S	–	P	–	P	–	–	–	
	Sales and Grooming	P	P	P	P	P	P	P	P	–	P	–	P	–	–	–	
	Veterinary	–	P	P	P	P	P	P	P	P	P	–	P	–	–	–	
Eating & Drinking Establishments	Accessory Bar	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	–	–	–	–	–	509
	Accessory Restaurant	–	–	–	–	–	–	–	–	A	–	–	–	–	–	–	
	Bar Or Lounge	–	–	S*	–	P*	P*	P*	P*	–	–	–	–	–	–	–	509
	Brewpub	–	P*	S*	–	P*	P*	P*	P*	–	–	–	–	–	–	–	509
	Fast Order Food	P*	P*	P	P*	P*	P*	P*	P*	–	P*	–	–	–	–	A*	511/509
	Fast Order Food, Drive-In	–	S	–	–	–	P	P	P	–	P	–	–	–	–	–	
	Nightclub	–	–	–	–	P*	–	P*	P*	–	–	–	–	–	–	–	509
	Private Dining Establishments	P*	P*	–	P*	P*	P*	P*	P*	P*	–	–	–	–	–	–	539
	Restaurant, Quality	P*	P*	P	P*	P*	P*	P*	P*	P*	P*	–	–	–	–	–	524
Office	Administrative and Professional	P*	P*	P*	P*	P*	P*	P*	P*	P*	P*	A	P*	–	P*	A*	518
	Financial, Insurance & Real Estate	P*	P*	P*	P*	P*	P*	P*	P*	P*	P*	–	–	–	–	A*	510
	Other	P*	P*	P*	P*	P*	P*	P*	P*	P*	P*	A	P*	–	–	–	537
Parking Facilities	Accessory	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	535
	Commercial	–	S	S	S	S	P	P	P	P	P	P	P	–	P	A	
Retail Sales & Service	Building Maintenance	–	P	S	–	P	P	P	P	–	P	P	P	–	A	A	
	Business Equipment	–	P	P	–	P	P	P	P	P	P	P	–	–	–	–	
	Business Support	–	P	P	P	P	P	P	P	P	P	P	P	–	–	A	
	Construction Sales and Service	–	–	–	–	–	P	P	P	–	P	–	P	–	–	A	

Key: *A = Accessory* *P = Permitted* *S = Special Use* ** = Standard Applies* *- = Use not allowed*		*Base Zoning Districts*															*Use-Specific Standards (Sec. 20-)*
		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
	Food and Beverage	P*	P*	P*	P*	P*	P*	P*	P*	–	P*	–	–	–	–	A*	511
	Mixed Media Store	P*	P*	P*	P*	P*	P*	P*	P*	–	P*	–	–	–	–	–	516/528
	Personal Convenience	P*	P*	P*	–	P*	P*	P*	P*	–	P*	–	–	–	–	A*	520
	Personal Improvement	P*	P*	P*	–	P*	P*	P*	P*	–	P*	–	–	–	A*	A*	521
	Repair Service, Consumer	P*	P*	P*	–	P*	P*	P*	P*	–	P*	–	–	–	–	–	523
	Retail Sales, General	P*	P*	P*	P*	P*	P*	P*	P*	–	P*	–	–	–	–	A*	525
	Retail Establishment, Large	–	–	–	–	–	P*	P*	S*	–	–	–	–	–	–	–	526
	Retail Establishment, Medium	–	P*	P*	–	P*	P*	P*	P*	–	–	–	–	–	–	–	526
	Retail Establishment, Specialty	–	P*	P*	–	P*	P*	P*	P*	–	–	–	–	–	–	–	526
Sexually Oriented Businesses	Sexually Oriented Media Store	–	–	P*	–	–	-	-	-	–	–	–	-	–	–	–	528
	Physical Sexually Oriented Business	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	528
	Sex Shop	–	–	–	–	–	P*	P*	P*	–	–	–	–	–	–	–	528
	Sexually Oriented Theater	–	–	–	–	–	P*	P*	P*	–	–	–	–	–	–	–	528
Transient Accommodation	Bed and Breakfast	P*	–	P*	–	–	–	–	–	–	–	–	–	–	–	–	504
	Campground	–	–	–	–	–	P	P	P	–	–	–	–	S	–	–	
	Hotel, Motel, Extended Stay	–	–	P	–	P	P	P	P	–	P	–	–	–	–	A	
Vehicle Sales & Service	Cleaning (Car Wash)	–	S	–	–	–	P	P	P	–	P	A	P	–	–	–	
	Fleet Storage	–	–	–	–	–	P	P	P	–	P	P	P	–	–	A	
	Gas and Fuel Sales	–	S	S	–	–	P	P	P	–	P	P	P	–	–	–	
	Truck Stop	–	–	–	–	–	–	S	–	–	–	–	P S	–	–	–	

Key: *A = Accessory* *P = Permitted* *S = Special Use* ** = Standard Applies* *- = Use not allowed*		*Base Zoning Districts*															*Use-Specific Standards (Sec. 20-)*
		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
	Heavy Equipment Repair	–	–	–	–	–	P	P	P	–	P	P	P	–	–	–	
	Heavy Equipment Sales/Rental	–	–	–	–	–	P	P	P	–	P	–	P	–	–	–	
	Inoperable Vehicles Storage	–	–	–	–	–	P	P	P	–	P	P	P	–	–	–	
	Light Equipment Repair	–	S	–	–	S	P	P	P	–	P	–	P	–	–	–	
	Light Equipment Sales/Rental	–	P*	–	–	S	P	P	P	–	P	–	P	–	–	–	545
	RV and Boats Storage	–	–	–	–	–	P	P	P	–	P	–	P	–	–	–	
INDUSTRIAL USE GROUP																	
Industrial Facilities	Explosive Storage	–	–	–	–	–	–	–	–	–	–	–	P	–	–	–	
	Industrial, General	–	–	–	–	–	–	–	–	–	P	P	P	–	–	–	
	Industrial, Intensive	–	–	–	–	–	–	–	–	–	–	–	P	–	–	–	
	Laundry Service	–	–	–	–	–	P	P	P	–	P	P	P	–	–	–	
	Manufacturing & Production, Ltd.	–	–	P	–	S	S	S	S	P	P	P	P	–	–	–	
	Manufacturing & Production, Tech.	–	–	–	–	S	P	P	P	P	P	P	P	–	–	–	
	Research Service	–	–	–	S	S	P	P	P	P	P	P	P	–	–	–	
	Scrap and Salvage Operation	–	–	–	–	–	–	–	–	–	S*	–	S*	–	–	–	527
Wholesale, Storage & Distribution	Exterior Storage	–	–	–	–	–	A*	A*	A*	A*	A*	A*	A*	–	A*	A*	538
	Heavy	–	–	–	–	–	S	S	S	–	S	–	P	–	–	–	
	Light	–	–	–	–	–	P	P	P	P	P	P	P	–	S	–	
	Mini-Warehouse	–	–	–	–	–	P	P	P	–	P	–	P	–	–	–	
OTHER USES GROUP																	
Adaptive Reuse	Designated Historic Property	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	501
	Greek Housing Unit	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

Key: *A = Accessory* *P = Permitted* *S = Special Use* ** = Standard Applies* *- = Use not allowed*		*Base Zoning Districts*															*Use-Specific Standards (Sec. 20-)*
		CN1	*CN2*	*MU*	*CO*	*CD*	*CC*	*CR*	*CS*	*IBP*	*IL*	*IM*	*IG*	*OS*	*GPI*	*H*	
Agriculture	Agricultural Sales	–	–	–	–	–	P	P	P	–	P	–	P	–	–	–	
	Agriculture, Animal	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	Agriculture, Crop	P	P	P	P	–	P	P	P	P	P	P	P	–	P	–	
Communications Facilities	Amateur & Receive-Only Antennas	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	536
	Broadcasting Tower	–	–	–	–	S	–	–	–	P	P	P	P	–	–	A	
	Communications Service Establishment	P	P	P	P	P	P	P	P	P	P	–	P	–	P	A	
	Telecommunications Antenna	A*	A*	A*	A*	S*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	529
	Telecommunications Tower	S*	S*	S*	S*	S*	S*	S*	S*	S*	S*	P*	S*	S*	A*	A*	529
	Satellite Dish	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	536
Mining	Mining	–	–	–	–	–	–	–	–	–	–	–	S*	–	–	–	515
Recycling Facilities	Large Collection	–	–	–	–	–	P	P	P	–	P	P	P	–	–	–	540
	Small Collection	P	P	P*	P	P	P	P	P	P	P	–	P	–	A	A	540
	Processing Center	–	–	–	–	–	–	–	–	–	P	S	P	–	–	–	

Memorandum
City of Lawrence
Planning & Development Services

TO: **Planning Commission**

FROM: **Mary Miller, Planning Staff**

CC: **Scott McCullough, Planning and Development Services Director**
Sheila Stogsdill, Assistant Planning Director

Date: **For October 22, 2012 meeting**

RE: Variance associated with Minor Subdivision for Parkway Plaza No. 5 (MS-12--00033) from the 150 ft right-of-way requirement in Section 20-810(e)(5) for principal arterials.

Attachment A: Minor Subdivision 12-00033, Parkway Plaza No. 5

The Minor Subdivision for Parkway Plaza No. 5 (MS-12-00033) would reconfigure an interior lot line to accommodate a patio area that had been built across the property line (Figure 1). Minor Subdivisions are processed administratively but Planning Commission approval is required for variances from the Subdivision Design Standards. A copy of the Minor Subdivision is included with this memo for context; however, no action is required on the Minor Subdivision. The area that is the subject of the lot line adjustment is circled on Figure 1.

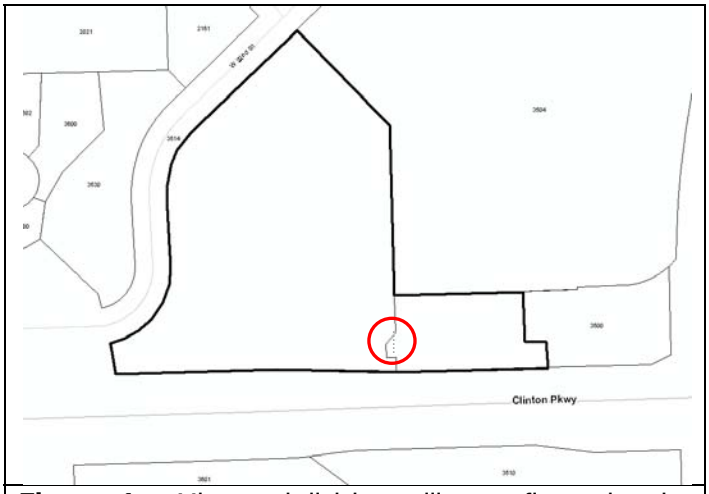


Figure 1. Minor subdivision will reconfigure interior property lines. Property included in the minor subdivision is outlined. Lot line being reconfigured is circled, dashed line is current property boundary, solid line is proposed.

The subject property is part of the Parkway Plaza PCD and is located at 3512 and 3514 Clinton Parkway. Clinton Parkway is classified as a principal arterial on the Major Thoroughfares Map. Per Section 20-810(e)(5), 150 ft of right-of-way must be dedicated for principal arterial streets when platting property. The applicant is requesting a variance from this requirement for the property being replatted as Lots 1 and 2, Parkway Plaza No. 5.

Currently, a variable right-of-way is provided for Clinton Parkway adjacent to this Minor Subdivision with 150 ft of right-of-way on the west end and approximately 130 ft on the east end. The property on each side of the street is responsible for dedicating one-half of the required right-of-way. The plat shows that 60 ft of right-of-way has been dedicated on the east side of the property and 70 ft on the

west. Where the right-of-way is less than 150 ft an additional 5 to 15 ft of right-of-way would be required, depending on the location and the amount of right-of-way previously dedicated.

The Subdivision Regulations state that an applicant may request a variance from the Design Standards in the Regulations in accordance with the variance procedures outlined in Section 20-813(g). This section lists the criteria which must be met in order for a variance to be approved. The requested variance is evaluated with the approval criteria below:

Criteria 1. Strict application of these regulations will create an unnecessary hardship upon the Subdivider.

No new development or land division is being proposed at this time. The Minor Subdivision is slightly reconfiguring the interior lot lines to accommodate a patio area which was constructed over the property lines. The City Engineer indicated that he had no objection to the variance request as there are no plans in the future to widen Clinton Parkway in this area.

Staff Finding: Requiring the dedication of additional right-of-way for Clinton Parkway at this time would constitute an unnecessary hardship on the property owner as the right-of-way is not necessary.

Criteria 2. The proposed variance is in harmony with the intended purpose of these regulations.

Right-of-way dedication is required when properties are platted to insure the required right-of-way is available for improvements to adjacent roadways.

The City Engineer indicated that the right-of-way currently dedicated for Clinton Parkway in this area is adequate and there are no plans to widen the street in the near future.

Staff Finding: The variance will allow the lot line reconfiguration to occur without requiring the dedication of additional right-of-way. Adequate right-of-way is available for Clinton Parkway.

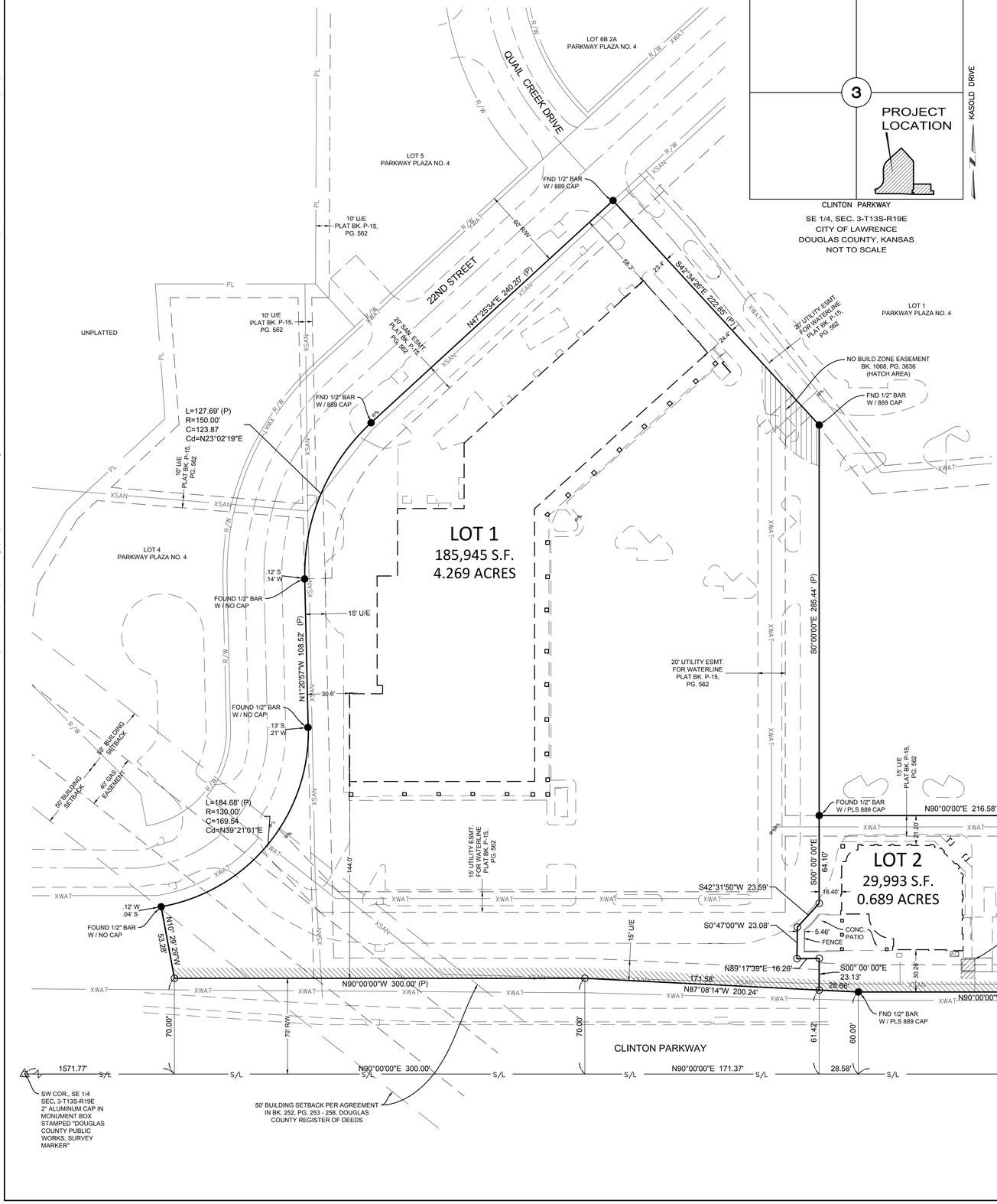
Criteria 3: The public health, safety, and welfare will be protected.

Staff Finding: As there are no plans to improve Clinton Parkway in this area, the variance will not affect the public health, safety, or welfare.

Staff Recommendation:
Approve the variance requested from Section 20-810(e)(5) from the requirement to dedicate additional right-of-way for Clinton Parkway adjacent to Lots 1 and 2, Parkway Plaza No. 5 subject to the following condition:

> The plat shall be revised to include the following note: *"On October 22, 2012, the Planning Commission approved a variance from the requirement in Section 20-810(e)(5) to dedicate 150 ft of right-of-way for principal arterials to allow the right-of-way for Clinton Parkway to remain as shown on this plat."*

FILE NAME: P:\2011\235\CAD\Planning\FP\112350-MSR.dwg LAST SAVED BY: Brian Sturm SAVED DATE: 10/15/2012 2:06 PM PLOTTED: 10/15/2012 2:07 PM



LOCATION MAP:

SE 1/4, SEC. 3-T13S-R19E
CITY OF LAWRENCE
DOUGLAS COUNTY, KANSAS
NOT TO SCALE

MONUMENTATION:

- ○ SET 1/2" x 24" REBAR W/ "PLS 889" CAP
- ● FOUND 1/2"BAR, AS NOTED
- (P) PLATTED

LEGEND:

ACCESS PROHIBITED

NOTES:

ERROR OF CLOSURE: 1: 11,641,870

BASIS OF BEARINGS ARE FROM THE FINAL PLAT OF PARKWAY PLAZA NO.4 AND A LOT SPLIT FOR LOT 2, PARKWAY PLAZA NO. 4.

POINTS SHOWN ARE CALCULATED FROM SURVEYED MEASUREMENTS UNLESS OTHERWISE SHOWN.

NO ADDITIONAL ACCESS SHALL BE ALLOWED ALONG CLINTON PARKWAY.

LOTS ARE ELIGIBLE ONLY ONE TIME FOR APPROVAL OF A DIVISION OR CONSOLIDATION THROUGH THE MINOR SUBDIVION/REPLAT PROCESS. THIS MINOR SUBDIVISION ADJUSTS THE BOUNDARY LINES BETWEEN TWO LOTS AND IS NOT CREATING THE DIVISION OR CONSOLIDATION OF LOTS; THEREFORE, IT DOES NOT COUNT TOWARD THIS LIMITATION.

CERTIFICATION:

I HEREBY CERTIFY THAT THE PLATTED AREA AND THE LOCATION MAP SHOWN HEREON ARE THE RESULTS OF A FIELD SURVEY PERFORMED UNDER MY DIRECT SUPERVISION IN THE MONTH OF JUNE, 2012. THIS SURVEY CONFORMS TO THE KANSAS MINIMUM STANDARDS FOR BOUNDARY SURVEYS.

BRAD C. ZILLIOX LICENSED PLS-889 KANSAS AND SURVEYOR

BRAD C. ZILLIOX, P.L.S. #889
1310 WAKARUSA DRIVE, SUITE 100
LAWRENCE, KS 66049
785.843.7530

SCALE: 1" = 40'

40 20 0 40 80

LEGAL DESCRIPTION

LOT 3 AND LOT 2B, PARKWAY PLAZA NO. 4, A REPLAT OF PARKWAY PLAZA NO. 3 AND A PORTION OF LOT 88, ALVAMAR ESTATES IN THE CITY OF LAWRENCE, DOUGLAS COUNTY, KANSAS.

DEDICATION:

BE IT KNOWN TO ALL MEN THAT I (WE), THE UNDERSIGNED OWNER(S) OF THE ABOVE DESCRIBED TRACT OF LAND, HAVE HAD CAUSE FOR THE SAME TO BE SURVEYED AND PLATTED AS A MINOR SUBDIVISION UNDER THE NAME OF "PARKWAY PLAZA NO. 5" AND HAVE CAUSED THE SAME TO BE SUBDIVIDED IN TO LOT(S) AND STREETS AS SHOWN AND FULLY DEFINED ON THIS PLAT.

OWNERS OF LOT 1

JAMES G. HRUSKA

LORI L. TOREN

FALGERS, INC.
JAMES G. HRUSKA, PRESIDENT

OWNER OF LOT 2

LLEWELLYN LAND, LLC
MATTHEW P. LLEWELLYN, MEMBER

ACKNOWLEDGEMENT:

STATE OF NEBRASKA
COUNTY OF LANCASTER

BE IT REMEMBERED THAT ON THIS ___ DAY OF _____, 2012, BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC, IN AND FOR SAID COUNTY AND STATE, CAME JAMES G. HRUSKA AND LORI L. TOREN WHO IS (ARE) PERSONALLY KNOWN TO ME TO BE THE SAME PERSON(S) WHO EXECUTED THE FOREGOING INSTRUMENT OF WRITING AND DULY ACKNOWLEDGE THE EXECUTION OF THE SAME.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY SEAL ON THE DAY AND YEAR LAST WRITTEN ABOVE.

NOTARY PUBLIC — MY COMMISSION EXPIRES

STATE OF NEBRASKA
COUNTY OF LANCASTER

BE IT REMEMBERED THAT ON THIS ___ DAY OF _____, 2012, BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC, IN AND FOR SAID COUNTY AND STATE, CAME JAMES G. HRUSKA, PRESIDENT OF FALGERS, INC., WHO IS (ARE) PERSONALLY KNOWN TO ME TO BE THE SAME PERSON(S) WHO EXECUTED THE FOREGOING INSTRUMENT OF WRITING AND DULY ACKNOWLEDGE THE EXECUTION OF THE SAME.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY SEAL ON THE DAY AND YEAR LAST WRITTEN ABOVE.

NOTARY PUBLIC — MY COMMISSION EXPIRES

STATE OF KANSAS
COUNTY OF DOUGLAS

BE IT REMEMBERED THAT ON THIS ___ DAY OF _____, 2012, BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC, IN AND FOR SAID COUNTY AND STATE, CAME MATTHEW P. LLEWELLYN, A MEMBER OF LLEWELLYN LAND, LLC, WHO IS (ARE) PERSONALLY KNOWN TO ME TO BE THE SAME PERSON(S) WHO EXECUTED THE FOREGOING INSTRUMENT OF WRITING AND DULY ACKNOWLEDGE THE EXECUTION OF THE SAME.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY SEAL ON THE DAY AND YEAR LAST WRITTEN ABOVE.

NOTARY PUBLIC — MY COMMISSION EXPIRES

APPROVED AS A MINOR SUBDIVISION/REPLAT UNDER THE SUBDIVISION REGULATIONS OF THE CITY OF LAWRENCE AND THE UNINCORPORATED AREA OF DOUGLAS COUNTY

SCOTT McCULLOUGH — DATE
DIRECTOR, PLANNING & DEVELOPMENT SERVICES

ACCEPTANCE OF UTILITY EASEMENTS:

ROBERT J. SCHUMM — DATE
MAYOR

JONATHAN M. DOUGLASS — DATE
CITY CLERK

REVIEWED IN COMPLIANCE WITH K.S.A. 58-2005

MICHAEL D. KELLY, P.L.S. #869 — DATE
DOUGLAS COUNTY SURVEYOR

FILING RECORD:

STATE OF KANSAS
COUNTY OF DOUGLAS

THIS IS TO CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN THE OFFICE OF THE DOUGLAS COUNTY REGISTER OF DEEDS ON THIS DAY OF _____, 2012, AND IS DULY RECORDED AT _____ AM/PM, IN PLAT BOOK _____ PAGE _____.

REGISTER OF DEEDS
KAY PESNELL

PARKWAY PLAZA NO.5

A MINOR SUBDIVISION REPLAT OF LOT 3 AND LOT 2B, PARKWAY PLAZA NO. 4, IN THE CITY OF LAWRENCE, DOUGLAS COUNTY, KANSAS

SE 1/4, SEC. 3–T13S–R19E

Memorandum
City of Lawrence
Planning & Development Services

TO: **Planning Commission**

FROM: **Mary Miller, Planning Staff**

CC: **Scott McCullough, Planning and Development Services Director**
Sheila Stogsdill, Assistant Planning Director

Date: **For October 22, 2012 meeting**

RE: Variance associated with Minor Subdivision for Meadow Hill (MS-12--00193) from the 80 ft right-of-way requirement in Section 20-810(e)(5) for collector streets.

Attachment A: Minor Subdivision 12-00193, Meadow Hill

The Minor Subdivision for Meadow Hill (MS-12-00193) will combine three lots into two lots by dividing the center lot in half and combining the north half with the adjacent lot to the north and combining the south half with the adjacent lot to the south. Minor Subdivisions are processed administratively but Planning Commission approval is required for variances from the Subdivision Design Standards. A copy of the Minor Subdivision is included with this memo for context; however, no action is required on the Minor Subdivision. The change being achieved with this minor subdivision is shown in Figure 1.

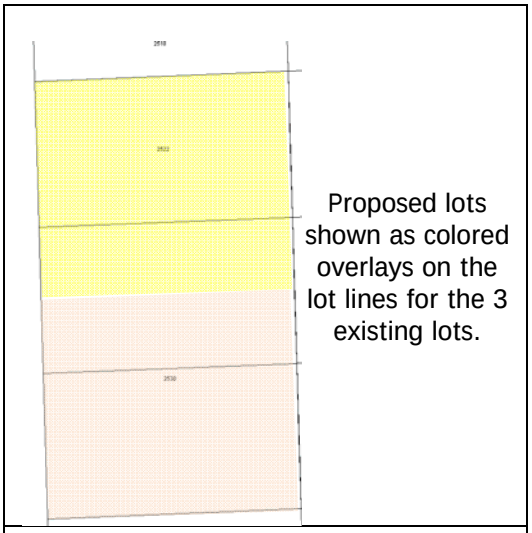


Figure 1. Proposed change with Meadow Hill Minor Subdivision

The subject properties are located at 2522 and 2530 Alabama Street. Alabama Street is classified as a collector street on the Major Thoroughfares Map. Per Section 20-810(e)(5) of the Subdivision Regulations collector streets require 80 ft of right-of-way. The applicant is requesting a variance from this requirement for the property being replatted as Lots 1 and 2, Meadow Hill.

Currently 60 ft of right-of-way is available for Alabama Street. This right-of-way is consistent from 23rd Street to the terminus of Alabama Street to the south. (Figure 2) The Subdivision Regulations state that an applicant may request a variance from the Design Standards in the Regulations in accordance with the variance procedures outlined in Section 20-813(g). This section lists the criteria which must be met in order for a variance to be approved. The requested variance is evaluated with the approval criteria below:

Criteria 1. Strict application of these regulations will create an unnecessary hardship upon the Subdivider.

No new development is being proposed at this time. The Minor Subdivision will divide one central lot between the 2 adjacent lots. It will not result in an increase in density in the area, but will increase the area of the 2 existing lots. The City Engineer indicated that he had no objection to the variance request as the area is fully developed and there are no plans to widen Alabama Street in this area.

Staff Finding: Requiring the dedication of additional right-of-way for Alabama Street at this time would constitute an unnecessary hardship on the property owner as the right-of-way is not necessary.

Criteria 2. The proposed variance is in harmony with the intended purpose of these regulations.

Right-of-way dedication is required when properties are platted to insure the required right-of-way is available for improvements to adjacent roadways.

The City Engineer indicated that the right-of-way currently dedicated for Alabama Street in this area is adequate and there are no plans to widen the street in the near future.

Staff Finding: The variance will allow the lot combination to occur without requiring the dedication of additional right-of-way. Adequate right-of-way is available for Alabama Street.

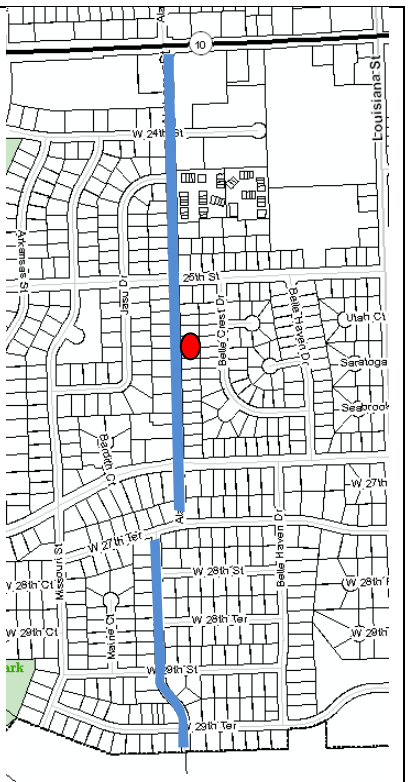


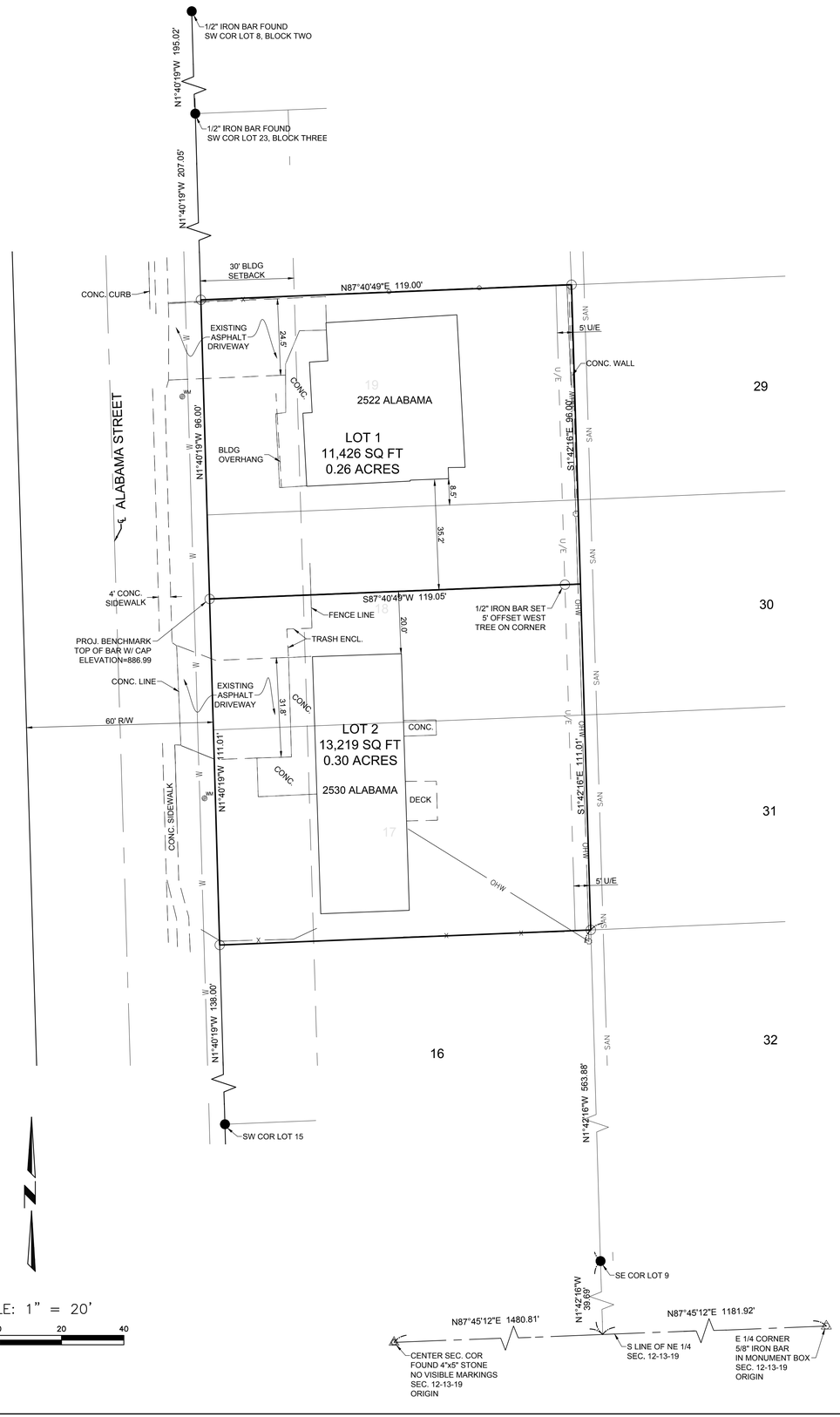
Figure 2. Alabama Street right-of-way south of W 23rd Street. (Subject property marked in red)

Criteria 3: The public health, safety, and welfare will be protected.

Staff Finding: As there are no plans to improve Alabama Street in this area, the variance will not affect the public health, safety, or welfare.

Staff Recommendation:
Approve the variance requested from Section 20-810(e)(5) from the requirement to dedicate additional right-of-way for Alabama Street adjacent to Lots 1 and 2, Meadow Hill subject to the following condition:

> The plat shall be revised to include the following note: *"On October 22, 2012, the Planning Commission approved a variance from right-of-way requirements in Section 20-810(e)(5) of the Subdivision Regulations to allow the replatting of this property with the 60 ft of right-of-way currently provided for Alabama Street."*



MEADOW HILL

A MINOR SUBDIVISION REPLAT OF LOTS 17, 18 AND 19, BLOCK 3, BELLE HAVEN SOUTH ADDITION NO. 2
A SUBDIVISION IN THE CITY OF LAWRENCE, DOUGLAS COUNTY, KANSAS
NE 1/4, SEC. 12–T13S–R19E

LEGAL DESCRIPTION:

A REPLAT OF LOTS 17, 18 AND 19, BLOCK THREE OF BELLE HAVEN SOUTH ADDITION NO. 2, A SUBDIVISION IN THE CITY OF LAWRENCE, DOUGLAS COUNTY, KANSAS.

LEGEND:

- CENTERLINE
- FENCELINE
- PROPERTY LINE
- U/E — UTILITY EASEMENT
- OHW — OVERHEAD WIRE
- CHAINLINK FENCE
- SAN — SANITARY SEWER LINE
- W — WATER LINE
- UTILITY POLE
- WATER METER

MONUMENTATION:

- SET 1/2" X 24" REBAR W/ 889 CAP
- FOUND 1/2" IRON BAR W/ NO CAP - ORIGIN UNKNOWN
- SECTION CORNER FOUND AS NOTED

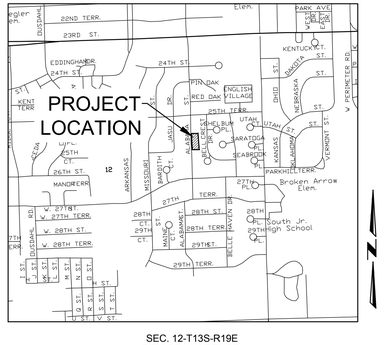
SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY THAT THE ABOVE IS THE FINDINGS OF A SURVEY PERFORMED UNDER MY DIRECT SUPERVISION ON AUG 9, 2012. THIS SURVEY CONFORMS TO THE KANSAS MINIMUM STANDARDS FOR BOUNDARY SURVEYS. THE SURVEY DOES NOT CERTIFY OWNERSHIP OR EASEMENTS, NOR SHALL IT BE CONSTRUED TO CERTIFY THAT GOVERNING SETBACK REQUIREMENTS, BUILDING CODES, SUBDIVISION REGULATIONS OR ZONING ORDINANCES WILL BE MET NOW OR AT ANY TIME HENCEFORTH.

BRAD C. ZILLIOX LICENSED PLS-889 KANSAS LAND SURVEYOR

BRAD C. ZILLIOX, PLS #889
LANDPLAN ENGINEERING, P.A.
1310 WAKARUSA DRIVE
LAWRENCE, KS 66049
785-843-7530

LOCATION MAP:



SEC. 12-T13S-R19E
CITY OF LAWRENCE
DOUGLAS COUNTY, KANSAS
NOT TO SCALE

NOTES:

1. FURTHER DIVISION OR CONSOLIDATION OF ANY LOTS CONTAINED IN THIS MINOR SUBDIVISION/REPLAT IS PROHIBITED, AND SHALL BE PROCESSED AS A MAJOR SUBDIVISION, UNLESS THE ACTION MEETS THE EXCEPTION NOTED IN SECTION 11-108(c)(5)(i) TO 20-808(c)(5)(i).
2. THE PROPERTY WITHIN THIS MINOR SUBDIVISION/REPLAT IS ZONED RS-7. ALL NEW CONSTRUCTION SHALL CONFORM TO THE SETBACK REGULATIONS OF THE RS-7 ZONED DISTRICT AS DEFINED BY THE CITY OF LAWRENCE DEVELOPMENT CODE.

BASIS OF BEARINGS: NAD 83

DEDICATION:

BE IT KNOWN TO ALL MEN THAT I (WE), THE UNDERSIGNED OWNER(S) OF THE ABOVE DESCRIBED TRACT OF LAND, HAVE HAD CAUSE FOR THE SAME TO BE SURVEYED AND PLATTED AS A MINOR SUBDIVISION UNDER THE NAME OF "MEADOW HILL" AND HAVE CAUSED HE SAME TO BE SUBDIVIDED INTO LOTS(S) AND STREETS AS SHOWN AND FULLY DEFINED ON THIS PLAT.

KENNITH A. TEICHMANN
OWNER, LOT 1

MALOTUTASI ETEUINI
OWNER, LOT 2

RAVAE McDOWELL ETEUINI
OWNER, LOT 2

ACKNOWLEDGEMENTS:

STATE OF KANSAS
COUNTY OF DOUGLAS

BE IT REMEMBERED THAT ON THIS _____ DAY OF _____, 2012, BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC, IN AND FOR SAID COUNTY AND STATE, CAME KENNITH A. TEICHMANN, MALOTUTASI ETEUINI AND RAVAE McDOWELL ETEUINI WHO IS/ARE PERSONALLY KNOWN TO ME TO BE THE SAME PERSON(S) WHO EXECUTED THE FOREGOING INSTRUMENT OF WRITING AND DULY ACKNOWLEDGE THE EXECUTION OF THE SAME. IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY SEAL ON THE DAY AND YEAR LAST WRITTEN ABOVE.

NOTARY PUBLIC — MY COMMISSION EXPIRES

ENDORSEMENTS:

APPROVED AS A MINOR SUBDIVISION UNDER THE SUBDIVISION REGULATIONS OF THE CITY OF LAWRENCE AND THE UNINCORPORATED AREA OF DOUGLAS COUNTY:

SCOTT McCULLOUGH — DATE
PLANNING DIRECTOR

REVIEWED IN COMPLIANCE
WITH K.S.A. 58-2005

MICHAEL D. KELLY P.L.S. #869 — DATE
DOUGLAS COUNTY SURVEYOR

FILING RECORD:

STATE OF KANSAS
COUNTY OF DOUGLAS

THIS IS TO CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN THE OFFICE OF THE DOUGLAS COUNTY REGISTER OF DEEDS ON THIS _____ DAY OF _____, 2012, AND IS DULY RECORDED AT _____ AM (PM), IN PLAT BOOK _____, PAGE _____.

REGISTER OF DEEDS
KAY PESNELL

MEADOW HILL

A MINOR SUBDIVISION REPLAT OF LOTS 17, 18 AND 19, BLOCK 3, BELLE HAVEN SOUTH ADDITION NO. 2, A SUBDIVISION IN THE CITY OF LAWRENCE, DOUGLAS COUNTY, KANSAS
NE 1/4, SEC. 12–T13S–R19E

FILE NAME: Q:\2012\12172\CAD\Planning\FP\12172-MSR.dwg LAST SAVED BY: Ryne Jackson SAVED DATE: 10/11/2012 2:00 PM PLOTTED: 10/11/2012 2:01 PM
Q:\2012\12172\CAD\Planning\FP\12172-MSR.dwg, 24x36 20 SCALE MSR, 10/11/2012 2:01:24 PM

PLANNING COMMISSION REPORT
Regular Agenda – Public Hearing Item

PC Staff Report
10/24/12

ITEM NO. 7: IG TO RS7; .3 acres; 513 N 7th Street (DDW)

Z-12-00194: Consider a request to rezone approximately .3 acres, from IG (General Industrial) District to RS7 (Single-Dwelling Residential) District, located at 513 N 7th Street. Stephen R. Spacek, property owner of record. Initiated by the Lawrence-Douglas County Planning Commission on May 25, 2011.

STAFF RECOMMENDATION: Staff recommends approval of the rezoning request for approximately .3 acres, from IG (General Industrial) District to RS7 (Single-Dwelling Residential) District and forwarding it to the City Commission with a recommendation for approval based on the findings of fact found in the body of the staff report.

KEY POINTS

- The intent of the applicant is to rezone the property to RS7 to make it a conforming use.
- The property is platted.
- A portion of the property is located within the AE, 100 Year Flood Zone as of August 5, 2010.
- The properties immediately south of the subject property (525 and 527 N 7th Street) were rezoned from the IG District to the RS5 District in 2011.
- The property at 529 N 7th Street is also being proposed for rezoning from the IG District to the RS7 District (Z-12-00196).

GOLDEN FACTORS TO CONSIDER

CHARACTER OF THE AREA

- The surrounding area is developed with a mixture of residential and nonresidential land uses. The immediate area surrounding the property is developed with single-family uses to the north, south, and east. There is a residential use on a large lot west of the subject proprety with industrial uses located farther west.

CONFORMANCE WITH *HORIZON 2020*

- The proposed rezoning request from IG (General Industrial) District to RS7 (Single-Dwelling Residential) District is consistent with land use recommendations found in *Horizon 2020.*

ASSOCIATED CASES/OTHER ACTION REQUIRED

- City Commission approval of the rezoning request and publication of ordinance.

PUBLIC COMMENT RECEIVED PRIOR TO PRINTING

- No written comments received prior to the publishing of this staff report.

Project Summary
The subject parcel has been a single-family use since approximately 1945. The industrial zoning and the legal non-conforming status may make it difficult to insure, refinance or sell the property in the future. The zoning change to single-dwelling residential district reflects the actual use of the property and makes the use conforming under the Land Development Code.

GENERAL INFORMATION

Current Zoning and Land Use:	IG (General Industrial) District; single-family residence.
Surrounding Zoning and Land Use:	To the north: -- IG (General Industrial) District; vacant/parking.
	To the east: IG (General Industrial) District; single family homes and vacant land.
	To the south: RS5 (Single-Dwelling Residential) District; residence.
	To the west: IG (General Industrial) District; single family home on a large lot.

REVIEW & DECISION-MAKING CRITERIA

1. CONFORMANCE WITH THE COMPREHENSIVE PLAN

The following section of *Horizon 2020* relates to this rezoning request (staff comments are in italics):

Chapter 5 – Residential Land Use:
Goal 3: Neighborhood Conservation:
The character and appearance of existing low-density residential neighborhoods should be protected and improvements made where necessary to maintain the values of property and enhance the quality of life. (Page 5-15)

Rezoning the property to RS7 would be in conformance with the Neighborhood Conservation goal in Horizon 2020.

Policy 3.2: Protect Existing Housing Stock:
(b) Preserve existing dwellings. (Page 5-15)

Staff Finding -- The proposed rezoning request conforms with *Horizon 2020* goals and policies related to neighborhood conservation.

2. ZONING AND LAND USES OF NEARBY PROPERTY, INCLUDING OVERLAY ZONING

Staff Finding -- The area contains a mixture of residential, nonresidential, and vacant land uses. Single-family residences are located south, east and west of the property on IG zoned property. Industrial businesses are located further west of the subject property, also on IG zoned property.

Much of the area is encumbered by the regulatory floodplain.

3. CHARACTER OF THE AREA

The immediate character of the area is most recognizable as residential with single-family homes on individual lots. The subject property abuts other single-family homes.

Staff Finding – The area contains a mixture of residential and nonresidential uses, but the immediate area is primarily single-family residential uses.

4. PLANS FOR THE AREA OR NEIGHBORHOOD, AS REFLECTED IN ADOPTED AREA AND/OR SECTOR PLANS INCLUDING THE PROPERTY OR ADJOINING PROPERTY

Horizon 2020 identifies future plans for the general area as appropriate for low density residential uses. A neighborhood plan was completed for North Lawrence in 1981 and an area wide drainage study was completed in January 2006.

In **Chapter 3** of the North Lawrence Neighborhood Plan, **General Goal C.** is *"To solicit and encourage the participation of North Lawrence residents and property owners in the planning, development, and maintenance of the neighborhood".* The property owner has initiated this rezoning which will help to maintain the residential character of the neighborhood.

In the same chapter, Residential Objective B. states: "Encourage the preservation of the structurally sound older housing stock".

Other goals and objectives listed in the North Lawrence Neighborhood Plan also support this application.

Staff Finding – Approval of the request is consistent with land use plans for the area.

5. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED UNDER THE EXISTING ZONING REGULATIONS

The subject property is currently zoned for industrial uses. According to the Land Development Code for the City of Lawrence, the purpose of the IG (General Industrial) District is: "*primarily intended to* accommodate *moderate- and high-impact industrial uses, including large scale or specialized industrial operations requiring good transportation Access and public facilities and services. The District is generally incompatible with residential areas and low-intensity commercial areas."*

This part of North Lawrence was platted with small lots which do not easily support industrial land uses. Further, the current zoning does not reflect the existing land use. The property contains an existing single-family dwelling. The property is also adjacent to single-family dwellings.

Staff Finding – The subject property is not suitably zoned given the existing use of the property and the surrounding residential land use.

6. LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED

Staff Finding – The subject property is zoned IG and has been developed as a residential use since approximately 1945.

7. EXTENT TO WHICH REMOVAL OF RESTRICTIONS WILL DETRIMENTALLY AFFECT NEARBY PROPERTIES

Approval of the proposed request will result in a reduction of allowed uses and increase the number of properties zoned RS7 within the overall neighborhood area, which restricts land use to single-family homes on individual lots. Nearby property will not be directly affected. If approved, redevelopment of abutting lots with nonresidential zoning may be required to address screening of residential lots in the future. The uses to the north, south, and east include similar existing single-family homes. The area to the west includes a large lot resiential use and industrial uses farther west.

Staff Finding – The impact on nearby property is one of perspective given the surrounding residential uses. Approval of the proposed change would be beneficial for those properties currently used for single-family housing in the immediate area. The proposed change provides the ability to obtain reasonable home insurance and will act as protection against encroachment of non-residential activities in the immediate area. Regulations added as a result of this rezoning would include the review and regulations applicable to any parcels used as rental housing.

8. THE GAIN, IF ANY, TO THE PUBLIC HEALTH, SAFETY AND WELFARE DUE TO THE DENIAL OF THE APPLICATION, AS COMPARED TO THE HARDSHIP IMPOSED UPON THE LANDOWNER, IF ANY, AS A RESULT OF DENIAL OF THE APPLICATION

Evaluation of these criteria includes weighing the benefits to the public versus the benefits of the owner of the subject property. Benefits are measured based on the anticipated impacts of the rezoning request on the public health, safety and welfare.

If the rezoning were denied, the property would remain non-conforming as zoned for industrial uses. As the property has a very long history as a single family use and the immediate surrounding area is predominately single-family homes, encroachment of industrial development allowed by the current zoning would not be appropriate. The residential zoning will insure that the property will remain a single family home, which will minimize any negative impacts on the neighborhood that could occur with potential industrial uses.

Staff Finding – There would be no gain to the public and there would be a hardship to the landowner in the denial of the rezoning request. The rezoning request will assign an appropriate land use designation to the property for its current and intended land use as a single family home.

9. PROFESSIONAL STAFF RECOMMENDATION

Staff recommends approval of the rezoning to the RS7 District as it is an appropriate zoning district for the subject property. The single-family zoning district matches the existing, and long-term, use of the property. Therefore, this is an appropriate zoning district for the property.

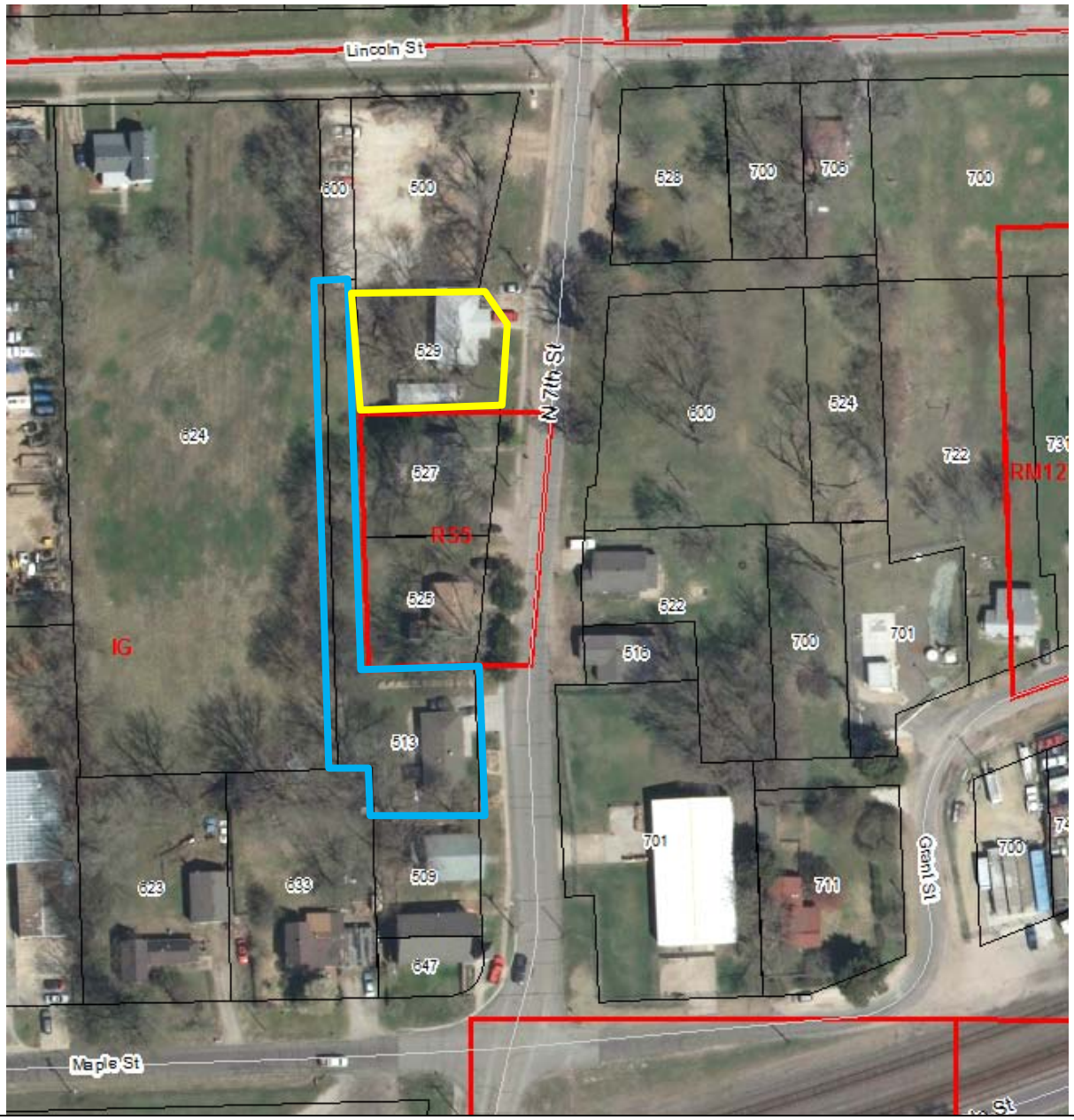
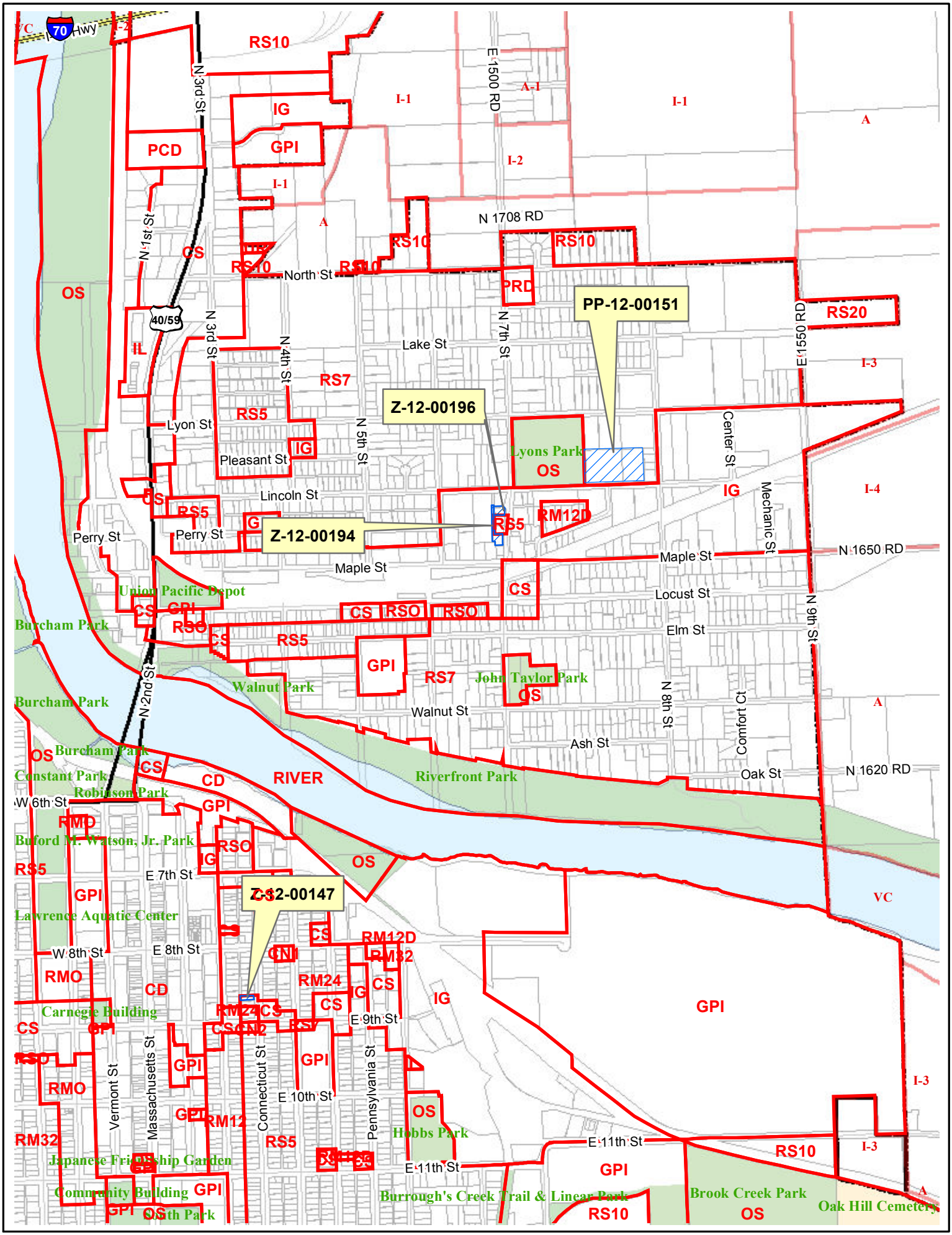


Figure 1. Base Zoning Districts in nearby area. The boundary of the property which is the subject of this rezoning request is outlined in blue. The property outlined in yellow is also proposed for rezoning (Z-12-00196).


PP-12-00151
Z-12-00196
Z-12-00194
Z-12-00147
RS10
I-1
I-2
A-1
A
IG
PCD
GPI
CS
OS
IL
RS7
RS5
RS20
I-3
I-4
RM12D
RM32
RM24
RM12
RMO
CD
RSO
CN1
CN2
PRD
Lyons Park
Burcham Park
Walnut Park
John Taylor Park
Riverfront Park
Constant Park
Robinson Park
Buford M. Watson, Jr. Park
Lawrence Aquatic Center
Carnegie Building
Hobbs Park
Japanese Friendship Garden
Community Building
Burrough's Creek Trail & Linear Park
Brook Creek Park
Oak Hill Cemetery
Union Pacific Depot
RIVER
VC
N 1708 RD
E 1500 RD
E 1550 RD
N 1650 RD
N 1620 RD
N 1st St
N 2nd St
N 3rd St
N 4th St
N 5th St
N 7th St
N 8th St
N 9th St
Center St
Mechanic St
Comfort Ct
Vermont St
Massachusetts St
Connecticut St
Pennsylvania St
North St
Lake St
Lyon St
Pleasant St
Lincoln St
Perry St
Maple St
Locust St
Elm St
Walnut St
Ash St
Oak St
W 6th St
E 7th St
W 8th St
E 8th St
E 9th St
E 10th St
E 11th St
40/59
70
Hwy

PLANNING COMMISSION REPORT
Regular Agenda – Public Hearing Item

PC Staff Report
10/24/12

ITEM NO. 8: IG TO RS7; .3 acres; 529 N 7th Street (DDW)

Z-12-00196: Consider a request to rezone approximately .18 acres, from IG (General Industrial) District to RS7 (Single-Dwelling Residential) District, located at 529 N 7th Street. Charles and Sandra Elms, property owners of record. Initiated by the Lawrence-Douglas County Planning Commission on May 25, 2011.

STAFF RECOMMENDATION: Staff recommends approval of the rezoning request for approximately .18 acres, from IG (General Industrial) District to RS7 (Single-Dwelling Residential) District and forwarding it to the City Commission with a recommendation for approval based on the findings of fact found in the body of the staff report.

KEY POINTS

- The intent of the applicant is to rezone the property to RS7 to make it a conforming use.
- The property is platted.
- The property is located within the AE, 100 Year Flood Zone as of August 5, 2010.
- The properties immediately north of the subject property (525 and 527 N 7th Street) were rezoned from the IG District to the RS5 District in 2011.
- The property at 513 N 7th Street is also being proposed for rezoning from the IG District to the RS7 District (Z-12-00194).

GOLDEN FACTORS TO CONSIDER

CHARACTER OF THE AREA

- The surrounding area is developed with a mixture of residential and nonresidential land uses. The immediate area surrounding the property is developed with single-family uses to the north, south, and east. There is a residential use on a large lot west of the subject proprety with industrial uses located farther west.

CONFORMANCE WITH *HORIZON 2020*

- The proposed rezoning request from IG (General Industrial) District to RS7 (Single-Dwelling Residential) District is consistent with land use recommendations found in *Horizon 2020.*

ASSOCIATED CASES/OTHER ACTION REQUIRED

- City Commission approval of the rezoning request and publication of ordinance.

PUBLIC COMMENT RECEIVED PRIOR TO PRINTING

- No written comments received prior to the publishing of this staff report.

Project Summary
The subject parcel has been a single-family use since approximately 1996. The industrial zoning and the legal non-conforming status may make it difficult to insure, refinance or sell the property in the future. The zoning change to single-dwelling residential district reflects the actual use of the property and makes the use conforming under the Land Development Code.

GENERAL INFORMATION

Current Zoning and Land Use:	IG (General Industrial) District; single-family residence.
Surrounding Zoning and Land Use:	To the north: -- RS5 (Single-Dwelling Residential) District; single family home.
	To the east: IG (General Industrial) District; single family home and industrial building.
	To the south: IG (General Industrial) District; church.
	To the west: IG (General Industrial) District; single family home on a large lot.

REVIEW & DECISION-MAKING CRITERIA

1. CONFORMANCE WITH THE COMPREHENSIVE PLAN

The following section of *Horizon 2020* relates to this rezoning request (staff comments are in italics):

Chapter 5 – Residential Land Use:
Goal 3: Neighborhood Conservation:
The character and appearance of existing low-density residential neighborhoods should be protected and improvements made where necessary to maintain the values of property and enhance the quality of life. (Page 5-15)

Rezoning the property to RS7 would be in conformance with the Neighborhood Conservation goal in Horizon 2020.

Policy 3.2: Protect Existing Housing Stock:
(b) Preserve existing dwellings. (Page 5-15)

Staff Finding -- The proposed rezoning request conforms with *Horizon 2020* goals and policies related to neighborhood conservation.

2. ZONING AND LAND USES OF NEARBY PROPERTY, INCLUDING OVERLAY ZONING

Staff Finding -- The area contains a mixture of residential, nonresidential, and vacant land uses. Single-family residences are located north, south, east and west of the property on IG

zoned property. Industrial businesses are located further west of the subject property, also on IG zoned property.

Much of the area is encumbered by the regulatory floodplain.

3. CHARACTER OF THE AREA

The immediate character of the area is most recognizable as residential with single-family homes on individual lots. The subject property abuts other single-family homes.

Staff Finding – The area contains a mixture of residential and nonresidential uses, but the immediate area is primarily single-family residential uses.

4. PLANS FOR THE AREA OR NEIGHBORHOOD, AS REFLECTED IN ADOPTED AREA AND/OR SECTOR PLANS INCLUDING THE PROPERTY OR ADJOINING PROPERTY

Horizon 2020 identifies future plans for the general area as appropriate for low density residential uses. A neighborhood plan was completed for North Lawrence in 1981 and an area wide drainage study was completed in January 2006.

In **Chapter 3** of the North Lawrence Neighborhood Plan, **General Goal C.** is *"To solicit and encourage the participation of North Lawrence residents and property owners in the planning, development, and maintenance of the neighborhood".* The property owner has initiated this rezoning which will help to maintain the residential character of the neighborhood.

In the same chapter, Residential Objective B. states: "Encourage the preservation of the structurally sound older housing stock".

Other goals and objectives listed in the North Lawrence Neighborhood Plan also support this application.

Staff Finding – Approval of the request is consistent with land use plans for the area.

5. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED UNDER THE EXISTING ZONING REGULATIONS

The subject property is currently zoned for industrial uses. According to the Land Development Code for the City of Lawrence, the purpose of the IG (General Industrial) District is: "*primarily intended to* accommodate *moderate- and high-impact industrial uses, including large scale or specialized industrial operations requiring good transportation Access and public facilities and services. The District is generally incompatible with residential areas and low-intensity commercial areas."*

This part of North Lawrence was platted with small lots which do not easily support industrial land uses. Further, the current zoning does not reflect the existing land use. The property contains an existing single-family dwelling. The property is also adjacent to single-family dwellings.

Staff Finding – The subject property is not suitably zoned given the existing use of the property and the surrounding residential land use.

6. LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED

Staff Finding – The subject property is zoned IG and has been developed as a residential use since approximately 1996.

7. EXTENT TO WHICH REMOVAL OF RESTRICTIONS WILL DETRIMENTALLY AFFECT NEARBY PROPERTIES

Approval of the proposed request will result in a reduction of allowed uses and increase the number of properties zoned RS7 within the overall neighborhood area, which restricts land use to single-family homes on individual lots. Nearby property will not be directly affected. If approved, redevelopment of abutting lots with nonresidential zoning may be required to address screening of residential lots in the future. The uses to the north, south, and east include similar existing single-family homes. The area to the west includes a large lot resiential use and industrial uses farther west.

Staff Finding – The impact on nearby property is one of perspective given the surrounding residential uses. Approval of the proposed change would be beneficial for those properties currently used for single-family housing in the immediate area. The proposed change provides the ability to obtain reasonable home insurance and will act as protection against encroachment of non-residential activities in the immediate area. Regulations added as a result of this rezoning would include the review and regulations applicable to any parcels used as rental housing.

8. THE GAIN, IF ANY, TO THE PUBLIC HEALTH, SAFETY AND WELFARE DUE TO THE DENIAL OF THE APPLICATION, AS COMPARED TO THE HARDSHIP IMPOSED UPON THE LANDOWNER, IF ANY, AS A RESULT OF DENIAL OF THE APPLICATION

Evaluation of these criteria includes weighing the benefits to the public versus the benefits of the owner of the subject property. Benefits are measured based on the anticipated impacts of the rezoning request on the public health, safety and welfare.

If the rezoning were denied, the property would remain non-conforming as zoned for industrial uses. As the property has a very long history as a single family use and the immediate surrounding area is predominately single-family homes, encroachment of industrial development allowed by the current zoning would not be appropriate. The residential zoning will insure that the property will remain a single family home, which will minimize any negative impacts on the neighborhood that could occur with potential industrial uses.

Staff Finding – There would be no gain to the public and there would be a hardship to the landowner in the denial of the rezoning request. The rezoning request will assign an appropriate land use designation to the property for its current and intended land use as a single family home.

9. PROFESSIONAL STAFF RECOMMENDATION

Staff recommends approval of the rezoning to the RS7 District as it is an appropriate zoning district for the subject property. The single-family zoning district matches the existing, and long-term, use of the property. Therefore, this is an appropriate zoning district for the property.

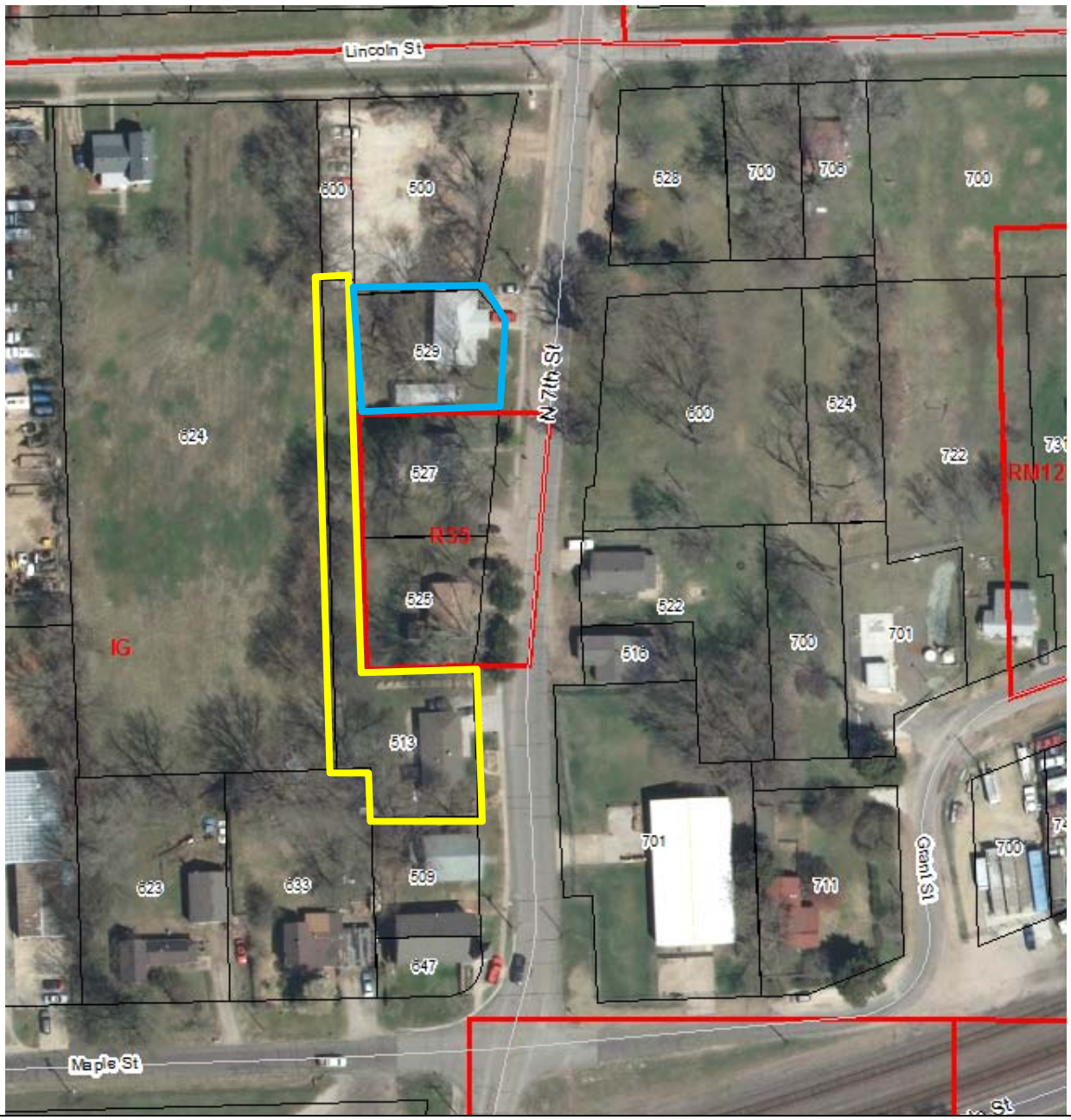


Figure 1. Base Zoning Districts in nearby area. The boundary of the property which is the subject of this rezoning request is outlined in blue. The property outlined in yellow is also proposed for rezoning (Z-12-00194).

Memorandum
City of Lawrence
Douglas County
Planning and Development Services

TO: **Lawrence-Douglas County Planning Commission**

FROM: **Amy Miller, Long-Range Planner**

CC: **Scott McCullough, Planning and Development Services Director**
Sheila Stogsdill, Assistant Director, Planning and Development Services Director

Date: **October 24, 2012**

RE: **Remand of CPA-4-2-12, TA-4-3-12, Z-4-5-12 (CC600 proposal for the northwest corner of 6th Street and K-10)**

Background:

The city commission initiated the following items on April 10, 2012 under a proposal where 50 acres of land was to be donated to the City at the northwest corner of the 6th and K-10 node for the city and the University of Kansas to use for recreational facilities.

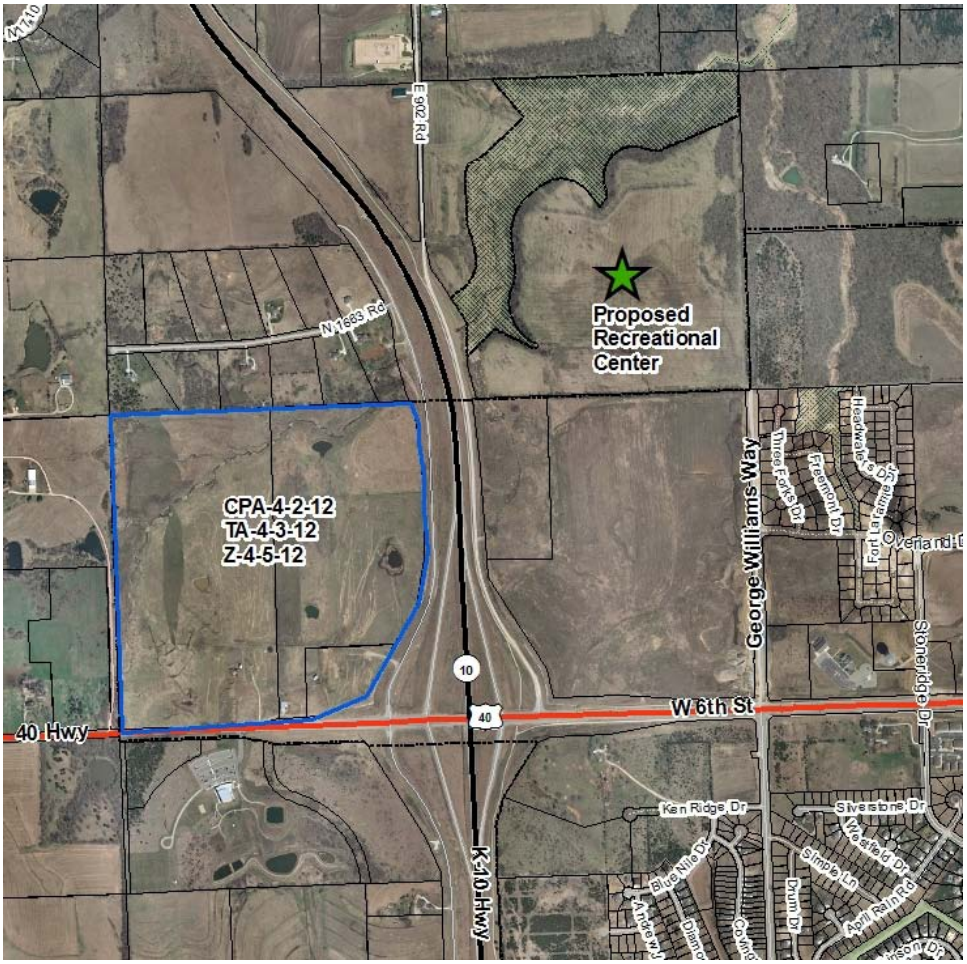
1. **CPA-4-2-12**: Consider a Comprehensive Plan Amendment to Chapter 6 of Horizon 2020 to create CC600 District policies and to Chapter 14 Specific Plans, to revise the West of K-10 Plan and A Nodal Plan for the Intersection of West 6th Street & Kansas Highway 10 (K-10) designating the node of 6th Street and K-10 as a CC600.

2. **TA-4-3-12**: Consider a text amendment to the City of Lawrence Land Development Code, Articles 1, 2 and 13, to provide for a CC600 (Community Commercial) District.

3. **Z-4-5-12**: Consider a request to rezone approximately 146 acres located in the NW quadrant of the intersection of West 6th Street/Hwy 40 and Kansas Hwy 10 (K-10) from County A (Agriculture) District and County B1 (Neighborhood Business) District to the pending district CC600 (Community Commercial) District to accommodate a regional recreation facility.

The Planning Commission forwarded a recommendation of approval (vote 7-1-1) of the above applications at their May 21, 2012 meeting. The Douglas County Board of County Commissioners voted to approve CPA-4-2-12 (vote 3-0) at their July 11, 2012 meeting.

The Lawrence City Commission deferred these items from the August 21, 2012 and the September 4, 2012 meeting. On September 17, 2012, KU Endowment submitted a letter the Lawrence City Commission regarding their purchase of land north of the northeast quadrant of the 6th and K-10 node with the purpose of locating athletic facilities on the site. In that letter, KU Endowment invited the city to locate their proposed recreational center on that site as well. At the September 18, 2012 City Commission meeting, the land use items related to the northwest corner of the node were withdrawn by the City Commission. The withdrawal was based, in part, on the fact that the proposed recreational center which was going to be located on the northwest corner of the 6th Street and K-10 node, was instead being planned for the northeast corner of the intersection and would not be located on the property that is the subject of these requests.



At the September 25, 2012 Lawrence City Commission meeting, the withdrawal was rescinded and these items were referred back to the Planning Commission for further consideration.

Discussion:

At the September 25, 2012 meeting, the Lawrence City Commission had a detailed discussion regarding their rationale for referring these items back to the Planning Commission for further consideration. In general, the City Commission wanted the Planning Commission to view these applications in light of the proposed recreational center moving to the east, and determine what may be appropriate for this portion of the node in that light. In addition, the Commissioners requested that the Planning Commission take a comprehensive look at the entire area, including the node, in order to provide an innovative idea that sets this area apart from other nodes in the city and addresses a need for the ancillary uses that will be necessary to support the considerably larger recreational center to the east.

Issues to consider:

1. The recreational center is no longer proposed to be in the 6th and K-10 node, but immediately adjacent and north of the northeast quadrant of the node.
2. The recreational center proposal has expanded to over 100 acres, will still be located in the vicinity, and is expected to drive some amount of commercial demand at the node.
3. Proposed CC600 policies outlined in CPA-4-2-12 may still be valid.
4. The proposed recreational center's location east of K-10 will change the timing of developing the area West of K-10.
5. Discussions at the May 21, 2012 Planning Commission meeting concluded that the proposed CC600 was a valid land use pattern compared to the existing Industrial/Warehouse/Office designation even if the recreational facilities did not end up locating at this node.

Options:

1. The Planning Commission, after considering the comments of the City Commission, may resubmit its original recommendations with its reasons for doing so. Those original recommendations were all for approval.
2. The Planning Commission may submit a new or amended recommendation.

In either case, staff has identified that some changes will need to be made to the CPA in order to remove references to the proposed recreational center being located on the northwest corner of the node.

Attachments:

Planning Commission Meeting Minutes May 21, 2012
City Commission Meeting Minutes September 4, 2012
City Commission Meeting Minutes September 18, 2012
City Commission Meeting Minutes September 25, 2012
Letter from KU dated September 17, 2012
Letter from Barber Emerson dated October 10, 2012
Transcript from City Commission Meeting September 25, 2012

Updated Correspondence since Planning Commission meeting (05/21/12)

ITEM NO. 5 COMPREHENSIVE PLAN AMENDMENT TO H2020 - CHP 6; CC600 DISTRICT (AAM)

CPA-4-2-12: Consider a Comprehensive Plan Amendment to Chapter 6 of Horizon 2020 to create CC600 District policies and to Chapter 14 Specific Plans, to revise the West of K-10 Plan and A Nodal Plan for the Intersection of West 6th Street & Kansas Highway 10 (K-10) designating the node of 6th Street and K-10 as a CC600. *Initiated by City Commission on 4/10/12.*

ITEM NO. 6 TEXT AMENDMENT TO THE LAND DEVELOPMENT CODE; AMENDING VARIOUS SECTIONS TO ADD A CC600 DISTRICT (SMS)

TA-4-3-12: Consider a text amendment to the City of Lawrence Land Development Code, Articles 1, 2 and 13, to provide for a CC600 (Community Commercial) District. *Initiated by City Commission on 4/10/12.*

ITEM NO. 7 A & B1 TO CC600; 146 ACRES; W 6TH ST & K-10 (MKM)

Z-4-5-12: Consider a request to rezone approximately 146 acres located in the NW quadrant of the intersection of West 6th Street/Hwy 40 and Kansas Hwy 10 (K-10) from County A (Agriculture) District and County B1 (Neighborhood Business) District to the pending district CC600 (Community Commercial) District to accommodate a regional recreation facility. *Initiated by City Commission on 4/10/12.*

STAFF PRESENTATION

Mr. Scott McCullough presented items 5, 6, and 7 together.

Commissioner Liese asked staff to address the League of Women Voters claim of serious procedural problems.

Mr. McCullough said there were no legal procedural issues. He said the value of the comment was to plan linearly. He stated in this case City Commission directed staff to build them a package with all the zoning tools for their consideration that could accommodate a recreation center at this location. He said staff believed it was fully appropriate to look at them concurrently. He said the Mayor contacted him about a half hour before this meeting and he was aware of some of the procedural questions and wanted him to convey to Planning Commission that during the May 15th City Commission meeting they discussed that when this package gets out of Planning Commission they are likely not to act on the zoning until they vet out and resolve other issues. He said City Commission had a broader scope than Planning Commission.

APPLICANT PRESENTATION

Mr. Dave Corliss, City Manager, said Planning Commissions decisions were land use related; specifically what types of uses would be allowed. He said the City had begun discussions with the property owner and a potential builder. He said they want to seek additional public input regarding what type of City building would be appropriate for the site. He said they scheduled a public meeting on June 6th to conduct that. He said the proposed grant was for a recreation use. He said they discussed with the KU Athletic Department regarding the potential use of the property and that they had not made any agreement with the City. He said one of the challenges with this is that the discussion to date has been that the builder indicated a willingness to put forward a project much larger than the City and KU can afford which presented a unique opportunity and challenge. He said the road improvements from Folks Road to K-10 were financed from a combination of City and K-10 funding and he would expect that discussion to continue for Hwy 40.

Commissioner Liese inquired about what City Commission has asked Planning Commission to do.

Mr. Corliss said Planning Commissions role was set out in statute. He said at the City level they did not plan on acting on the zoning request before they knew what they plan to do with the 50 acre donation.

Commissioner Liese said there would be a public meeting on June 6th. He wondered how the Planning Commission's decision tonight would relate to that.

Mr. Corliss said the public meeting was a comment/question period on June 6th in the commons area of Free State High School. He said they were trying to hear the pros and cons from the public regarding such things as hours, accessibility, etc.

Ms. Jane Eldredge, Barber Emerson, represented the property owner. She said the property owner had been in discussions with various members of City staff for months about this tract of land.

PUBLIC HEARING

Ms. Gwen Klingenberg, Lawrence Association of Neighborhoods, expressed concern about the process. She said CC600 could not be picked by the applicant until after approved and published. She felt the neighbors concerns should be addressed. She also felt the stream corridor should be protected. She said the traffic impact study was based on industrial not commercial.

Mr. Dave Reynolds said he was not here to argue against CC600 but wanted to discuss the recommended uses. He said it was a residential neighborhood and that it was low density. He said the plan calls for uses in the CC600 that would be compatible with the recreation uses. He felt the square footage should be restricted to 180,000 square feet max on the commercial side.

Mr. McCullough said Mercato accommodates and accounts for approximately 340,000 of what would be 600,000 of retail square feet. The northwest corner would account for approximately 180,000 square feet of retail space. He said that was not the limit of development on either one of those properties, it was just the retail.

Mr. Reynolds felt there should be a reasonable restriction of total amount of square footage allowed.
He inquired about utility major and utility minor and wondered if that meant a power plant or somewhere to pay a bill. He said the neighbors did not want a truck stop and felt there should be specific language addressing that. He said a normal filling station was fine but not a truck stop. He felt some of the allowed uses should be restricted or eliminated, such as communication facilities, recycle centers, hotels and motels.

Commissioner Finkeldei asked if there was currently a cellular tower on the site.

Mr. McCullough said yes, there was one at the location now.

Commissioner Finkeldei said regarding manufacturing limitations it was currently planned for light industrial so there could be a large manufacturing plant there. He asked if Mr. Reynolds wanted to limit the retail uses or would he prefer that to light industrial.

Mr. Reynolds said the recreation center would go right up against residential property with no buffer space. He wanted to limit the intensity so that it wouldn't impact the neighbors.

Ms. Melinda Henderson felt a small collection recycle facility would not be inappropriate and that an example would be something along the lines of the new Ripple glass containers. She encouraged recycling at the site.

Mr. Thomas Johnson expressed concern about the process moving forward too quickly. He requested the items be deferred until after the public meeting on June 6th and when additional information was available.

Mr. Kirk McClure, Old West Lawrence Neighborhood Association, felt more information was needed. He expressed concern about Lawrence being overbuilt. He felt the project should be approached with a smart growth mentality.

Mr. Ron Schneider, attorney for neighbors, disagreed that the procedural process was followed. He said it was illogical and illegal for a change of zone for a site when that zoning classification does not exist. He said the property could not be considered for change of zone because it was not within city boundaries yet. He asked Planning Commission to defer the items. He said there were far more questions than answers. He said the neighbors could not take a position when they did not know the details. He said there were concepts but no project to look at. He expressed concern with the nodal plan green space/buffer area.

APPLICANT CLOSING COMMENTS

Mr. Corliss said he couldn't think of a better buffer area than City owned property that would be used for recreation.

Commissioner Liese asked staff to address questions about the procedural process and if it was legitimate.

Mr. Randy Larkin, staff attorney, said there was nothing in State law or in City ordinances that would preclude Planning Commission from making a recommendation for property outside of City limits.

COMMISSION DISCUSSION

Commissioner Finkeldei asked if that was the same explanation for recommending a rezoning category that does not exist.

Mr. Larkin said that was correct.

Commissioner Finkeldei asked staff to follow up on the legal point of view.

Mr. McCullough said they do that with text amendments to create a new use and rezonings with specific project in mind. He said Planning Commission was only a recommending body.

Commissioner Finkeldei asked staff to respond to Mr. Reynolds inquiry about utility major and utility minor.

Mr. McCullough said the conditional zoning would get at some of how it would develop. He said utility major and minor could span from a water tower to pump station or electrical sub-station, or something necessary to develop and urbanize the property. He stated a recent amendment to the Code removed truck stop from the CC zoning district all together and was not permitted. He stated manufacturing could be cleared up with that information as well. He said manufacturing uses permitted in the CC district were contained uses within a building.

Commissioner Finkeldei asked staff to respond to the height of a motel/hotel.

Mr. McCullough said the district had height limitations. He said it was not known if Mercato or the northwest corner would ever live up to its full potential of retail uses. He said there were a number of uses that could enhance and compliment the recreation center.

Commissioner Finkeldei asked staff to speak about the buffer zone and the Baldwin Creek drainage area.

Mr. McCullough said staff could not find a reason for the shape of it. He said it was at the top of the Baldwin Creek drainage area and a lot of the sensitive lands as it heads down toward the river were preserved and maintained in the Baldwin Creek sewer easement and some property donated for park purposes. He said it was likely that the drainage bed would be piped, moved, and relocated which was pretty standard development in an area for non-residential uses.

Commissioner Culver asked Mr. McCullough about the traffic impact study based on industrial not retail.

Mr. McCullough said the recent corridor study that KDOT, City, County, and MPO partnered on had as its based assumptions the West of K-10 Plan land use categories and designations. He said this opportunity

presented itself as that process was ending its completion. He said BG Consultants essentially said because it was such a high cross section of urban corridor anyway it would work. He said it needed to be studied further to determine such things as how many lanes and lengths. He said the plat would be one of the next steps and KDOT offered to do a full traffic study with new assumptions based on the commercial aspects of the property.

Commissioner Burger asked if the Kansas Department of Revenue factor internet sales in their analysis.

Mr. McCullough said no.

Commissioner Burger asked if going from 400 to 600 was to accommodate the recreation square footage.

Mr. McCullough said partially. He said it was primarily to accommodate the property off the 50 acres as compatible with recreation uses.

Commissioner Burger inquired about class I or II soils.

Mr. McCullough said he did not believe there were any at the site.

Commissioner Burger asked if there was commercial recreational acreage in the county or city that could be considered to be zoned industrial to replace what would be lost if the West of K-10 Plan was approved.

Mr. McCullough said not outside of what was already designated for those uses. He said essentially about 145 acres would be lost.

Commissioner Burger asked if Planning Commission voted to defer the item could staff look at increasing industrial in the West of K-10 Plan.

Mr. McCullough said staff did briefly look at that. He said there were very good reasons for designating it for industrial employment warehouse, such as two state highways and good topography. He said that could be an appropriate land use for the area but this opportunity presenting itself changed that. He did not believe there would be other areas in the West of K-10 Plan that had the same characteristics that this site does for industrial employment zoning.

Commissioner von Achen asked staff to address the stormwater management.

Mr. McCullough said the stormwater management plan was in the beginning stage so there was no full plan yet. He displayed the general aspects of it on the overhead. He said the concept plan showed regional detention.

Commissioner von Achen inquired about the impact to the neighbors to the north.

Mr. McCullough said staff believed it was an opportunity to improve some of the current drainage issues. He said the City Stormwater Engineer would be very involved with the process.

Commissioner von Achen inquired about limiting the size of some of the non-retail buildings.

Mr. McCullough said there could be with conditions placed on the zoning to limit the overall development. He said staff did not think it was necessary because there were compatible uses.

Commissioner von Achen inquired about the lack of need for more retail space that Mr. McClure discussed.

Mr. McCullough said staff disagrees with Mr. McClure on the analysis of some specific areas of the city. He said development does not happen all at once overnight. He said they needed to get somewhat ahead of the market on commercial areas so that it was in place when the market needs it.

Commissioner Burger inquired about funding for improvements needed within the development of the project for the highway going west.

Mr. Corliss said they were working on those details. He said KDOT has indicated they should have available funds to signalize the existing 6th & K-10 intersection. He stated it would not only be a City project but that it would be a State project as well. He said he was in the process of putting together the budget on how the City would be involved with putting in necessary infrastructure. He stated the City project was not likely to proceed if there was no city funding for that. He said the initial numbers indicate it was likely the City would be able to do it over multiple years. He said it was such a unique project that it was likely the City would stretch to do it.

Commissioner Blaser said studies and research indicated facilities were needed in the western part of the City.

Mr. Corliss said that was correct, a recreational facility with indoor gym space was needed on the west side of town.

Commissioner Liese said there were different combinations to think about taking action on this evening. He inquired about the implications of deferral.

Mr. Corliss said if Planning Commission wanted to spend more time on this they would need to be specific on the details they would want. He said the site plan would go before City Commission and they would spend excruciating time on the details. He said there were continued concerns from the neighbors about drainage. He said the City could not negatively exacerbate stormwater issues for the neighbors or the City would end up with a lawsuit. He said the City would be responsible for maintaining the 50 acres so they would need to be smart about the buffering.

Mr. McCullough said if Planning Commission needed more information then staff would like specific information of what was requested.

Commissioner Liese inquired about the noise volume and lights in the Oread neighborhood from KU events at the stadium.

Mr. Corliss said he did not know that it would a similar use as the recreation facility. He said the recreation facilities uses would be indoors. He said the soccer and track field would be outside but that it would not be the same volume and intensity as a KU game.

Commissioner Belt asked if it would be comparable to Lawrence High School.

Mr. Corliss said it may be more appropriate to compare it to Free State High School. He said Free State had some level of distance and separation from the neighborhood. He said the recreation facility site was at the intersection of two state highways and would likely urbanize and develop with something. He said the key was how to do it in a way to help the neighbors and have adequate distance and buffers.

Commissioner Liese asked if it was reasonable to assume that the project would attract enough tourists to bring more retail activity into town.

Mr. Corliss said these types of facilities would not only support local recreational needs but would support regional needs as well.

Commissioner Britton asked if KU had committed to anything.

Mr. Corliss said the University of Kansas Athletic Corporation would be considering the next steps this week. He said their level of commitment was similar to the City and they agree to continue to work on some type of arrangement. He said the City had not accepted the donation of land yet.

Commissioner Britton asked what would happen if the City accepted the donated land but KU does not sign on.

Mr. Corliss said it was the expectation that the property would be accepted for a regional recreational facility.

Commissioner Finkeldei said items 5 & 6 were related but were not dependent on a recreation center going in at the location. He said item 7 was tailored to the recreation center.

Mr. McCullough said that was correct. He said the intersection would be the only designated CC600 in the Comprehensive Plan if approved.

Commissioner Finkeldei asked if a recreation center was not proposed to go in that location would staff support the change.

Mr. McCullough said this intersection had been the subject of debate in context of the 6th and Wakarusa site as to which should hold more intensity of development. He said if presented with an application for an increase of commercial retail at this particular node of 6th & SLT staff would probably support it given the justification, reasons, and findings in the current staff report.

Commissioner Finkeldei said item 7 was dependent on the recreation center.

Mr. McCullough said yes.

Commissioner Finkeldei asked if the donating land owner would be in favor of rezoning the property if the recreation center didn't come with it.

Ms. Eldredge said it was still appropriate to rezone with the limited uses because the recreation facility could still happen in the future. She said the limitations on zoning were still appropriate because there would be provisions for other kinds of retail.

Commissioner Britton asked if all 50 acres would be on the same plan when it gets to the site planning state.

Mr. McCullough said yes. He said Planning Commission would see the plat but City Commission would see the site plan.

Commissioner Finkeldei said items 5 and 6 were pure zoning with or without the recreation center. He said the question was that at the intersection of 6th & SLT was it appropriate to have some retail component at the intersection as opposed to industrial on this corner. He said Diamondhead on the southeast corner originally had a large retail component at the corner. He said Mercato came in later and had a retail component. He said mainly 90% of the retail was divided between Diamondhead and Mercato. He stated then Diamondhead expired and Mercato came back and Planning Commission discussed about was it appropriate to move retail from the southeast to the northeast corner to make Mercato a place where it could have a stronger retail node. So now there was CC400 with 340,000 square feet of retail in the one Mercato corner. He believed that was appropriate because it was decided that was a good location for a big box store. He felt it was the perfect location for something larger than 400,000 square feet. He said currently the Code allows CC400 or regional of 1.5 million, nothing in between. He said the question was if this location was a good place to do something between CC400 and 1.5 million. He believed it was the perfect location to create CC600 and a good location to put in the Comprehensive Plan as to what was wanted at the intersection. He said the limitations of the CC600 to not allow big box stores on the other corners was thought through. He said he would support with or without the recreation center. He said what was actually in the West of K-10 Plan was light industrial and also had a couple other limiting words in there. He said it was never meant to be heavy industrial. He felt the rezoning was specific to a recreation center. He said if the recreation center did not go in then he would not like the limitations on the uses at that intersection. He said it made sense that with the rezoning they would

add a condition that the rezoning was contingent upon approval of site plan. He felt it sent the message that they want this zoning to be there after a full public process for the City Commission to address site plan issues. He said when City Commission approves the site plan the zoning can go with it. He felt it was important to address Baldwin Creek and drainage but that it was a site plan issue. He said buffering was important but it was also a site plan issue. He said traffic was important but was also a site plan issue for the most part. He said he disagreed with Mr. McClure's analysis about retail. He said there was a big difference between what was planned, what was zoned, and what was actually built. He said a lot more was planned for than what was actually built. He said projects get retrofitted such as the Tanger Outlet Mall into office space. He said there was overall support of this being a recreation center. He strongly believed that the pull factor of a regional recreation center would be immense and would help overall retail sales of the city and sales tax. He felt that whatever was built around this will do well and not cause detriment to the rest of the community.

Commissioner Britton said in general he would end up supporting this. He said the property would be developed at some point and this seemed to be a good way to develop a chunk of it. He said the neighbors adequately communicated their concerns and he was confident issues could be addressed to reasonable satisfaction. He felt this was a great way to develop the property and felt it would benefit the community. He was concerned about the retail markets ability to sustain whatever eventually goes there. He said it was a unique and great opportunity and they needed to be cognizant of the details.

Commissioner Blaser said he would support all three items. He felt they needed a recreation center in the northwest section of town. He believed it would become a main gateway to the city and needed to be an appropriate one. He did not feel that CC600 would change much out there but did allow some conditional zoning on the west side. He felt City Commission would do the site plan right and would hopefully solve some of the issues.

Commissioner Culver said the scope of Planning Commission was to focus on land uses. He said the questions in his mind were answered to make a recommendation for the potential land use. He did not feel that by deferring any or all of the items they would obtain additional information that would help with land use decisions. He felt that issues and concerns could be addressed during the site planning stage. He said he would support the rezoning being contingent on City Commission approval of the recreation center.

Commissioner von Achen said through tonight's discussion with the audience most questions were somewhat addressed so she felt more comfortable supporting the items. She felt other concerns would be addressed during the site planning stage. She said her major concerns were the Baldwin Creek area, drainage, traffic, and how they would impact the adjacent neighbors, but she felt they could be addressed.

Commissioner Liese said all his questions were answered and he would support all three items.

Commissioner Belt asked if there was any scenario where Planning Commission could see any of the site plan.

Mr. McCullough said the site plan was an administrative process and City Commission would review and consider it.

Commissioner Belt said he was grateful someone was willing to donate land for a recreation center. He said during the last meeting Mr. Crawford made an important plea about this being a unique opportunity for us and to make sure the public had the opportunity for input. He said in his mind he would like Planning Commission to see more of the plan before it moved forward. He would like the public to have more opportunities to have their say. He said he would not support any of the three items.

Commissioner Burger said she had hesitancy about moving forward with this but that City Commission provided Planning Commission with a package on how to plan faster with the same attention to detail and input. She said City Commission and County Commission had the final say and that there were additional opportunities to talk about this more. She said the plan was very comprehensive and the three items bundled together could be a new efficiency. She said CC600 gave options with responsible restraints. She asked City

Commission to look at initiating some type of referral to increase light industrial in the area. She said the opportunity to get a much needed recreation center was exciting. She said she would support all three items. She thanked the public for attending this evening.

ACTION TAKEN on Item 5
Motioned by Commissioner Finkeldei, seconded by Commissioner Blaser, to forward a recommendation of approval of the comprehensive plan amendment to Horizon 2020, to the Lawrence City Commission to amend Chapter 6: Commercial Land Use to create CC600 District policies, Chapter 14: Specific Plans to revise the West of K-10 Plan to change the designation of the 6th and K-10 node to a CC600 commercial center, and to remove A Nodal Plan for the Intersection of West 6th Street and Kansas Highway 10 (K10) from Chapter 14: Specific Plan.

Motion carried 7-1-1, with Commissioner Belt voting in opposition. Commissioner Hird abstained.

Motioned by Commissioner Finkeldei, seconded by Commissioner Blaser, to approve and sign Planning Commission Resolution PCR-5-4-12.

Motion carried 7-1-1, with Commissioner Belt voting in opposition. Commissioner Hird abstained.

ACTION TAKEN on Item 6
Motioned by Commissioner Finkeldei, seconded by Commissioner Blaser, to approve the proposed amendment TA-4-3-12 to the Land Development Code and forward to the City Commission based on the analysis in the staff report.

Motion carried 7-1-1, with Commissioner Belt voting in opposition. Commissioner Hird abstained.

ACTION TAKEN on Item 7
Motioned by Commissioner Finkeldei, seconded by Commissioner Blaser, to approve the rezoning request for approximately 146 acres from A (County-Agriculture) District and B-1 (County-Neighborhood Business) District to CC600 (Community Commercial) District and forwarding it to the City Commission with a recommendation for approval based on the findings of fact found in the body of the staff report and subject to the following condition:

The permitted uses in this District shall be limited to those listed in Table 1 of this staff report.

Motion carried 7-1-1, with Commissioner Belt voting in opposition. Commissioner Hird abstained.

City of Lawrence

CITY COMMISSION

MAYOR
ROBERT J. SCHUMM

COMMISSIONERS
MICHAEL DEVER
HUGH CARTER
MIKE AMYX
ARON E. CROMWELL

DAVID L. CORLISS
CITY MANAGER

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September 4, 2012

The Board of Commissioners of the City of Lawrence met in regular session at 6:35 p.m., in the City Commission Chambers in City Hall with Mayor Schumm presiding and members Amyx, Carter, Cromwell and Dever present.

A. RECOGNITION/PROCLAMATION/PRESENTATION

1. Proclaimed September 5 – 11, 2012 as International Literacy Week.

B. CONSENT AGENDA

It was moved by Amyx, seconded by Cromwell to approve the consent agenda as below. Motion carried unanimously.

1. Approved City Commission meeting minutes from 08/21/12 and 08/28/12.

2. Received minutes from the following boards:

   Board of Plumbers and Pipe Fitters meetings of 03/21/12 and 06/20/12
   Homeless Issues Advisory Committee meeting of 07/10/12
   Mental Health Board meeting of 07/31/12

3. Approved claims to 232 vendors in the amount of $12,432,669.57.

4. Approved licenses as recommended by the City Clerk's Office:

   Class A Club license for Dorsey-Liberty Post No. 14, 3408 West 6th St.

5. Approved appointments as recommended by the Mayor.

   Reappointed David Teixeira and Vern Norwood to the Community Development Advisory Committee to additional terms that will expire 09/30/15.

6. Bid and purchase items:

   a) Awarded bid for one (1) ½ ton pickup for the Finance Department to Roberts Chevrolet Buick for $21,100.

b) Awarded bid for the Comprehensive Rehabilitation project at 3012 Flint Drive to Schmidt Contracting, Inc. for $13,000 for the Base Bid, $6,000 for Alternate #1 and $4,900 for Alternate #2. Total contract price of $23,900.

c) Awarded bid for the Comprehensive Rehabilitation project at 3113 Creekwood Drive to T & J Holdings, Inc., for $13,550 for the Base Bid, $1,750 for Alternate #1 and $3,500 for Alternate #2. Total contract price of $18,800.

d) Authorized the City Manager to execute an engineering services agreement with Wilson and Company in the amount of $99,980.00 for Design and Bid Phase Engineering for project UT1206DS O'Connell Road Waterline.

7. Adopted the following ordinances on second and final reading:

a) Ordinance No. 8781, establishing residential solid waste service rates for 2013.

b) Ordinance No. 8782, establishing no parking along both sides of Massachusetts Street from 23rd Street south 150 feet (TSC item #4; approved 7-0 on 8/6/12).

8. Adopted on first reading, correction ordinances for rezonings Z-8-14-09, Z-8-15-09, and Z-8-16-09 for property located at the SE corner of Kasold and W 31st Street curve, 3309 W 31st Street. Ordinance No. 8767, Ordinance No. 8786, and Ordinance No. 8787 will replace previously adopted and published Ordinance No. 8472, Ordinance No. 8473, and Ordinance No. 8474 to correct a clerical error and to maintain consistency with established policy regarding overlay zoning designations.

9. Accepted dedication of right-of-way shown on Final Plat, PF-12-00118, for Pump Station No. 15, a one-lot subdivision of approximately .3 acres, located on N Michigan Street east of Pin Oak Drive.

10. Approved rezoning, Z-12-00020, approximately .25 acres from IG (General Industrial) to CS (Strip Commercial), located at 444 - 446 Locust Street. Submitted by Tiburcio J. Reyes Sr., property owner of record. Adopted on first reading, Ordinance No. 8783, to rezone (Z-12-00020) approximately .25 acres from IG (General Industrial) to CS (Strip Commercial), located at 444 - 446 Locust Street. (PC Item 2; approved 8-0 on 8/20/12)

11. Approved rezoning, Z-12-00029, approximately 11.93 acres from PRD (Planned Residential Development) and CO (Office Commercial) to RM24 (Multi-Dwelling Residential), located at the northwest corner of W. 6th Street and Congressional Drive and currently addressed as 525 Congressional Drive. Submitted by Paul Werner Architects, for M & I Regional Properties LLC, property owner of record. Adopted on first reading, Ordinance No. 8784, to rezone (Z-12-00029) approximately 11.93 acres from PRD (Planned Residential Development) and CO (Office Commercial) to RM24 (Multi-Dwelling Residential), located at the northwest corner of W. 6th Street and Congressional Drive and currently addressed as 525 Congressional Drive. (PC Item 3; approved 8-0 on 8/20/12).

12. Approved Text Amendment, TA-12-00023, to the City of Lawrence Land Development Code to amend uses in the Hospital (H) District, to change all P uses (Permitted Uses) to A uses (Accessory Uses) to identify the Hospital use as the only principal use in this district and all other uses allowed in this district to be accessory to the this principal use.

Requested by Lathrop & Gage LLP, on behalf of Lawrence Memorial Hospital. Adopted on first reading, Ordinance No. 8785, for Text Amendment (TA-12-00023) to the City of Lawrence Land Development Code to amend uses in the Hospital (H) District, to change all P uses (Permitted Uses) to A uses (Accessory Uses) to identify the Hospital use as the only principal use in this district and all other uses allowed in this district to be accessory to the this principal use. (PC Item 5; approved 6-0-2 on 8/20/12).

13. Approved Traffic Safety Commission recommendation to designate the right northbound lane on Kasold Drive at 6th Street as a right turn only lane.

14. Approved a temporary use of public right-of-way permit for use of various city streets, including the closure of the northbound lane of Massachusetts Street downtown from approximately 8:00 a.m. – 8:25 a.m., on Sunday, November 11, 2012, for the Veteran's Day Run.

15. Approved a temporary use of public right-of-way permit for use of various city streets, including the closure of the northbound lane of Massachusetts Street downtown from approximately 8:00 a.m. – 8:25 a.m., on Sunday, October 21, 2012, for the Jayhawk Jog 5K.

16. Approved a request for a sign of community interest for the Pilot Club of Lawrence to place a temporary directional sign at the northwest corner of Harper and 23rd Streets advertising the Antique Show. The sign would be placed on September 21, 2012 and removed at the end of the day on September 22, 2012.

17. Authorized the Mayor to sign a Release of Mortgage for Glenda and Terry Shelby, 741 Locust.

18. Authorized the Mayor to sign a Subordination Agreement for Rita Moses, 1721 E. 17th Street.

C. CITY MANAGER'S REPORT:

David Corliss, City Manager, presented the report.

D. REGULAR AGENDA ITEMS:

Mayor Schumm said that we were not at the point of considering the entire package of land use items and agreements regarding the recreation center. First we would have tonight a review of the historical timeline, then staff would present the land use items, and the city manager would address the status of the agreements. Then we would open it up for comments and more than likely we would continue the items to a later day when we had more information before us.

Regular agenda items 1 through 4 were all presented and discussed together.

1. ***Receive update on items related to the proposed Sports Village/Recreation Center development.***

2. ***Consider Comprehensive Plan Amendment, CPA-4-2-12, to Chapter 6 of Horizon 2020 to create CC600 District policies and to Chapter 14 Specific Plans, to revise the West of K-10 Plan and A Nodal Plan for the Intersection of West 6th Street & Kansas Highway 10 (K-10) designating the node of 6th Street and K-10 as a CC600. Initiated by City Commission on 4/10/12. Adopt on first reading, Ordinance No. 8740, for Comprehensive Plan Amendment (CPA-4-2-12) to Chapter 6 of Horizon 2020 to create CC600 District policies and to Chapter 14 Specific Plans, to revise the West of K-10 Plan and A Nodal Plan for the Intersection of West 6th Street & Kansas Highway 10 (K-10) designating the node of 6th Street and K-10 as a CC600. (PC Item 5; approved 7-1-1 on 5/21/12) (BoCC approved 3-0 on 7/11/12)***

3. ***Consider a Text Amendment, TA-4-3-12, to the City of Lawrence Land Development Code to create a CC600 zoning district. Initiated by City Commission on 4/10/12. Adopt on first reading, Ordinance No. 8741, for Text Amendment (TA-4-3-12) to the City of Lawrence Land Development Code to create a CC600 zoning district. (PC Item 6; approved 7-1-1 on 5/21/12).***

4. ***Consider a request to rezone, Z-4-5-12, approximately 146 acres located in the NW quadrant of the intersection of West 6th Street/Hwy 40 and Kansas Hwy 10 (K-10) from County A (Agriculture) District and County B1 (Neighborhood Business) District to the pending district CC600 (Community Commercial) District to accommodate a regional recreation facility. Initiated by City Commission on 4/10/12. Adopt on first reading, Ordinance No. 8742, for rezoning (Z-4-5-12) of approximately 146 acres located in the NW quadrant of the intersection of West 6th Street/Hwy 40 and Kansas Hwy 10 (K-10) from County A (Agriculture) District and County B1 (Neighborhood Business) District to the pending district CC600 (Community Commercial) District to accommodate a regional recreation facility. (PC Item 7; approved 7-1-1 on 5/21/12) Because a valid protest petition has been received, a super-majority vote (at least 4 votes) is required for approval.***

Ernie Shaw, Director of Parks and Recreation, presented a staff report regarding the community's needs for a recreation center.

Scott McCullough, Director of Planning and Development Services, presented the staff reports regarding the land use items.

Mayor Schumm asked when ex parte communications should be declared.

Toni Wheeler, City Attorney, said they should be declared before public comment is received.

John Wilkins, Gould Evans Architects, presented an overview of space programming.

Paul Werner, Paul Warner Architects, presented the site plan.

Schumm asked if we are at the point of knowing if this will be certified as a LEED structure.

Wilkins said we thought we could

Carter asked if we could have an area for a small visitor center component for showcasing Lawrence in the public space of the building.

Wilkins said he thought that was a good idea.

Amyx asked how it was determined that our building would be on the back end of the property.

Wilkins said we looked at having it on the east end of the site but that was the lower end of the site and people would be looking at the roof mechanicals as they drove in. The current location on the site plan is the high point on the site and presents a better visual as you approach.

Schumm said keeping the parking lot to the south of the site provided some buffer for the lights.

Wilkins said we can also bury the western half of the building into the grade which makes it fit a little better relative to the neighborhood.

Gary Anderson, Gilmore and Bell, provided an update regarding the status of the agreements.

The City Commission recessed for a short break at 7:30 p.m.

The City Commission resumed the regular session at 7:39 p.m.

Schumm said we would start with disclosures of ex parte communications regarding the rezoning. He said he did not have any specific discussions about the zoning issue with anyone. He had met with the neighbors on three or so occasions and we had really only talked about the project. He said he had been involved in many meetings with the parties involved with the project but we had really only focused on the project and not the zoning question.

Dever said that he had conversations and had received communications from various people interested in the project. The conversations were generally about the project as a whole and not specifically about the zoning. None of those conversations or communications contained information that wasn't out in the public realm or public record already.

Amyx said his comments mirrored those of Schumm and Dever as far as individual conversations about the rezoning for this particular item. He said they had just received communications from Lawrence Association of Neighborhoods and Dr. McClure that had questions about the policies and procedures for zoning. Also, he had conversations with Mr. Fritzel, meetings with the Schwadas early in this process, but as far as individual discussions that dealt with any of the rezoning questions, he did not really have any at all.

Cromwell said he had many meetings in person, on the telephone and various communications through email, mostly regarding the project as a whole. Zoning is part of the discussion, but there was nothing in particular about the project that was not part of the public record. He said he had nothing to add in any ex parte communications.

Carter said he attended the Lawrence Association for Neighborhoods meeting in July and spoke about their concerns regarding the rezoning. He said he met individually with Kirk McClure for some time, but nothing in that conversation was outside of what McClure put into the public record. He said he did not think he had any kind of material information come up in ex parte that was not already out there.

Mayor Shumm called for public comment.

Laura Routh said she supported a community rec center, but she didn't support the sports village proposal as it currently exists. She said she was somewhat disturbed by the process regarding this sports village so far. The land has been annexed and money was budgeted already for public improvements. She said before you proceed with rezoning we owe it to the taxpayers to answer more questions. What is the assessed value of the land being donated compared to the infrastructure costs? How much has the city paid Gould Evans and

Werner architects and where has the money come from? Has the city considered the costs of police and fire services to the facilities? How would an economic downtown affect the financials of the project? Is the city prepared for cost overruns in the construction? She said she asked that you not proceed with rezoning until these questions are answered. She would ask that the city pay attention to the taxpayers' concerns.

Dickie Heckler said he supported Laura's concerns about the economy. This is risky business not knowing what might happen in the next few years. He said he didn't see any light at the end of this tunnel for a long time. Maybe there will be another home loan scam we will experience. Do the pros outweigh the cons? He said he did not think so. He said there were a lot of money, risk and speculation. It has recently been suggested to ask the voters to weigh in on the project. It should also be considered whether to repeal the sales tax altogether. Think of it this way. 10% of this sales tax, we could use it to fund the library project and reduce sales taxes. Perhaps we could build a nice vo-tech center for the community. Our elementary schools are in dire need. Perhaps some of this could offset the school district tax levy by reducing the city sales taxes. He said he has never heard any opposition whatsoever to a neighborhood rec center in northwest Lawrence. Let's build a neighborhood rec center. In addition use some of the money to add space to Holcom.

Joe Patterson said his main concern was not the rec center, but who was paying for it, which would be the taxpayers. 75% of the taxpayers would pay for it without using it. He said he hadn't heard definite figures that it would be a money maker. We have a bus system that has fallen flat on its face and costs $3,000,000 a year. The voters approved a new library but it seems like it will be more computers and parking, not a bigger library. Eventually the poor taxpayers aren't going to be able to afford all this. You've also talked about a new police station. The project so far isn't practical. If it is, let the private sector or KU build it. He said we don't need this major undertaking. It's out of control. The size of the rec center and the cost to the taxpayers, the majority of whom would never use it, were the issues. We are putting a lot of

burden on a lot of people on fixed incomes. We need to take a long hard look at what this will cost us before we progress any further. The city is not known to be business friendly. We need to put more emphasis on bringing business into Lawrence.

Candice Davis said she recalled when she took her own kids out of town for sports events. She said in all the years she took her kids to different events, we never shopped, ever. We went to the events, watched them, and left. A lot of the people have spent a lot on the events already and don't have means to spend any more. She was not so sure this would be such a festive kind of thing. While we did stave off a downtown mall, most of the retail is on South Iowa. She said the jewel we had was downtown. She said she supported a rec center but not this one.

Kat Kehdy said she wanted to talk about the boondoggle that this was for the developer. We would spend millions on infrastructure and who would benefit? The developer. You were previously working on the site near Free State, until the gift horse came along. You need to look the gift horse in the mouth.

A man said he thought the rec center was a good idea and the city needed it. He said he had some good meetings with the architects. He still had some concerns remaining. One of the things is the shift in the stadium, the walking path so close to the property lines. What has changed since the last site plan is the location of the trails. Some other concerns are the hours of operation and the lighting and the noise pollution. The KU dynamic adds another element that we are not crazy about. He said he heard of a possible additional ten acres being donated and he wondered where they were. He said the access road was a concern. We would prefer 1663 Rd to remain a no outlet at either end. He said he would like to see the green factor involved in the rec center such as HVAC and geothermal.

Gwen Klingenberg said a few weeks ago she sent an email with questions but she hasn't received answers yet. The retail was going to be sports related. Across the street we have a lot of land zoned for retail. She was led to believe that if the retail doesn't go in on the

northwest corner then the taxpayers would be stuck with the TIF. If it is strictly sports related she can't see that helping. If you do pick this site, why is it better than the other two sites? She said she was not seeing KU's enthusiasm here. One of the reasons these are failing across the country is that they have to be marketed. Will we have to hire someone to do the marketing? How committed is KU on this? How tightly are we tied? She said she is not seeing it. It is important to get them tied into this a lot stronger than they are.

Hank Booth, Lawrence Chamber of Commerce, said he was surprised that he is the first to speak positively about the facility because he knew there were several people here who would. The first word that came into his mind when he heard of this project was "Wow." What a great fit for our town to partner with KU to put together a top notch athletic venue to share for decades to come. The opportunity to build a top notch facility for our kids, generate tax dollars from visitors, and to combine all that together, was tremendous. He knew there were a lot of details to work out still. He said he never expected KU to market our facility. We have a tremendous KU Relays event on outdated facilities and we still have 100's of athletes and 1000's of people who come here for those. When those top notch facilities are constructed, there will be thousands more who attend. He said he didn't expect Bill Self to go out and market this. He asked if we could for a moment stop questioning what the developers would gain. It is ironic that we named the hotel "The Oread" while at the same time questioning "those developers." It starts to get him upset when we don't give credit to people who build things in our community.

Alison Roppe said she was on a fixed income and the project is speeding ahead, the developers are happy, and she is concerned. She said she used to live by Burcham Park. The boathouse turned out great, but the facility doesn't serve the general public. KU doesn't pay anything for it. A person in the community would have to pay to use the park. She was leery of the public getting squeezed out. She didn't understand why we the city would pay for huge facilities for KU. What if things fail and we are left holding the bag? Do any of you know why KU

isn't asked to pay for some of the infrastructure? She was also interested in the green aspects of the project. She said she was completely for a rec center in that part of town. She doesn't hear anything being done for kids that aren't involved in sports. She didn't understand why this had to be so huge and why KU doesn't have to pay more.

Corliss said we had been in discussions with KU about this facility and other cooperative agreements. As part of the agreements with the developers a transportation development district was proposed. He said the city wasn't paying for the KU facilities. He didn't think it was appropriate for KU to pay for the infrastructure. We had a strong relationship with the university. There are examples where the university has leased property to the city for nominal costs, for example, Fire Station 5 where KU gave the City the property for very little public cost.

Zak Bolick said it was important for everyone to objectively examine the facts and get involved in the conversation. The overwhelming tone of the community is that there was a need for a facility. Take the time to do it right and he thought we would hear applause from the community.

Andy Pitts said he applauded the city for the process. Sometimes a developer led process is fluid. He said there are many things we could talk about, like the sales tax, the relationship the city has with the University of Kansas. He said he wanted to talk about the need for this facility. When the sales tax was passed it envisioned something like this. We were lacking in gym space. Every time we have a survey that comes up. Our neighborhood rec centers are packed and can't serve the neighborhoods. This would free up those spaces. We shouldn't be afraid of what other communities are doing. Why should we wait for them to build facilities and have our citizens travel? We can bring opportunities here to Lawrence. We need and deserve this facility.

Shannon Jones said she spoke as a mother and a concerned health professional. She said she had a fierce passion for bringing this to fruition. She sees the impact of the lack of facilities in her office every day. She had a 9 year old patient in her office recently. She was in

the 99th percentile for weight at her height and age. She already had health problems relating to that. We have heard a lot about cost, but what is the cost of not doing a project like this? She had recently been at a conference regarding obesity. We know through research that environment changes behavior. Do we make it easier to have a healthier lifestyle or not? The average child gets 2-3 hours of activity a week. Our generation got 21-23 hours. She was working with her patient on goal setting to help maintain weight and grow into it as she grows taller. Her patient wanted to work on at least one hour of physical activity per day. Her mom said she had tried to enroll her patient in a dance class but it was full. She looked at KU's involvement as icing on the cake. She got frustrated when we talked about cost but not the cost of not doing it. She saw movement, positive behaviors, and families having fun together. We have a chance to do this right and combat our obesity epidemic at a local level.

John Ross said the willingness of the city to partner with KU and private industry was great. He said he had two grown kids. Gym space was an issue in the 1990's. We practiced at 6:00 a.m. in the Hillcrest cafeteria. This project has a strong ability to showcase our community and KU. He encouraged commissioners to carry on.

Bill Reynolds said he didn't support the current plan. He supported the commercial development. He had a few concerns. First was the population of Lawrence. We need to have a local population willing to support the operating costs. If the population doesn't grow then any retail development will just move from other businesses in the community. Another issue is KDOT's involvement in the infrastructure in the area. They have an excellent plan but unfortunately it is a 40 year plan because they don't have any money for it right now. A final issue is Lawrence's ability to financially handle the project. If we undertake the project, he asked if it undermined our ability to pay for needs. He said interesting suggestions had been raised for other sites. He asked for a simple statement showing how much of the costs would be borne by the taxpayers and where the revenue would come from.

Melinda Henderson said she heard that people universally supported a rec center. What she hadn't heard consensus on was the sports village. Mr. Patterson and Reynolds brought up salient points she agreed with. Obesity was definitely a concern. She said she lived on the poor side of town. She said she saw kids skateboarding in the street every day because there wasn't a skate park in their part of town. How will kids at the Boys and Girls Club get to the rec center? Think of the travel time. Will they really be able to get out there? She said the person she works with coaches a lot of teams. He thinks this rec center would be a Taj Majal and he would love it, but he wouldn't want to drive out there. Personally, she has been here 16 here and in that time she hasn't always agreed with the commission but she has never been afraid of them before but she may be now. At the local level we have a police facility and school bond on the block. Sales tax is very important to a lot of people on fixed income in this time.

Schumm said it was his feeling that we should continue this item until a later date. The date could be as early as next Tuesday or as late as the following Tuesday. It was more likely to be the second Tuesday. He said he appreciated everyone's comments and concerns. It is helpful to get the concerns on the table.

Amyx said one of the questions he had now is whether it was appropriate, as staff had put together a spreadsheet of sites involved, to look at the Overland and Wakarusa site. It was 29 acres at that site and the extra costs involved were approximately $200,000 for a traffic signal.

Corliss said that was appropriate, but that site would not accommodate KU.

Amyx asked if that site could accommodate a rec center similar to what is proposed at K10.

Corliss said we could get the square footage with a different design.

Amyx asked if it was appropriate to look at a similar size building at the Overland site. He said we were a service provider, this was a basic service. He wanted to make sure we met our needs, and questioned how much further we should go to accommodate the partnership

with the additional costs. He would like a simple sketch of what we could do at the site we own, without slowing down the decision process.

Schumm said we had been interested in all three sites. Staff has come back with pros and cons at each site. He said he didn't see anything wrong with looking at what we could do. He didn't think we had done much engineering yet. You can never have too much information on this. One thing that the site won't accommodate is the KU presence. You can argue that KU is a cost to the city in terms of this project, but what benefit do they bring to our city as a major employer and the attraction to the community. From a dollars and sense issue it would cost more to partner with them, but we have to weigh the benefits.

Amyx said if we are going to compare apples to apples, we need to compare the same size building at the Overland site and then ask how important the partnership is.

Carter said we do have the matrix. As far as sketching it, he didn't think we needed to have staff spend time drawing it. It's good enough for me to know we can do it, without seeing the sketch. The matrix is the important thing. The public needs to see it, needs to see the methodology.

Schumm said he had been to several KU events the last few days. Every time the upper echelons of the University ask where we are on the project, they are very hopeful it goes through. They see it as a great opportunity. They are very enthusiastic. How you put that into dollars and sense he didn't know, but he did know we are very dependent on KU for the health of the community as a whole. There is a cost to the project but we are doing something for KU that will benefit the city for the long term.

Dever said the thing he got tonight was a sense of agreement that we need recreation space in our community. He is really positive that something will happen on the community. Since he came to the Commission he had seen changes in our relationship with KU. KU is not the same without Lawrence and vice versa. It is a symbiotic relationship and we are trying to deepen it. We have been fiscally conservative in our budgets. It is time to invest. Whether it is at

Walmart or 1.6 miles down the road, that isn't much farther. He said he would love to invest in our largest employer in town. There is less disturbance to the community at the K10 site. We are not rushing to judgment, we are cautiously approaching it.

Cromwell said we have been talking about this need for years. He is on the Commission to try to do what's right for the community. We have an image that we are a young vibrant community. That makes us an attractive place for business. This rec center gets at a core value of ours. We have talked about the value of physical fitness. He wants to encourage that, whether at this site with the deepened relationship at KU, which would be a great opportunity, or not. There would be a lot of complex agreements to work out. He said this is a bold move by our community to get at our core values. He hoped we could put it all together. We would get something done regardless.

Carter said he definitely wants to see this as a joint effort with KU, leveraging that relationship. Hopefully that would come soon. We don't have all the documents pertaining to the Schwada site yet. One thing that came up was the university's inability to market the site. As long as we have the same rules as any other community we have the advantage of KU's reputation and proximity. Their limitations on marketing would have little impact on the advantage of having them involved.

Schumm said he thought it was the commission's pleasure to continue this, at the latest to two weeks from tonight.

Corliss said he would be in contact with bond counsel and would get the items on the agenda as soon as possible.

E. PUBLIC COMMENT:

None.

F. FUTURE AGENDA ITEMS:

David Corliss, City Manager, outlined potential future agenda items.

G: COMMISSION ITEMS:

None.

H: CALENDAR:

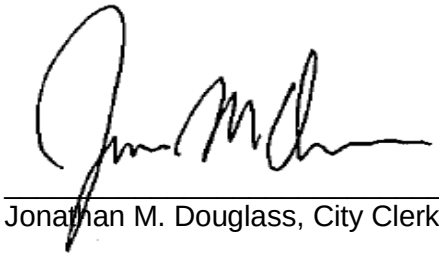
David Corliss, City Manager, reviewed calendar items.

I: CURRENT VACANCIES – BOARDS/COMMISSIONS:

Existing and upcoming vacancies on City of Lawrence Boards and Commissions were listed on the agenda.

Moved by Amyx, seconded by Dever, to adjourn at 9:16 p.m. Motion carried unanimously.

MINUTES APPROVED BY THE CITY COMMISSION ON OCTOBER 9, 2012.



Jonathan M. Douglass, City Clerk

City of Lawrence

CITY COMMISSION

MAYOR
ROBERT J. SCHUMM

COMMISSIONERS
MICHAEL DEVER
HUGH CARTER
MIKE AMYX
ARON E. CROMWELL

DAVID L. CORLISS
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September 18, 2012

The Board of Commissioners of the City of Lawrence met in regular session at 6:35 p.m., in the City Commission Chambers in City Hall with Mayor Schumm presiding and members Amyx, Carter, Cromwell and Dever present.

A. RECOGNITION/PROCLAMATION/PRESENTATION

1. Proclaimed the week of September 17 – 23, 2012 as Constitution Week.

2. Proclaimed the month of September, 201 as Leukemia, Lymphoma & Myeloma Awareness Month.

B. CONSENT AGENDA

It was moved by Amyx, seconded by Dever, to approve the consent agenda as below. Motion carried unanimously.

1. Received minutes from various boards and commissions:

   Community Development Advisory Committee meeting of 04/12/12
   Homeless Issues Advisory Committee meeting of 08/14/12

2. Approved claims to 332 vendors in the amount of $1,424,747.57.

3. Approved licenses as recommended by the City Clerk's Office.

   Class A Club License for Mount Oread Aerie 309, 1803 West 6th and the Retail Liquor License for Myers Retail Liquor, 902 West 23rd Street.

4. Approve appointments as recommended by the Mayor.

   Appointed Katherine Simmons to the Lawrence Cultural Arts Commission to a position that expires 01/31/13 and Grace Peterson to a position that expires 01/31/14.

5. Bid and purchase items:

   a) Approved the sale of surplus property on Gov Deals.

b) Approved as a sole source purchase and awarded the bid for three light poles and fixtures on ball diamond #8 at the Youth Sports Complex to Musco Sports Lighting for $30,000.

c) Awarded the bid for 70 golf vehicles for the Parks and Recreation Department to E-Z-Go for $56,714 per year for the next four years.

d) Authorized a change order in the amount of $75,000 for milling and overlay and associated curb repairs to Crestline Drive.

6. Adopted on second and final reading, the following ordinances:

a) Ordinance No. 8788, allowing possession and consumption of alcohol on the public right-of-way on October 6, 2012, 10:00 a.m. – 11:00 p.m. in the 900 block of New Hampshire Street and the 200 block of E. 9th Street during events associated with the Color Run.

b) Ordinance No. 8748, for Comprehensive Plan Amendment (CPA-6-5-09) to Horizon 2020 – Chapter 14 to include the Northeast Sector Plan. (PC Item 4; approved 7-2 on 4/23/12)

7. Approved a Temporary Use of Public Right-of-Way Permit allowing the closure of a portion of the 900 block of New Hampshire Street for the Arts Center Final Friday event from noon to midnight on Friday, September 28, 2012, and adopted on first reading, Ordinance No. 8792, allowing possession and consumption of alcoholic liquor on the public right-of-way in conjunction with the event.

8. Approved as "signs of community interest", a request from the United Way of Douglas County to place temporary signs in various rights-of-way throughout the City from September 15 – November 21, 2012.

C. CITY MANAGER'S REPORT:

David Corliss, City Manager, presented the report.

D. REGULAR AGENDA ITEMS:

1. Conduct public hearing to consider the vacation of a holding basin and part of the bicycle/pedestrian easement at 3400 & 3401 Aldrich Street as requested by property owner Grand, LLC.

Chuck Soules, Public Works Director, presented the staff report.

Moved by Cromwell, seconded by Dever, to open the public hearing. Motion carried unanimously.

Kenneth McKenzie said it was his understanding that they would vacate the trail out to the sports complex and dam area.

Soules said it was the rec path along Kasold near Eldridge. The sidewalk would be replaced closer to the street.

McKenzie said we used to have a sidewalk off of 27th connecting with the sidewalk on the opposite side of Kasold. With the reconstruction that has been removed. We would like to see a crosswalk either at 27th or 28th. We do have some handicapped people living in the subdivision.

Schumm said we could refer that to Public Works to look at those possibilities.

Soules said we could talk about that with the commenter and maybe refer it to Traffic Safety Commission.

Moved by Cromwell, seconded by Amyx, to close the public hearing. Motion carried unanimously.

Moved by Cromwell, seconded by Carter , to approve the order of vacation. Motion carried unanimously.

2. Consider adopting on first reading, Ordinance No. 8780, regarding sidewalk dining and hospitality license regulations.

Jonathan Douglass, Assistant to the City Manager/City Clerk, presented the staff report.

Mayor Schumm called for public comment.

Dan Dannenberg said he didn't know if the new proposal addressed it, but one of the thing that needs to be addressed is umbrellas. The sidewalks aren't' designed for sidewalk dining. Tonight passing one sidewalk dining area I had to lower my head to get by. I once saw a tall man that had to lower his head because of umbrellas sticking out. I once was walking by Esquina and an umbrella hit me in the forehead. There should be a regulation that prohibits any shading device extending beyond the rail. This business of umbrellas sticking out should be eliminated. Any aesthetic value doesn't outweigh the safety hazard. I have written about this before to an assistant city manager and Downtown Lawrence. Shading devices or awnings shouldn't be allowed to extend.

Schumm said the man has a point. How about a minimum height standard such as the same as doorway heights.

Amyx asked if there are site planning requirements.

McCullough said yes, but the height isn't addressed strongly. We could look at the code and pick a reasonable standard.

Amyx said we could check all the sidewalk dining areas against the site plans to start.

Douglass said we have code enforcement staff inspect all of the sidewalk dining areas as part of the renewal process.

Moved by Amyx, seconded by Carter, to adopt on first reading, Ordinance No. 8780. Motion carried unanimously.

3. Receive update on proposed City recreation center and Sports Village and receive annexation requests for two properties containing approximately 110 acres total (approx. 19 and 89 acres each), located on property generally bounded by E 902 Rd on the west, George Williams Way extended on the east, N 1750 Rd on the north, and what would be Wakarusa Drive extended on the south. Refer the requests to the Planning Commission for review and authorize the City Manager to notify Rural Water District No. 1 and Atmos Energy of the City's intent to annex the subject property.

David Corliss, City Manager, presented the staff report.

Amyx asked if KU is the applicant for this request.

McCullough said the application was submitted on behalf of Fairway LLC.

Corliss said KU Endowment was pursuing ownership.

McCullough said once you refer this to Planning we schedule it and send out proper notices.

Mayor Schumm called for public comment.

Thomas Johnson said he represents Jack Graham, an adjacent property owner. He believes this is premature. The city is just beginning to study this. The endowment association letter says they don't have the deal worked out yet. The athletic director's letter invites the city to conduct an investigation. We believe more time for that investigation is needed. The structure of

the project is not firm for various issues. Zenger's letter also states that there is a lack of neighbor concerns, but Mr. Graham has concerns. The lights at Free State High affect his property, and these lights will have more effect. The application says that additional uses may also be allowed. The only discussion we have heard is for athletics and city recreation. We believe that creates an ambiguity. We don't know what those uses are, and the city needs to defer annexation until more details are known. Annexation is not a necessary step at this time.

Schumm asked Johnson to point out where his client is located.

Johnson pointed it out on a map.

Chris Brown said his boys were ball players. It is crunch time right now for players and coaches to find gym time for practices. Kids are starving for more time in a basketball town. There are hundreds of parents and kids eager for a new rec center.

Jane Eldredge representing the Schwadas and the entities they control. They are in support of this. They are in support of it not only because it would meet recreational needs but also economic development goals. You have commissioned some studies. They pointed out some significant things. In addition to the rec center there needed to be support activities including commercial and hotel space. This generates property tax and bed tax. Those things bring about new jobs. The economic spur of a regional rec center is important and the Schwadas fully support it.

Carter said regarding the annexation, similar to what we did at the other tract, we do have plenty of time to work through issues as we get there. I wonder if it is necessary to defer annexation to work through those issues.

McCullough would see this in mid-November and it would come to the City Commission in December, so we have that time.

Schumm said there was reference to annexation on the west side. For one reason or another this land is going to be annexed, it is the zoning that will be the question eventually.

Corliss said we annexed 46 acres between those two tracts already. We want to be good neighbors and I am certain the Endowment and KU Athletics want that also.

Amyx said we are acting on a request of a property owner to start a process. We will work thought the required process and notifications and hearings. At this point we are evaluating all properties and options we might have. At the same time we have a responsibility to start the process as we normally would.

Schumm asked for an explanation of the zoning process.

McCullough said the development rights accrue with the zoning, not the annexation. Annexation and zoning would be on track to submit for November consideration of the GPI district. It requires an institutional development plan, essentially a site plan. That has not been submitted yet but could be considered in December or even January.

Schumm said it doesn't hurt to initiate annexation. We would consider the zoning later.

Corliss said it would be good to have direction to send the notices, refer the annexation to the Planning Commission, and authorize me to negotiate contracts with architects and engineers.

Amyx asked what the architects and engineers would do.

Corliss said site planning and infrastructure, parking and other issues that would require work. We have a pretty good program and design already. Those are the general elements we want to work on and report back to you.

Amyx said several weeks ago he asked for information on the 29 acres we own near Wal-Mart, so we can make a comparison between that site and others. Is that still coming?

Corliss said we will do that.

Moved by Amyx, seconded by Dever, to refer the annexation request to the Planning Commission; authorize the City Manager to provide written notice, pursuant to K.S.A. 2011 Supp. 12-539 and K.S.A. 66-1,176, to Rural Water District No. 1 and to Atmos Energy of the

City's intent to annex approximately 110 acres of land owned by Fairway, LC, and located west of George Williams Way and north of West Sixth Street/US Highway 40; negotiate engineering and architect contracts; and continue to work on information regarding the 29 acre site. Motion carried unanimously.

4. Consider Comprehensive Plan Amendment, CPA-4-2-12, to Chapter 6 of Horizon 2020 to create CC600 District policies and to Chapter 14 Specific Plans, to revise the West of K-10 Plan and A Nodal Plan for the Intersection of West 6th Street & Kansas Highway 10 (K-10) designating the node of 6th Street and K-10 as a CC600. Initiated by City Commission on 4/10/12. Adopt on first reading, Ordinance No. 8740, for Comprehensive Plan Amendment (CPA-4-2-12) to Chapter 6 of Horizon 2020 to create CC600 District policies and to Chapter 14 Specific Plans, to revise the West of K-10 Plan and A Nodal Plan for the Intersection of West 6th Street & Kansas Highway 10 (K-10) designating the node of 6th Street and K-10 as a CC600. (PC Item 5; approved 7-1-1 on 5/21/12) (BoCC approved 3-0 on 7/11/12)

5. Consider a Text Amendment, TA-4-3-12, to the City of Lawrence Land Development Code to create a CC600 zoning district. Initiated by City Commission on 4/10/12. Adopt on first reading, Ordinance No. 8741, for Text Amendment (TA-4-3-12) to the City of Lawrence Land Development Code to create a CC600 zoning district. (PC Item 6; approved 7-1-1 on 5/21/12).

6. Consider a Text Amendment, TA-4-3-12, to the City of Lawrence Land Development Code to create a CC600 zoning district. Initiated by City Commission on 4/10/12. Adopt on first reading, Ordinance No. 8741, for Text Amendment (TA-4-3-12) to the City of Lawrence Land Development Code to create a CC600 zoning district. (PC Item 6; approved 7-1-1 on 5/21/12).

Scott McCullough, Planning and Development Services Director, presented the staff reports for items 4, 5, and 6.

Amyx said we had initiated the items and could withdraw them.

McCullough said yes.

Amyx asked if the commission could refer the rezoning to the Planning Commission.

McCullough said yes, after withdrawing the application.

Mayor Schumm called for public comment.

Steven Kahle said city representatives had emphasized two things. Development of the site was inevitable, and having the city and university as neighbors was better than a faceless

corporation. The withdrawal of KU from the original site changed things. We had protested the rezoning for various reasons. If we support the rezoning to CC600 we could face those faceless corporations but if we oppose it we might get something worse. He hoped the city would be thoughtful. He could support CC600 if major utilities were removed as an option.

Scott Robins said he was a neighbor to the north. When the idea of the rec center going in came up we met and had mixed emotions. Having the city and KU as a neighbor held better prospects than some other options. He signed the protest petition for one reason. Not that he opposed CC600 but we got counsel to help us and they suggested that signing that and putting it forward would help force some open communication to give us some real voice in what was being planned. He has signed a document to withdraw himself from the protest petition now. He supported CC600 zoning.

Thomas Johnson on behalf of the Crawfords said they don't support CC600 and they would like to be involved. They would like the Commission to withdraw their application and remand it to the Planning Commission.

David Reynolds said he signed the protest petition because he thought it was such a major issue that it should have a supermajority vote. The need for rezoning at this corner doesn't change with the move of the rec center. Zoning it CC600 takes a great amount of mystery out of what could go there. He asked that major recycling center and truck stop be removed from the possibilities. Leaving the land without zoning designation creates anxiety and frustration.

Jane Eldredge, representing the Schwadas, said they supported rezoning. Scott's indication that you can withdraw is incorrect. At the request of the owners of the property, they consented to the CC600 and agreed to join the city in initiation of the rezoning. The property owners paid a substantial fee for rezoning. If you withdraw you would have to have consent of the property owners, and I can tell you they do not consent to that. Neither the comp plan nor the text amendment was turning on the rec center site. She said that the staff report said it

would be useful to have a designation for sq footages between 400,000 and 1.5 million. Changes to the comp plan were needed to accommodate a rec center. The CC6000 and the revised nodal plan keep an open space buffer. The expansion of the area would provide new opportunities for the community as a whole. Nothing has changed regarding the analysis of use of CC600. For all the reasons mentioned we need to proceed with this CC600. We also must ask the question, if nothing has changed, why change your response? No one has identified a reason to change those plans. If you don't zone this, where will commercial to support this go? The proposed change to the plan expands commercial at all four corners. The idea might be to go to Mercato and use that commercial. That is appropriately planned already. Right now there are 359,000 square feet of retail, most of it taken up with two big boxes. This is the only place we have two big boxes planned. If the rec center moves that will certainly be an impetus for the big boxes and the residential. The only place a hotel could go was at 6th and George Williams, which is a less desirable location. If the first uses wanted were a gas station and fast food, that would soak up all the square footage. The only other place is the CC600 on the west side. We believe the only opposition to the CC600 is the Crawfords and apparently some City Commissioners. She was confident the Commissioners were not prejudging it. In the name of economic development let's make the regional rec center successful. We need to do it right.

A man said it was implied in the news that the neighbors in Northwood objected to the rec center. That was not true. We are here to say we thought everyone involved was operating in good faith.

Schumm said he had been at meetings with the neighbors and they had been good productive meetings.

Eldredge said on the zoning application the owners agreed with removing utilities from the allowed uses.

Gwen Klingenberg said she was sure the Schwadas would support the 200 foot buffer no matter what ended up there. Hopefully the JDEC would look at what kind of primary jobs we

need. This corner already has commercial on the south side. There is a wonderful place for the hotel if we need one. That corner is close to I70, SLT, K10, and KU. Our community is more information and service industry than anything and that is what Horizon 2020 stipulates. It is important to take a step back. Without the rec center, which was the driving factor, the retail wasn't needed. The industrial is needed. Step back and take a look at what we need. What substantial difference, how much, if the thing is dropped now. We can stop now and do whatever we want. We were told we would step back if the rec center wasn't approved but now the developer wants to move forward anyway. Even if it is industrial, IL still allows a hotel if that is needed.

Bill Cowgill said he thanked the Commission and Planning Commission for their continued efforts in hearing us and our neighborhood. The term good neighbor was used in good faith and was appreciated. He said he supported CC600. He thought we had a good neighbor in Steve Schwada. He understands the reasons we live out there in the area we do. Being a gateway, industrial uses would be an eyesore. He supported CC600.

Kirk McClure suggested that the commission deny or withdraw the issues before you. They are premature. You lose negotiating position by rezoning prematurely. Look at the history. Nothing has happened. We have been years with no demand for retail space at this intersection. Rezoning before demand creates problems because you are asked to extend infrastructure. The recent past ought to suggest there is danger in overbuilding. We built housing and retail way beyond our demand. Adding spaces does not add jobs or sales tax. More consumers add those things. It does not add property taxes because the aggregate buying power does not increase. The oldest rule of zoning is plan first and zone second. What you need to do know is ask how much retail we can support in the future and here. Your own CSL study said the sports complex will support 25,000 square feet of retail and 40 hotel rooms. We don't have demand for space now. He recommended withdrawing all three items.

Amyx asked about the information presented tonight. The signatures we have, do they make everything null and void on the protest petition?

Randy Larkin, Assistant City Attorney, said we looked at that issue and we did not find any statutory authority for withdrawing a signature after a petition is verified by the county. We believe this petition is still valid.

Dever said we still have a valid petition.

Larkin said yes.

Amyx asked about the question of the Commission being the applicant.

Larkin said the City could withdraw it.

Schumm said we could withdraw without the land owner consent.

Larkin said yes.

Schumm said this is pretty clear cut for him. We said we weren't going to rezone it without the rec center. We don't have a rec center there so he didn't see reason for CC600 and the rezoning. He said you've got to wait and see what happens on the zoned land. There isn't need to rezone more. He said he didn't see much room for debate on that.

Cromwell said he agreed with that. He would love to entertain a project at that site and we could look at rezoning then, but the intention here was with a particular project and without that the zoning falls off as well. We should resort back to what Horizon 2020 called for, for the time being.

Amyx said there was a full faith effort to look at a center on the property and he thanked the owners. Since day one he said he had concern with the site west of K10. As a community we aren't ready to move across K10 in terms of infrastructure or services. He has not given up on the idea of a city stand alone site on property we own near Wal-Mart. He said as we look at retail development a lot of his concerns were the effect on other parts of the community. The addition of CC600, he was not in favor of at this time. As one of the members of the applicant, he was in favor of withdrawing all the applications.

Dever said there were a couple things that didn't make this cut and dry for him. This is an area that will be developed and needs to be planned, especially if we are building a rec center. We owe it to the neighbors to carefully zone the annexed land. Annexing it but leaving it unzoned leaves a lot of uncertainty. We need to talk about how we would approach that land. He said he saw need for CC600. He was not convinced we should just move away and not have a plan of action for that land. He said he would hate to walk away from this and leave the adjacent landowners in limbo.

Amyx said one of the items recommended from staff, is if there was a withdrawal then we could refer it back to Planning Commission to have discussion with neighbors about what it should be in the future. He said he thought that might take care of a little of the concerns, if we referred it to Planning Commission.

Dever said the first step was to plan, then zone. The neighbors have clearly stated their support for CC600. The comp plan work was not rushed. I am not disagreeing with your comments, but I do see the merit of moving forward with planning and zoning. I think we studied it and had good reasons given for why we might need it. I am open to considering a comp plan amendment and giving it back to the Planning Commission to take a look at it. If a facility is built there may be need for services out there.

Carter said it was good work by staff and the planning commission and the neighbors. It has been a good concept brought forward and there could be a use for it somewhere. He would go back to Eldredge's comments about if nothing has changed why change our response. We have been crystal clear with the neighbors and others that we wouldn't move forward with the rezoning without the rec center. As far as retail, jumping K10 is a stretch but the Schwadas brought something good. The additional retail was a condition of getting that land. The additional retail and hotels would benefit the community. It would spur more things. Right now do we need it though? Probably not. It comes back to being crystal clear that we wouldn't

rezone without the rec center and we need to stick with that. He said if we initiated CC600 we wouldn't be tied to this area.

McCullough said to have CC600 in Horizon 2020 may be prudent.

Carter asked if that is what we were doing with number 5.

McCullough said it does that in the development code. The comp plan amendment does a few things, employing policies in specific sector plans. I believe what would be most prudent would be to detach the sector plan from that and bring back a separate ordinance.

Carter asked if that would be a separate action.

McCullough said it could.

Carter said he would probably support that.

McCullough said the comp plan has been approved by the county commission already. We do a joint city/county ordinance. There has to be alignment between the commissions.

Eldredge said that was the information she thought you needed, that the county already approved the amendment.

Amyx said as we look at the comp plan amendment, withdraw tonight and come back with a new one spelling out how to create CC600, it wouldn't be location specific?

McCullough said that was what he was hearing tonight. There wouldn't be zoning in the community until a sector plan identified it.

Schumm said he was somewhat perplexed. The only reason we got to CC600 was because of the rec center. Now we aren't going that direction but we are talking about having that option somewhere in the city and exploding the commercial in the city. There is nothing even out there. On all this zoning, this isn't a 10 or 20 year process. This land was brought through the process in 90 days. If someone came forward with something it doesn't take too long to process it. There is somewhere between 5-8 million dollars of infrastructure work, so just to designate it commercial was way premature. What I have heard the neighbors say is that currently part of it is industrial. They want assurance that it will be something they can live with. I

think it is a planning more than a zoning issue. Being a gateway to the city he didn't see it industrial. He didn't' think the neighbors wanted that. It seems like we are spinning out of control with the zoning, commercial application.

Carter said he couldn't think of an area where we needed it, but we've done the work. He said he favored just withdrawing the items tonight and have the other discussions later.

Amyx said if there is going to be consideration of a CPA for CC600 we need to do that away from these issues tonight. That would be the right way to do it. Withdraw these three and discuss later the other issues.

Schumm asked what happens to the County Commission if we withdraw.

McCullough said we would have to determine that.

Schumm said our counsel's opinion was that we could withdraw without the owner.

Larkin said yes.

Carter said he didn't want to leave out there the issue with the developer. We could deny it and not leave it open to the question of whether we needed their consent to withdraw.

McCullough said our opinion is that if you deny the CPA and TA the rezoning would become moot. There would be no district to rezone to.

It was **moved by Carter, seconded by Cromwell,** to deny the Comprehensive Plan Amendment and Text Amendment, rendering the rezoning application moot. Motion failed 3-2 (needed four affirmative votes because motion was contrary to Planning Commission recommendation), with Amyx and Dever in opposition.

Schumm asked if the withdrawal took the land out of play in terms of rezoning, what happens with the county?

McCullough said we would have to study it.

Schumm asked if we should continue this while we study that.

McCullough said he thought we could vote and then study that.

Moved by Amyx, seconded by Carter, to withdraw the Comprehensive Plan Amendment, Text Amendment, and Rezoning. Motion carried 4-1 with Dever opposed.

E. PUBLIC COMMENT:

Leslie Soden said she had a hard time hearing some of the speakers and asked if the sound could be cranked.

Corliss said we were still transitioning.

Michael Kelso said he was intrigued by the proposal to come over and join the city. The more we talked with the city the more I became interested in the project. Now that the neighborhood is in support, I am in support of it. With all the enthusiasm present before, what happened? As a consumer and neighbor it seems we moved fast and the people opposed now were in support. I thought we were sold on the old one and a new one might take a year or more.

Schumm said KU felt that they needed additional space to address Title IX deficiencies. They felt like the other side gave them the ability to do that. We have said all along that we want to be in conjunction with them. For the city it may also give us some space for tennis courts, as well as a linkage to nature trails and a cross country site.

Kelso asked who paid for all the surveys and studies at the other site. Someone had to pay for all that and now we are going to go through that again.

Corliss said the neighborhoods' efforts were not for naught. We have learned their concerns. The largest amount of time we have spent on the rec center items was spent on programming rather than land use aspects of the project. The bulk of that would translate to another site. We have paid for some engineering and sampling, maybe $50,000 - $100,000. It is all good information to have for eventual development of the site.

F. FUTURE AGENDA ITEMS:

David Corliss, City Manager, outlined potential future agenda items.

G: COMMISSION ITEMS:

None.

H: CALENDAR:

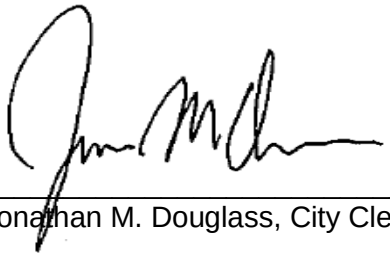
David Corliss, City Manager, reviewed calendar items.

I: CURRENT VACANCIES – BOARDS/COMMISSIONS:

Existing and upcoming vacancies on City of Lawrence Boards and Commissions were listed on the agenda.

Moved by Cromwell, seconded by Carter, to adjourn at 8:53 p.m. Motion carried unanimously.

MINUTES APPROVED BY THE CITY COMMISSION ON 10/02/12.



Jonathan M. Douglass, City Clerk

City of Lawrence

CITY COMMISSION

MAYOR
ROBERT J. SCHUMM

COMMISSIONERS
MICHAEL DEVER
HUGH CARTER
MIKE AMYX
ARON E. CROMWELL

DAVID L. CORLISS
CITY MANAGER

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September 25, 2012

The Board of Commissioners of the City of Lawrence met in regular session at 6:35 p.m., in the City Commission Chambers in City Hall with Mayor Schumm presiding and members Amyx, Carter, Cromwell and Dever present.

A. RECOGNITION/PROCLAMATION/PRESENTATION

1. Proclaimed Tuesday, September 25, 2012 as National Voter Registration Day.

Mayor Schumm also pointed out that Lawrence won the "Best of Topeka" award for best downtown in Northeast Kansas.

B. CONSENT AGENDA

It was moved by Amyx, seconded by Dever, to approve the consent agenda as below. Motion carried unanimously.

1. Approved City Commission meeting minutes from 09/11/12.

2. Received minutes from various boards and commissions:

   Board of Zoning Appeals meeting of 07/05/12
   Historic Resources Commission meeting of 07/19/12
   Lawrence Cultural Arts Commission meeting of 08/08/12
   Mechanical Code Board of Appeals meetings of 07/12/12 and 07/26/12
   Public Health Board meeting of 07/16/12
   Sign Code Board of Appeals meeting of 07/05/12

3. Approved claims to 233 vendors in the amount of $17,284,108.96 and payroll from September 9, 2012 to September 22, 2012 in the amount of $1,931,597.38.

4. Approved licenses as recommended by the City Clerk's Office.

   Retail Liquor License for On the Rocks Discount Liquor, 1818 Massachusetts St

5. Approved appointment of John Hachmeister to the Lawrence Cultural Arts Commission for a term that expires 01/31/14.

6. Bid and purchase items:

   a) Approved sale of surplus playground equipment on Gov Deals.

   b) Awarded bid for Bid Number B1251, Project UT1208KW Chlorine Contact Basin Scum Skimmer Equipment Replacement, to the low bidder CAS Constructors for $42,749 and authorized the City Manager to execute the contract.

   c) Approved purchase of one (1) Ford Explorer for the Lawrence Douglas County Fire & Medical Department to Laird Noller Ford for $28,736.

7. Adopted the following ordinances on second and final reading:

   a) Ordinance No. 8792, allowing possession and consumption of alcoholic liquor on the public right-of-way in conjunction with the Arts Center Final Friday event on Friday, September 28, 2012, from 12:00 p.m. – 12:00 a.m. in a portion of the 900 block of New Hampshire Street.

   b) Ordinance No. 8780, regarding sidewalk dining and hospitality license regulations.

8. Authorized the City Manager to execute a License Agreement permitting Heartland Community Health Center to place an informational ground sign in the City's Parking Lot at 1 Riverfront Plaza in accordance with the terms of that agreement.

9. Approved as signs of community interest, a request from the Lawrence Home Builders Association to place directional signs in various rights-of-way throughout the City during the annual Fall Parade of Homes, September 29 – October 8, 2012.

10. Received request from Community Wireless to access certain County/City fiber-optic cables. Referred to staff for report.

Mayor Schumm announced that prior to regular agenda item number 2, the city commission would be recessing into executive session.

C. CITY MANAGER'S REPORT:

David Corliss, City Manager, presented the report. He added to the report that a representative of the KU Student Senate would be attending City Commission meetings on occasion.

D. REGULAR AGENDA ITEMS:

1. Conduct public hearing and consider adoption of Resolution No. 6995 setting out the findings and determinations of the governing body of the City of Lawrence,

and ordering the construction of an additional parking level on the parking garage at 707 Vermont Street.

David Corliss, City Manager, presented the staff report.

Schumm asked what the process for a protest petition is.

Corliss said you would conduct the public hearing, if you adopt the resolution we have it published in the newspaper, there is then a 20 day protest period. The protest has to be signed by the majority of resident property owners and a majority of the property square footage. Resident property owner means you have to own the property and live within the Lawrence city boundaries. The city commission can decide not to proceed even without a valid petition.

Schumm said you meant 50% of the land?

Corliss said yes. It is calculated by square footage of the lots, not the structures.

Amyx said we don't know how many people inside this district are resident property owners. Do we know the square footage necessary to reach 51%?

Corliss said not at this time.

Moved by Cromwell, seconded by Dever, to open the public hearing. Motion carried unanimously.

Bryan Russell said he lived at Hobbs Taylor lofts. He urged the commissioners to exempt residential properties from the benefit districts. He said people owning residential condos at Hobbs Taylor would not receive any appreciable value to the properties. If you decide to go forward with the library then the taxpayers at large should pay for it. The city manager noted that we provide our own parking downtown. We maintain that. There is no nexus between the new parking spaces and condos. If you keep residential properties in the district and it passes, then staff needs to recalculate the square footages.

Dennis Brown said three or four years ago a developer placed an addition on the back of a building and needed to take out some city parking spaces. That parking had been taken by a developer and now you were talking about an assessment for more parking. There seems to be

a disconnect. If you approve this additional parking, how long before a developer asked for dedication of spaces for their business, and would you approve it? He suggested that you not proceed with the benefit district and stick to what the voters approved.

Joe Patterson said the problem he has is that this project was approved by the general project, and now you were changing the project. The voters' thoughts need to be carried out as they voted upon and not adding to the project.

Teresa Hill said a key purpose of the garage was for children using the library and the pool. How much risk do you add to their safety when adding 72 spaces? Consider the excited toddler and the mom halfway in the car unstrapping the infant. The toddler runs into the traffic lane. Our children's safety is the most important concern. Limit the number of cars in the garage.

Peter Zacharias said he owned property both near and far from the garage. There is a tremendous need for parking downtown. There has never been enough parking. In the summertime with the pool open the garage will still be full. Downtown parking benefits everyone downtown. The city has done a good job of making the district large enough to make the financial burden spread out over a lot of properties. He said he didn't see an intrinsic safety concern and he supported the benefit district.

Ralph Gage, World Company, said you are putting a square peg in a round hole. If more parking is needed, the public should pay for public parking. They questioned four aspects of the proposal, that the district contained residences, that it contained tax exempt property (i.e. that it contained businesses that provided their own parking, and taxes on those private spaces already pay taxes to support public services) and the fourth unfair element is the protest process because the burden is so large due to the city owning so much of the land.

Bob Roten, First United Methodist Church, asked why this wasn't part of the original plan, and why are non-profits included? We have a limited use of parking, peaking on Sunday

morning. This parking location will not be a direct benefit to us. The other point to make is the amount of property the city owns is a big obstacle to a successful protest.

George Paley said he asked the commission to reconsider. We have all experienced the pool and library parking uses. This is more of a public use. He said he supported more parking but asked that you reconsider the funding method.

Moved by Cromwell, seconded by Amyx, to close the public hearing.

Schumm said regarding Hobbs Taylor, you have a unique situation with living units on top of commercial. Can you split those out and only include the commercial.

Corliss said he thought we could. If you are going to do that you have to have a rational basis such as excluding residences that have their own parking.

Schumm said for the non-profits, mostly churches, what options do we have?

Corliss said you can enter into an agreement whereby the city pays the assessment, and if the use changes the assessment reverts to them. The city would pick up the assessment unless the use changes. One of the difficulties is that the state law does not account for the use, only that the property gets a benefit. One case law in Kansas said that it's not the specific use that the law looks at, it is the proximity of the property. From a policy standpoint, if you want to exempt certain property, such as that which provides its own parking, you do that be agreement.

Schumm said several benefit districts have been created over the years. Have churches been included in those?

Corliss said we have included all of the CD district.

Dever asked Dave to summarize how other surface lots were paid for.

Corliss said the one he is most familiar with is the 800 block of New Hampshire. Some of the other surface lots had smaller footprints for their benefit districts.

Schumm said most of the lots as they came online, the property was within a short distance or contiguous to the lot. He had been in 5-6 of those benefit districts over those years.

Dever asked if this is the largest scale parking improvement.

Corliss said as far as cost, yes.

Carter asked if there is any ability to remove the city from the square footage as far as the protest is calculated.

Corliss said there wasn't a legal mechanism, but the commission could decide as a matter of policy to look at the percentages without the city property.

Schumm said he thought that was the best way to proceed. To exclude that in a handshake agreement with the public that if 51% of the non-city property protests, we could decide not to proceed.

Carter said that sounded more fair to him. Are we about $320,000, and would the bonds go for about 2%?

Corliss said based on recent experience, he thought that was probably what it would be in the fall of 2014. We would probably do a temporary note now and then bond it when we conclude the project.

Carter said he wasn't supportive of paying more than what we had already committed to spend on the project.

Corliss said the source of funds for the city's participation in the benefit district would be the parking fund.

Amyx said a lot of the problem he had is that we asked people to go to the polls a few years ago to fund a library project. Now we are asking them to pay an additional amount. There comes a time when enough is enough and he thought we had reached that. We can't keep asking people to dig a little deeper. He thought it was the wrong time, and it was wrong to ask the residences and the churches to pay.

Schumm said he has been in these parking districts and every time another one comes by the same arguments come up, but where would we would if we hadn't built them. He said he would like to see this more forward. These are parking spaces on sale, the $14,000 per space is a lower price. There is some opposition. He doesn't think this is a change to the project. He said

some of the arguments were good about residences and people that provide their own parking. He would like to see if we could work around those. He said he would like to consider the protest without the city's land in the calculations. He would like to see it move forward. He said he had three parcels in the district and had disclosed that. He thought it was a great opportunity. If you get people to come downtown and try a few times to park and can't find a space, they aren't coming back to downtown.

Carter said those were his initial concerns. Removing our property mass from the voting makes it more fair, taking residences and non-profits out, then letting downtown businesses decide for themselves He didn't want to get in the way of that possibility. Those few things would make it more equitable.

Dever asked why we exempted the county courthouse building.

Corliss said it is not in the CD zoning district. The only non-CD included was adjacent to the garage and also the city's GPI zoned land.

Dever said a couple things seemed unfair to landowners in the assessed district. We are taxing people with their own private parking for both the property with buildings and parking. You are basically penalizing people for providing off street parking. The non-profit assessments should be looked at. We are already doubling the number of spaces in the lot by building the garage. He said the city at large is paying a large portion of this already. There are gray areas that make him uncomfortable. Let's take a look at how we can pay for this thing. It's a great idea to add parking and the garage will take burden off people who are 2-3 blocks away. He said upper floors of garages are used less frequently, so it becomes less desirable, but it will still take pressure off other parts of downtown.

Cromwell said the top floor of the other parking garage is heavily used. He tought it was being used by people who are working and are downtown for a long time. Otherwise those people would be parking somewhere else. It is not necessarily that someone inside of Buffalo Bob's is parking there, but maybe someone working at Bob's is, and that frees up space for

customers. Regarding the library project and how parking fits in, we came up with a library budget that is as tight as possible. What wasn't fair and what nobody wanted was to ask the voters to approve a library, a garage, and other things. As we have started designing the project we identified an opportunity and a creative way to finance this. He agreed with statements about making this equitable. He can see excluding residences and churches. Our job sitting up here is to plan further out than a few years. We are going to need those spots in the future, and downtown will benefit today.

Schumm asked if we could submit our comments and have this come back with options.

Corliss said he hears that the commission wants a process to exempt residents and businesses that provide their own parking, properties that are tax exempt, and not include the city property in the protest calculation.

Schumm said there is one difficulty in the businesses that provide parking. They still benefit from additional parking. If that is the sole requirement to exempt a business, that doesn't seem fair in the other direction.

Carter said he thought we wouldn't include the parking itself in the square footage calculation.

Corliss said you are talking about not including that in the calculation for the assessment.

Dever said he would like to take a look at that and see what the totals look like.

Amyx said if we exempted residential, would the amount of the assessment have to go back in the assessment on the other properties and we'd have to re-notify.

Corliss said maybe. Let's see what the numbers come back as.

Schumm said when you start digging into this you are going to find there some sort of rhyme or reason with a threshold to consider.

Amyx said as we look at this district without the city property, could we look at what's left and how many property owners it would take.

Corliss said yes.

Schumm asked if we are under time constraints.

Corliss said he didn't think so. We would probably have this on in 2-3 weeks. We might actually find out what the bid will be during the protest period.

Schumm asked what was budgeted for the existing spaces.

Corliss said 4.25 million.

Schumm asked what if the bids came in at 4.0 million, can the extra reduce the assessment.

Corliss said it would be up to the commission.

Schumm said our next item would be to recess into executive session.

Moved by Dever, seconded by Amyx, to recess into executive session for approximately 30 minutes for the purpose of consultation with attorneys for the city deemed privileged under the attorney client relationship. The justification for the executive session is to keep discussions with the attorneys for the city confidential at this time. Motion made at 8:02 p.m. Motion carried unanimously.

The City Commission resumed the regular session at 8:28 p.m.

2. Consider initiation of zoning items related to the northwest corner of West 6th Street and K-10 and refer to planning commission. The City Commission voted to withdraw the earlier land use items related to this property at their meeting of September 18, 2012.

Randy Larkin, Assistant City Attorney, presented the staff report.

Amyx asked if we rescind the votes and the majority wished to send it back to Planning Commission, would it come back to the City Commission for final approval again.

Larkin said yes.

Mayor Schumm called for public comment.

Jane Eldredge said she appreciated having the item on the agenda. She said she had a meeting with Schumm, Dever, and staff, and made phone calls to other commissioners. She

said she would like you to move forward with approving all three of the applications. She wanted to make it clear that that was her request. The city was planning way out into the future with these items. The zoning is site specific and is a little different than the other items. You are good and careful about being fair to landowners and this seems a little unfair, and she asked to move forward with the applications.

Gwen Klingenberg said you have already planned this corner twice, in the K10 Plan and the SmartCode. One of the reasons it was planned as a business park is because of the gateway. It says this area is to be office industrial warehouse. The employment related land use should be maintained. This sits on the corridor between Manhattan and Columbia on the animal sciences corridor and is an opportunity to develop primary jobs in that field. On the K10/40 plan it says this would best be suited for warehouse and other employment uses. She said she is asking that we be equal and fair to all, including the city and neighborhood and landowner, and that you send it to the Planning Commission with no set boundaries on what you want.

Carter said that last week he said when this first started that we would not rezone this if the rec center didn't go forward, and the cleanest way to restart the process was to deny it. One of the consequences of not acting on it is neighbor angst and we have heard that clearly. Denying it didn't pass and we rescinded it. Through the past week it seems like the best way to get this going for the neighbors would be to send it back to Planning Commission, rescinding the action from last week, asking them to take a look at it based on the changes that have occurred. Here are the changes, take a look at what appropriate zoning would be.

Amyx said one of the things is if we go ahead and rescind, and that is probably appropriate due to our concern for the neighbors, it is obvious to me that there are probably different considerations that need to be made. We are going to ask the Planning Commission to make recommendations back to this body, with the change that has occurred, what is the appropriate zoning for that area. This body will make the decision. I want the Planning

Commission to make their recommendation and I don't want to lead their discussion. Being asked to rescind and send it back to Planning, I guess I can do that at this time.

Cromwell said in looking at this from last week, his comments then were that he wanted the Planning Commission to have an opportunity to take a look at this in light of the fact that the Sports Village is not going to be at this location. He said he agreed that they need a clean slate to work from. If we need to rescind to keep this as clean as possible he thought he could go along with that. He said his is interested in the input of the Planning Commission.

Schumm said he had been pretty adamant that if the rec center failed for any reason he wasn't in favor of rezoning any land that was not needed for that. We have a rec center in the general vicinity, possibly with a larger project than before. The site is now in the 150 acre range, more a park than just a regional rec center. It has grown and grown for the best. We have an obligation to support that with ancillary uses. There is still a need for additional land uses. He was willing to send this back to the Planning Commission and have them look at the whole area. He wanted all property owners notified. He said he wanted to see a comprehensive view of the whole area. The area will be a major commercial, industrial or mixed use area, a major are for activity and he hoped the Planning Commission could come back with some innovative plans for the area. He hoped they could take a broader global view. He would support rescinding and sending it back to Planning.

Moved by Dever, seconded by Carter, to rescind motions from last week to withdraw Comprehensive Plan Amendment CPA-4-2-12, Text Amendment TA-4-3-12, and Rezoning Z-4-5-12. Motion carried unanimously.

Larkin said with that motion you have reopened the four options you had earlier.

Moved by Carter, seconded by Dever, to remand Comprehensive Plan Amendment CPA-4-2-12, Text Amendment TA-4-3-12, and Rezoning Z-4-5-12 to the Planning Commission for consideration per the City Commission comments tonight and the specific direction as follows: Given the change in circumstance that the regional recreation center/sports village is no

longer planned for the Gateway Addition property west of K-10, the City Commission has not approved or dis-approved the applications and directs the Planning Commission to review the comprehensive plan, text amendment and rezoning applications in light of the change in circumstance of the regional recreation center/sports village relocating to a property east of K-10. Motion carried unanimously.

E. PUBLIC COMMENT:

K.T. Walsh said if you visit Hulu and search "up to speed Kansas" you will see something featuring two sites in our community.

F. FUTURE AGENDA ITEMS:

David Corliss, City Manager, outlined potential future agenda items.

G: COMMISSION ITEMS:

None.

H: CALENDAR:

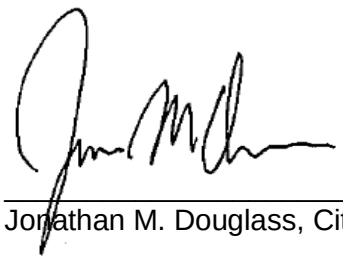
David Corliss, City Manager, reviewed calendar items**.**

I: CURRENT VACANCIES – BOARDS/COMMISSIONS:

Existing and upcoming vacancies on City of Lawrence Boards and Commissions were listed on the agenda.

Moved by Carter, seconded by Cromwell, to adjourn at 8:54 p.m. Motion carried unanimously.

MINUTES APPROVED BY THE CITY COMMISSION ON OCTOBER 9, 2012.



Jonathan M. Douglass, City Clerk

KU
ENDOWMENT
The University of Kansas

September 17, 2012

City of Lawrence
Attention: Mayor Bob Schumm
6 E. 6th Street
P.O. Box 708
Lawrence, KS 66044

Dear Mayor Schumm:

The Kansas University Endowment Association is excited about the potential partnership between KU Endowment and the City of Lawrence relative to a lead gift to KU Endowment for purposes of land acquisition for athletic and recreation development west of George Williams Way. This partnership brings together vision and collaboration to recreational efforts for the City, and Title IX and aged facility solutions for KU Athletics. For both entities, these projects have been identified as needs; the benefits to both will be recognized by many people locally and nationally.

As details are being finalized specific to the gift for purchase of the land, we anticipate that once the land is purchased, KU Endowment would enter into ground leases with the City and with KU Athletics to develop the recreation center and KU athletic facilities (soccer, softball, and track stadiums). Not unlike other donations, it would be common to have the stipulation that the ground lessor (KU Endowment) will retain certain rights to ensure a desired high level of quality control for any improvements made on the land, including, but not limited to, site development, architectural design, quality of materials and construction, and final approval and selection of architects and contractors. These expectations are important to KU Endowment, as all land developments must meet the highest standards.

However, as the City and KU Athletics enter into their agreements with KU Endowment, it would be expected that each entity has the opportunity not only to design their own respective facilities, but also to have input into architectural standards and construction decisions. It is understood that these projects are paramount to each lessee; therefore, joint approvals with lessees to KU Endowment are expected.

As you know, KU Endowment and the City share prior agreements. This opportunity, as presented, provides another excellent opportunity for partnership success.

KU Endowment looks forward to working with you, your fellow commissioners, and the City staff on this great opportunity for KU and the Lawrence community.

Cordially,

Dale Seuferling
President, KU Endowment

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MATTHEW S. GOUGH*

*ADMITTED IN KANSAS AND MISSOURI

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RICHARD A. BARBER
(1911-1998)

GLEE S. SMITH, JR.
OF COUNSEL

Jane M. Eldredge
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October 10, 2012

Via E-Mail and U.S. Mail

Scott McCullough, Director
Lawrence-Douglas County Metropolitan Planning Commission
6 East Sixth Street
Lawrence, Kansas 66044
smccullough@lawrenceks.org

Re: Planning Commission Meeting October 24, 2012

Dear Scott:

Thank you for meeting with me on Tuesday, October 2, 2012 to discuss the procedure for referring the comprehensive plan amendment, the text amendment, and the zoning request by Gateway Addition to the Planning Commission. These items were all referred to the Planning Commission by the City Commission on September 25, 2012.

As I understand our discussion, the Staff will not be making any additional Staff Report other than to provide to the Planning Commission the original Staff Reports, the Planning Commission's minutes from their first review and analysis of these three items, the City Commission minutes from September 18, 2012 and from September 25, 2012, with the Mayor's statement regarding the reason for the referral. Toward that end at Amy Miller's request, I am enclosing a copy of the court reporter's transcript from the September 25, 2012 City Commission meeting in which the commissioners stated their reason for the referral back to the Planning Commission. That reason was the relocation of the Regional Recreation Center from west side of the South Lawrence Trafficway to the east side of the South Lawrence Trafficway.

I further understand that you will be presenting this item to the Planning Commission and that you anticipate that the landowner would have ten minutes for a presentation to the Planning Commission. We also anticipate that there may be other owners in the area who will wish to address the Planning Commission. If this is not an accurate statement regarding the format and content of the October 24, 2012 Planning Commission then, please clarify it for me at your earliest convenience.

If there is any further information that we may provide, please do not hesitate to contact me.

Sincerely,

BARBER EMERSON, L.C.

Jane M. Eldredge

Jane M. Eldredge

JME:dkh
Enclosure
cc: Toni Wheeler

LAWRENCE CITY COMMISSION

LAWRENCE, KANSAS

COPY
ORIGINAL

EXCERPT FROM

CITY COMMISSION MEETING

REGULAR AGENDA ITEM NO. D2

City Hall

6 East 6th Street

Lawrence, Kansas

September 25, 2012

6:30 p.m.

APPEARANCES

MR. BOB SCHUMM
Mayor

MR. MIKE AMYX
Commissioner

MR. HUGH CARTER
Commissioner

MR. ARON CROMWELL
Commissioner

MR. MIKE DEVER
Commissioner

MR. DAVID CORLISS
City Manager

MS. DIANE STODDARD
Assistant City Manager

MS. TONI WHEELER
City Attorney

MS. CYNTHIA WAGNER
Assistant City Manager

MR. CHARLES F. SOULES, P.E.
Division of Public Works

MR. SCOTT McCULLOUGH, Director
Planning & Development Services

MR. JONATHAN DOUGLASS
Assistant to City Manager

MS. JANE M. ELDREDGE
BARBER EMERSON, L.C.
1211 Massachusetts Street
PO Box 667
Lawrence, Kansas 66044

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(Excerpt from City Commission Meeting, Discussion Regarding Regular Agenda Item No. D2, commenced at 8:28 p.m.)

MAYOR SCHUMM: We're back from our executive session and we'll consider the next item on the agenda.

The next item on the agenda is to consider initiation of zoning items related to the northwest corner of West 6th Street and K-10 and refer to Planning Commission. The City Commission voted to withdraw the earlier land use items related to this property at their meeting of September 18th, 2012.

Staff?

MR. RANDY LARKIN: Yes. Mayor, Commissioners. Randy Larkin, senior assistant City attorney.

The second item tonight is to address the Gateway property and possible initiation of zoning items related to that property.

At last week's meeting the City Commission voted four to one to withdraw the applications to amend the comprehensive plan, to create the proposed CC600 zoning district, and to rezone the Gateway property from

various county designations to the CC600 designation.

The landowner has asked that due to changes related to the sports village, that the City Commission reconsider its decision from last week and instead of withdrawing it, to reopen it and remand it to the Planning Commission for reconsideration of the land uses in light of those changes.

If the Commission chooses to do so, it may do so through a motion to rescind. And then if the motion is seconded and a majority of the commission members vote in favor of the motion to rescind, that would reopen the applications and it would allow the City Commission to reconsider those three applications.

And if that occurs, then you would have the same four options available to you as you had last week.

You could vote by a simple majority to approve the recommendation regarding the comprehensive plan and the text amendment, and then you would vote -- which would have to be by four-fifths of the majority -- either to

approve or to disapprove the Planning Commission's recommendations regarding the rezoning.

You could vote to disapprove, and this would have to be by four-fifths majority, the Planning Commission's recommendation regarding the comprehensive plan regarding the text amendment. And then such a vote would moot out any consideration of the rezoning request.

Third, you could send the issue back to the Planning Commission by a simple majority vote for reconsideration of the applications in light of the change in circumstances. And that is that the KU and proposed City recreation center may be moving to a different location and with the direction to the City -- to the Planning Commission that based upon those changes -- whether or not that changes their recommendation regarding those three applications.

And, also, you would need to make a statement that the reason you are not approving or not disapproving, is that because of those various specific changes in

circumstances.

Or four, you could withdraw, in our opinion. But, obviously, if you rescind that motion, it would probably be a moot deal.

At this time it is the recommendation of the City attorney's office that if you decide to rescind your vote of withdrawal, that you send it back to the Planning Commission because of the changes in circumstances for review and consideration:

No. 1, stating that the City Commission has neither approved nor disapproved the recommendations of the Planning Commission due to the change in circumstances relating to KU's location and the City's location of this recreational center;

And, 2, directing the Planning Commission to determine whether its recommendation regarding the comprehensive plan amendment, the text amendment and the rezoning recommendations had changed in light of the change in circumstances. And if you have any questions.

MAYOR SCHUMM: Questions from staff?

Mr. Amyx?

MR. AMYX: So, Randy, then, if we were to go through the rescinding the withdrawal of this item, you know, if it was -- a majority of the Commission wished to send it back to the Planning Commission, it would go through the process to either affirm, reaffirm, whatever action, you know, that they have done before. It would come back to this body for final decision again?

MR. LARKIN: Yes, that is correct.

MAYOR SCHUMM: Other questions from staff? Public comment?

MS. ELDREDGE: Thank you, Mr. Mayor. My name is Jane Eldredge and I very much appreciate you putting the item on the agenda that you did.

And then as part of full disclosure, I want to make it clear that I had a meeting with the mayor, with Commissioner Dever and with City staff discussing this item, and I have since made telephone calls to each of you.

It sounds as if perhaps my message was not clear. And the message is we would

like to have you reconsider your actions as is necessary, and we would like you to move forward with approving all of these three things for -- on the basis that you have the information, you have the referrals.

And I understand that you may choose to do something else with it, but I appreciate the opportunity, and I just wanted to make it clear what my request was intended to be.

I appreciated Commissioner Cromwell's comments on the earlier agenda item that it is important to plan way out in the future. And I think that's what the staff and the City and the Planning Commission have been doing with regard to this intersection since their planning of the comp plan and the text amendment has been regardless of where a rec center located.

The zoning was the site-specific one. And I think that is a little bit different and we've discussed the issue about withdrawal of names on petitions before, and I just want to be very careful. Because you are so good and careful about being fair to landowners.

And this seems a little bit unfair,

and I'd like to ask you to consider moving forward, as well as considering what the staff recommendation has been to you at this time.

Thank you very much. Appreciate it.

MS. KLINGENBERG: My name is Gwen Klingenberg. I'm president of Lawrence Association of Neighborhoods.

We've already planned this corner. Actually twice. You have it planned in the K-10 plan. You also have it planned in our SmartCode, which actually is mentioned in the K-10 Plan and Horizon 2020.

And the reason -- one of the reasons why it was planned what it is now -- which is not smoke stacks, but it's a business park -- is because of the Gateway.

And, actually, it says that this area is to be office/industrial/warehouse. Regardless of which land use option is chosen for development, the employment-related land use should be maintained.

That can be developed conventionally under the development code or potentially with special districts under the Lawrence SmartCode.

As I pointed out a couple of times ago, this sits on the corridor between Manhattan, Kansas and Columbia, Missouri as the center for the animal health and nutrition industries. As we look at trying to bring in more primary jobs, this is a great place right on I-70 to have primary jobs in this field.

As you know, the City hired PlaceMakers, a national consulting firm, to write a traditional neighborhood development code that can be used to develop a traditional neighborhood in the future, and we actually have one in there.

On the K-10/Highway 40 plan under Horizon 2020, it says, "Over time as this area develops, it will serve as a gateway to the city of Lawrence and will best be suited for warehouse and distribution uses, industrial uses, work live campus-type centers and industrial business research and parks."

And we all know the length of time it took to get this site -- determine what that plan was going to be. Now, I'm not asking you to push it forward to the Planning Commission and say industrial.

What I am asking is that we be equal and fair to all, that's including the City, the Gateway for the City, that we be fair to the neighborhood and fair to the landowner, and that you send it over to the Planning Commission with no set boundaries of what kind of zoning you want.

Leave it open to them for full discussion of all the various things available, including the SmartPlan code. And that's what I'm asking for. Thank you.

MAYOR SCHUMM: Thank you, Ms. Klingenberg. Other comments?

Okay. Back to the Commission for discussion.

Mr. Carter?

MR. CARTER: I'll kick it off. Last -- when we were voting last week, I had said, you know, that -- I had stated when this first started that, you know, we would not rezone this property unless the rec center had moved forward. So my feeling was that the cleanest way to do that was to -- well, actually, to deny it and to restart the process.

But at the same time, as I mentioned last week, at the same time we need to restart the process because now we've annexed it. And, the thing is, we didn't move the rec -- we moved the rec center, but we didn't move it far. It's a stone's throw away. So we need to address this property.

Because one of the unintended consequences of not acting on it -- that at the time I said we wouldn't act on it -- was that, obviously, neighbor angst. And we have heard that clearly from the neighbors that worked well with us through this process, that now it's left up in the air.

And with the rec center still being somewhat in proximity, something is going to happen, so let's get some clarity there.

Also, just the fact, again, based on the proximity, it probably is going to hasten some sort of development out in that area. But.

So denying that -- denying didn't pass, removing it -- or not rescinding it and -- the way that we went.

But through this past week in

conversation, it's clear to me that the best way to go ahead and get this addressed for the neighbors -- and I think just from a planning standpoint, it makes sense to determine what the best zoning is -- would be to -- just to send it back to the Planning Commission and rescind the action of last week.

And I would just say that I agree, you know, definitely I would want the Planning Commission just to look at what is appropriate in light of these changes now, knowing that the comp plan is the guideline and not zoning so.

We planned it before but what is most appropriate. You know, in employment-related land use, business park, primary jobs are important. But based on the proximity of the rec center and other things out there, just kind of an open book to say, here are the changes. Take a look again and come back with a recommendation what's the appropriate zoning for this property. So. That's my thoughts anyway.

MAYOR SCHUMM: Okay. Thank you. Comments? Mr. Amyx?

MR. AMYX: Well, I guess one of the things is that, you know, if we go ahead and rescind the withdrawal, which I think if -- I think it's probably appropriate to do that because we promised the neighbors that are adjacent to this property that, you know, our concern was for them.

And then the fact that now that this change has occurred in the location where the sports village is going to be, it is obvious -- it's obvious to me that there's probably -- you know, different consideration is to be given to this property.

One of the things that was brought up a second ago that I think is appropriate -- and we can refer it to the Planning Commission. And, you know, it's one of those things where we're going to ask people that we've appointed to the Planning Commission to be planners in the area, to make the recommendation back to this body for what -- you know, with the change that's occurred, you know, what is the appropriate zoning for that area. And then we will look at that.

You know, obviously, final decision

rests here. But I -- I really don't want to go a whole lot farther and given any direction here, because I want them to, you know, make their recommendation based on, you know, the things that they have to consider through the planning process. So I want to be careful here as to not lead, you know, that part. So.

I guess if this is -- I guess, if -- being asked to rescind the withdrawal and send this back to the Planning Commission for their recommendations, I guess I could do that at this time.

MAYOR SCHUMM: Mr. Cromwell?

MR. CROMWELL: Thanks. Yes. In looking at this from last week, I think my comments last week were that I wanted our Planning Commission to have an opportunity to take a look at this -- this project in light of the fact that it no longer will have the sports village assigned to this particular location. So they need to have a chance to say whether or not that impacts their zoning decision.

I do agree with the statement that they need a clean slate to work from. And,

you know, if we need to rescind in order to keep this as clean as possible for the time being, then I think that I could go along with that.

I have never -- I have always voted to -- had something go back to planning and get their input when it was appropriate. And I think, you know, I am interested in that input. And if that's what we need to do here today, then I can be comfortable with it.

MAYOR SCHUMM: Okay. My comments are as follows: I was pretty adamant about the fact that as a promise to the public, that if the rec center failed for any reason, that I was not interested in rezoning an additional amount of land that we wouldn't have need of right away because the rec center wouldn't be there.

We have -- still have the rec center in the general vicinity; it's just moved to the east side of K-10 as opposed to the west side. Actually, it's gotten larger. There's more -- there's going to be more activity there. There's going to be a softball diamond and stadium, you know, possibly be eight

illuminated tennis courts for the City. There could be a walking, jogging, cross-country trail in addition to all the other uses that we had originally.

So, if anything, it's gotten a lot larger. And the site is now in the 150-acre range. It's more like a park than just a regional recreational center. So it's grown quite a bit and I think grown for the best.

So with that in mind, we still have an obligation to support that with some ancillary uses, stuff like hotels, motels, restaurants, gas stations, et cetera. So there's still the need for some additional land uses.

I am willing to send this back to the Planning Commission. I hope that they take a good hard look at the whole area. I'm very interested in all the property owners being, you know, contacted, once directly involved in the four corners as well as the neighborhood to the north.

I'd like to see a real good comprehensive review of the whole project, the whole area now that -- now that we know that

it's moved and that it's larger and see what they come back with.

I don't really believe that the picture we have today is the same picture we had as short as three weeks ago. It's much clearer and much more well-defined.

Obviously, that area is going to be a major commercial area, commercial or industrial or mixed use, but a major area for activity in terms of not -- other than residential uses.

So I would hope that they would -- the Planning Commission would come back with some really innovative ideas that sets that district apart from others and makes it look like it's a really well-planned perfected part of our city.

So with that in mind, I'm willing to send it back to the Planning Commission and see what they have to say. I hope that they look past where we were with the last zoning initiative and give it a much broader global view now that we have all these things in clearer vision.

So I would support the motion to

rescind with the idea that it goes back to the Planning Commission for a total review. I will entertain a motion at this time to rescind.

MR. DEVER: Mayor, in light of your comments, I respectfully request a motion to rescind our September 18th, 2012, decision to withdraw the applications to amend the comp plan, to create the CC600 zoning district and to rezone the Gateway property from county designations to CC600 zoning district.

MAYOR SCHUMM: Move Dever. Second Carter?

MR. CARTER: Yes.

MAYOR SCHUMM: All in favor, Say aye.

(The ayes were thereupon heard.)

MAYOR SCHUMM: Opposed?

(No response.)

MAYOR SCHUMM: I think it carries five zero; motion rescinds the action of last week.

Now, is it just a simple motion to refer this back to the Planning Commission or does it go back automatically?

MR. DEVER: I think we need to ask

whoever responded to the three options we have --

MAYOR SCHUMM: All right.

MR. LARKIN: Right. With that motion, now, you've reopened the applications and you have before you the four options that we discussed earlier. The first would be to approve the comp plan, approve the text amendment and then either approve or deny by a four-fifths margin the rezoning.

You could deny the comp plan amendment; you could deny the text amendment and that would moot out the rezoning issue.

Or you could send it back to the Planning Commission with the statement that because of the change in circumstances, you did not vote either to approve or to disapprove and direct the Planning Commission to reconsider those applications based upon the change in circumstances.

Or, fourth, you could withdraw, which is what you did last week and you just voted to rescind. So you're basically faced with those options this time.

MAYOR SCHUMM: Thank you. Questions?

MR. CARTER: Are you ready to make a motion?

MAYOR SCHUMM: I guess we would look a little foolish if we voted for another four; it would be a never-ending loop.

MR. DEVER: Do over.

MAYOR SCHUMM: Just keep doing it.

MR. CARTER: Mayor, I would give a motion, I guess, at this time unless there's some more conversation on it.

MAYOR SCHUMM: Go ahead.

MR. CARTER: Yeah. I move at this time that we not take action on those three items, that we send it back to the City Commission --

UNIDENTIFIED MALE: (Unintelligible.)

MR. CARTER: -- back to the Planning Commission -- it is a loop, isn't it -- for further consideration. And I think the comments that were made earlier are to be shared with them, as well.

MAYOR SCHUMM: It's been moved by Carter.

MR. DEVER: Second.

MAYOR SCHUMM: Second by Dever.

Just a point of importance to me, is that I would want the conversation of the comments I made included in the minutes that would go to the Planning Commission as well as all the relevant comments here to make sure ...

MR. CARTER: I'm sorry. I thought I included that in the motion of the earlier comments.

MAYOR SCHUMM: Okay. So it's moved by Carter; seconded by Dever.

All in favor say aye.

(The ayes were thereupon heard.)

MAYOR SCHUMM: Opposed.

(No response.)

MAYOR SCHUMM: Carries five zero.

(Excerpt from City Commission Meeting, Discussion Regarding Regular Agenda Item No. D2, concluded at 8:50 p.m.)

C E R T I F I C A T E

I, Avanelle L. Sullivan, a Certified Shorthand Reporter of the State of Kansas, do hereby certify that I appeared at the time and place first hereinbefore set forth, that I took down in shorthand the entire proceedings had at said time and place, and that the foregoing constitutes a true, correct, and complete transcript of my said shorthand notes.

Witness my hand and seal this 4th day of October, 2012.

Avanelle Sullivan
State of Kansas
Certified Shorthand Reporter

Avanelle L. Sullivan
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October 20, 2012

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Via E-Mail

Dr. Bruce Leise, Chair
Lawrence Douglas County Metropolitan Planning Commission
City Hall
6 East Sixth Street
Lawrence, Kansas 66044
bruce@kansascitysailing.com

Re: October 24, 2012 Planning Commission
Item No. 9 CPA-4-2-12 (comprehensive plan amendment)
Item No. 10 TA-4-3-12 (text amendment)
Item No. 11 Z-4-5-12 (rezone 146 acres to CC 600)

Dear Dr. Leise:

All three of these items were previously adopted by the Planning Commission and/or recommended for approval to the County and City Commissions. On September 25, 2012 the City Commission remanded them to the Planning Commission by motion directing:

> **"Given the change in circumstance that the regional recreation center/sports village is no longer planned for the Gateway Addition property west of K-10, the City Commission has not approved or disapproved the applications and direct the Planning Commission to review the comprehensive plan, text amendment and rezoning application in light of the change in circumstance of the regional recreation center/sports village relocating to a property east of K-10."**

I. HISTORY

The Planning Commission considered these three items on May 21, 2012. The Staff provided extensive studies and analyses of each of these proposals before recommending approval of each to the Planning Commission. After a thorough discussion, the Planning

Commission recommended all three items for approval by the County and/or City Commissions. The Planning Commission also adopted the comprehensive plan amendments. Please see Exhibit A (PCR-5-4-12).

The Douglas County Commission adopted the comprehensive plan amendments on July 11, 2012 by unanimously approving Exhibit B (Resolution No. 12-24).

II. PERMITTED PLANNING COMMISSION ACTIONS

The Planning Commission responses to each remanded item must fall within the same three options, even though each item is governed by a different statute or City Code section. The comprehensive plan amendment is governed by K.S.A. 12-747(b), a copy of which is attached as Exhibit C. The text amendments are governed by City Code Section 20-1302(e)(2), a copy of which is attached as Exhibit D. The zoning amendment is governed by K.S.A. 12-756(b); a copy of which is attached as Exhibit E. Each one directs the Planning Commission after further consideration to:

A. Resubmit the original recommendation stating the reasons for the resubmission; or

B. Submit a new and amended recommendation;

C. **BUT**, if the Planning Commission fails to deliver a recommendation to the City Commission following the Planning Commission meeting, the City Commission **shall** consider this inaction as a resubmission of the original recommendations.

III. ANALYSIS and REQUESTED ACTIONS

A. CPA-4-2-12 Comprehensive Plan Amendments

1. These amendments should be adopted by the Planning Commission and returned to the County and City Commission with recommendations for adoption with two additional changes to the West of K-10 Plan:

   a. Page 28, delete the references to the regional recreation center being located within the northwest corner of the study area.

b. Page 29, add a reference to the regional recreation center being located adjacent to northwest corner of the study area.

2. The reasons for adopting CPA-4-2-12 and recommending it for approval are:

a. The May 21, 2012 Planning Commission minutes reveal that after extensive analysis and thorough discussion both the Staff and Commissioners recommended the comprehensive plan changes independently of where a recreation center may be located.

b. There is a gap in the permitted amount of retail commercial square footage between the 400,000 of the largest community commercial center (CC 400) and the 1,500,000 of a regional commercial center (CR) that is ameliorated with the proposed CC 600 center.

c. The proposed CC 600 center provides for the needed expansion of the community commercial centers and particularly for the expansion of the community commercial center at the intersection of US 40 and K-10.

d. The northwest corner is still at the intersection of two highways making it ideal for commercial uses. The completion of the portion of K-10 known as the South Lawrence Trafficway ("SLT") only enhances the desirability of this commercial node.

e. The West of K-10 Plan is the nodal plan for this intersection and it specifically limits the retail commercial on the northwest corner to 180,000 square feet, while expanding the opportunities for new commercial uses on the southwest and southeast corners. It makes no change to the northeast corner.

f. Even though the location of the proposed regional recreation center has moved across K-10, it will still have a significant influence on this commercial node.

g. Additional commercial uses will still be necessary to support the regional recreation center/sports village on the east side of K-10.

h. Without the expansion of the node from a CC 400 center to a CC 600 center there will not be sufficient additional retail commercial zoning to support the regional recreation center.

B. TA-4-3-12 Text Amendments

1. These text amendments should be recommended for approval to the City Commission. No changes are necessary.

2. The reasons for recommending TA-4-3-12 for approval are:

   a. It implements the comprehensive plan.

   b. At the May 21, 2012 Planning Commission it was recommended for approval regardless of the location of the regional recreation center.

   c. An expanded community commercial center zoning district is needed to service the completed SLT and the regional recreation center and to provide reasonable locational choices for new or expanding businesses.

   d. The code provisions provide well planned and compatible uses for expanded commercial centers at the intersection of two federal or state highways.

C. Z-4-5-12 Zoning

1. This zoning request should be recommended for approval to the City Commission with two additional amendments:

   a. Strike "UTILITY MAJOR" from the permitted uses shown in Table 1, p. 7-7 of the May 21, 2012 Staff Report; and

   b. Strike "RECYCLING - large collection" from the permitted uses shown in Table 1, p. 7-8 of the May 21, 2012 Staff Report.

2. The reasons for recommending Z-4-5-12 for approval are:

a. If the comprehensive plan and text amendments are approved, then the rezoning is consistent with them;

b. The owner and neighbors agreed to eliminate "major utility" and "large collection recycling" uses from the table of permitted uses;

c. CC 600 uses are not all retail. The specific uses permitted in this zoning request are restricted to those permitted in the Staff Report and those requested to be eliminated by some neighbors.

d. This is a **conditional** zoning request that limits the amount of retail commercial permitted on this corner in an innovative and creative way, emphasizing compatibility with surrounding uses and creating an attractive gateway to the City while providing some of the necessary amenities to support the nearby regional recreation center.

e. Without this zoning, the anticipated economic development impact of a regional recreation center may be lost. We may not be able to conveniently support the future regional sports tournaments, the concert goers or the users of the proposed recreational and entertainment activities.

IV. CONCLUSIONS

A. CPA-4-2-12 should be amended to reflect the move of the proposed regional recreation center to the east side of K-10. It should be adopted by the Planning Commission and recommended for approval to the County Commission.

B. CPA-4-2-12, TA-4-3-12 and Z-4-15-12 should each be recommended for approval to the City Commission despite the proposed relocation of the regional recreation center/sports village to the east side of K-10, because they are still necessary to the planning and development of the important intersection that will be significantly influenced by a regional recreation center/sports village.

V. SUMMARY

The Planning Staff and Planning Commission provided the initial thoughtful analysis of these three proposals on May 21, 2012, regardless of where the regional recreation center was proposed. The proposed regional recreation center move across K-10 has not changed any of this analysis. However, the change does require the housekeeping changes of removing the reference to a "regional recreation center" from the description of one of the corners in the West of K-10 Plan study area while acknowledging its adjacency to another corner in the Plan. Additionally, the agreed elimination of two more permitted uses from the corner should be honored.

Please adopt motions affirming the initial Planning Commission recommendations for approval of all three items with the necessary amendments and provide the reasons for your actions. Remember, failure to act will be perceived as approval, but without the rationale.

Thank you for your consideration.

Sincerely,

BARBER EMERSON, L.C.

Jane M. Eldredge

JME:dkh
Attachments
cc: Planning Commissioners
Planning Staff
Duane Schwada
Steve Schwada

PCR-5-4-12

A RESOLUTION OF THE LAWRENCE-DOUGLAS COUNTY METROPOLITAN PLANNING COMMISSION ADOPTING AND RECOMMENDING ADOPTION OF A PROPOSED AMENDMENT TO *HORIZON 2020*, THE COMPREHENSIVE PLAN FOR THE CITY OF LAWRENCE AND UNINCORPORATED DOUGLAS COUNTY, AMENDING CHAPTER 6 - COMMERCIAL, TO ESTABLISH THEREIN POLICIES GOVERNING CC600 (COMMUNITY COMMERCIAL) DISTRICTS, AND CHAPTER 14 - SPECIFIC PLANS, TO REVISE THEREIN THE "WEST OF K-10 PLAN" TO DESIGNATE THE SIXTH STREET AND K-10 NODE AS A CC600 COMMERCIAL NODE AND TO DELETE THEREFROM THE EXISTING "A NODAL PLAN FOR THE INTERSECTION OF WEST SIXTH STREET AND KANSAS HIGHWAY 10 (K-10)."

WHEREAS the City of Lawrence, Kansas, and Douglas County, Kansas, in order to promote the public health, safety, morals, comfort, and general welfare and to conserve and to protect property values in the City and the County, are authorized by K.S.A. 12-741, *et seq.*, to prepare, adopt, amend, extend, and execute a comprehensive plan;

WHEREAS the City of Lawrence, Kansas, Douglas County, Kansas, and the Lawrence-Douglas County Metropolitan Planning Commission, in order to coordinate development in accordance with the present and future needs of the City and the County, to conserve the natural resources of the City and the County, to ensure efficient expenditures of public funds in the City and the County, and to promote the health safety, convenience, prosperity, and the general welfare of the residents of the City and the County, have adopted *Horizon 2020*, the Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County; and

WHEREAS, on May 21, 2012, after giving lawful notice by publication in the official City and County newspaper, the Lawrence-Douglas County Metropolitan Planning Commission conducted a public hearing regarding a proposed amendment of *Horizon 2020*, the Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, as set forth in Planning Staff Report, CPA-4-2-12, amending Chapter 6 - Commercial, to establish therein policies governing CC600 (Community Commercial) Districts, and amending Chapter 14 - Specific Plans to revise therein the "West of K-10 Plan" to designate the Sixth Street and K-10 Node as a CC600 Commercial Node and to delete therefrom the existing "A Nodal Plan for the Intersection of West Sixth Street and Kansas Highway 10 (K-10)."

NOW, THEREFORE, BE IT RESOLVED BY THE LAWRENCE-DOUGLAS COUNTY METROPOLITAN PLANNING COMMISSION:

SECTION 1. The above-stated recitals are incorporated herein by reference and shall be as effective as if set forth in full.

SECTION 2. Pursuant to K.S.A. 12-747, the Lawrence-Douglas County Metropolitan Planning Commission hereby adopts and recommends to the governing bodies of the City of Lawrence, Kansas, and Douglas County, Kansas, that they adopt the proposed amendment to *Horizon 2020*, the Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, as set forth in Planning Staff Report CPA-4-2-12, amending Chapter 6 - Commercial, to

establish therein policies governing CC600 (Community Commercial) Districts, and Chapter 14 - Specific Plans, to revise therein the "West of K-10 Plan" to designate the Sixth Street and K-10 Node as a CC600 Commercial Node and to delete therefrom the existing "A Nodal Plan for the Intersection of West Sixth Street and Kansas Highway 10 (K-10)."

SECTION 3. The revised and updated Chapter 6 - Commercial, affixed hereto as Exhibit 1, the revised and updated Chapter 14 - Specific Plans, affixed hereto as Exhibit 2, and the revised and updated "West of K-10 Plan," which is incorporated by reference into Chapter 14 - Specific Plans, affixed hereto as Exhibit 3, shall upon adoption by governing bodies of the City of Lawrence, Kansas, and Douglas County, Kansas, be incorporated into *Horizon 2020*, the Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County.

SECTION 4. This Resolution, together with a certified copy of the proposed amendment to *Horizon 2020*, the Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, and a written summary of the May 12, 2012, public hearing, shall be transmitted to the governing bodies of the City of Lawrence, Kansas, and Douglas County, Kansas, as appropriate.

ADOPTED by the Lawrence-Douglas County Metropolitan Planning Commission this 12th day of May, 2012.

Vice-Chair
Lawrence-Douglas County Metropolitan
Planning Commission

Scott McCullough, Secretary
Lawrence-Douglas County Metropolitan
Planning Commission

ORDINANCE NO. 8740

RESOLUTION NO. 12-24

A JOINT ORDINANCE OF THE CITY OF LAWRENCE, KANSAS, AND RESOLUTION OF DOUGLAS COUNTY, KANSAS, AMENDING *HORIZON 2020*, THE COMPREHENSIVE PLAN FOR THE CITY OF LAWRENCE AND UNINCORPORATED DOUGLAS COUNTY, CHAPTER 6 - COMMERCIAL, BY ESTABLISHING THEREIN POLICIES GOVERNING CC600 (COMMUNITY COMMERCIAL) DISTRICTS, AND CHAPTER 14 - SPECIFIC PLANS, BY REVISING THEREIN THE "WEST OF K-10 PLAN" TO DESIGNATE THE SIXTH STREET AND K-10 NODE AS A CC600 (COMMUNITY COMMERCIAL) NODE AND DELETING THEREFROM THE EXISTING "A NODAL PLAN FOR THE INTERSECTION OF WEST SIXTH STREET AND KANSAS HIGHWAY 10 (K-10)", BY ADOPTING AND INCORPORATING HEREIN BY REFERENCE "*HORIZON 2020*, THE COMPREHENSIVE PLAN FOR THE CITY OF LAWRENCE AND UNINCORPORATED DOUGLAS COUNTY, JULY 2012 EDITION," AS PREPARED AND PUBLISHED BY THE LAWRENCE-DOUGLAS COUNTY METROPOLITAN PLANNING OFFICE.

WHEREAS the City of Lawrence, Kansas, and Douglas County, Kansas, in order to promote the public health, safety, morals, comfort, and general welfare and to conserve and protect property values in the City and the County, are authorized by K.S.A. 12-747 to prepare, adopt, amend, extend, and execute a comprehensive land use plan;

WHEREAS the City of Lawrence, Kansas, and Douglas County, Kansas, in order to coordinate the development of land in accordance with the present and future needs of the City and the County, to conserve the natural resources of the City and the County, to ensure the efficient expenditure of public funds in the City and the County, and to promote the health, safety, convenience, prosperity, and the general welfare of the residents of the City and the County, have, in accordance with K.S.A. 12-747, adopted *Horizon 2020*, The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County;

WHEREAS, after giving notice by publication in the official City and County newspaper, the Lawrence-Douglas County Metropolitan Planning Commission conducted a public hearing on May 21, 2012, regarding a proposed amendment of *Horizon 2020*, The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, as set forth in Planning Staff Report, CPA-4-2-12, which would amend Chapter 6 - Commercial, by establishing therein policies governing CC600 (Community Commercial) Districts, and Chapter 14 - Specific Plans, by revising therein the "West of K-10 Plan" to designate the Sixth Street and K-10 Node as a CC600 (Community Commercial) Node and by deleting therefrom the existing "A Nodal Plan for the Intersection of West Sixth Street and Kansas Highway 10 (K-10)";

WHEREAS, at its May 21, 2012, public hearing, the Lawrence-Douglas County Metropolitan Planning Commission considered the report and recommendation of City Staff, CPA-4-2-12, received public comment, weighed the evidence adduced at the public hearing, and, through the adoption of Resolution No. PCR-5-4-12, approved the proposed amendment of *Horizon 2020*, The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, amending Chapter 6 - Commercial, by establishing therein policies governing CC600 (Community Commercial) Districts, and Chapter 14 - Specific Plans, by revising therein the "West of K-10 Plan" to designate the Sixth Street and K-10 Node as a CC600 (Community

Commercial) Node and by deleting therefrom the existing "A Nodal Plan for the Intersection of West Sixth Street and Kansas Highway 10 (K-10)," and recommended that the Governing Bodies of the City of Lawrence, Kansas, and the Douglas County, Kansas approve those amendments; and

WHEREAS, copies of Resolution No. PCR-5-4-12, together with certified copies of "*Horizon 2020,* The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, July 2012 Edition", the proposed amendment to *Horizon 2020,* The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, and a written summary of the May 21, 2012, public hearing have been transmitted to the Governing Bodies of the City of Lawrence, Kansas, and Douglas County, Kansas, for their consideration.

NOW, THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF LAWRENCE, KANSAS, AND BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF DOUGLAS COUNTY, KANSAS:

SECTION 1. The above-stated recitals are incorporated herein by reference and shall be as effective as if repeated verbatim.

SECTION 2. The Governing Bodies of the City of Lawrence, Kansas, and Douglas County, Kansas, hereby find that the provisions of K.S.A. 12-743 and K.S.A. 12-747, governing the amendment of comprehensive plans, have been fully met regarding the consideration, approval, and adoption of the "*Horizon 2020,* the Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, July 2012 Edition", amending "Chapter 6 – Commercial and Chapter 14 - Specific Plans of *Horizon 2020,* The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County.

SECTION 3. The Governing Bodies of the City of Lawrence, Kansas, and Douglas County, Kansas, do hereby approve the recommendation of the Lawrence-Douglas County Metropolitan Planning Commission as memorialized at Resolution No. PRC-5-4-12, and do hereby amend Chapter 6 - Commercial, and Chapter 14 - Specific Plans, of *Horizon 2020,* The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, by adopting "*Horizon 2020,* The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, July 2012 Edition" and by incorporating that document into *Horizon 2020,* The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, by reference.

SECTION 4. The "*Horizon 2020,* The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, July 2012 Edition" as approved by Section 3 *supra,* is hereby adopted and incorporated herein by reference as if set forth in full. One copy of said "*Horizon 2020,* The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, July 2012 Edition" shall be marked or stamped as "Official Copy as Adopted by Joint Ordinance No. 8740 and Resolution No. 12-24" and shall be filed, together with a copy of this joint ordinance and resolution, with the City Clerk. The City Clerk shall make the "Official Copy as Adopted by Joint Ordinance No. 8740 and Resolution No. 12-24" open to the public and available for inspection at all reasonable office hours. One additional copy of the "Official Copy as Adopted by Joint Ordinance No. 8740 and Resolution No. 12-24" shall, at the cost of the City of Lawrence, Kansas, be made available to the Lawrence-Douglas County Metropolitan Planning Office of the City of Lawrence, Kansas.

SECTION 5. The "*Horizon 2020,* The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, July 2012 Edition" adopted by this joint ordinance and

resolution replaces the existing Chapter 6 - Commercial and Chapter 14 - Specific Plans of *Horizon 2020*, The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County,, and amendments thereto, it being the intent of the Governing Bodies of the City of Lawrence, Kansas, and Douglas County, Kansas, that "*Horizon 2020*, The Comprehensive Plan for the City of Lawrence and Unincorporated Douglas County, July 2012 Edition" repeal and replace the same.

SECTION 6. If any section, clause, sentence, or phrase of this joint ordinance and resolution is found to be unconstitutional or is otherwise held invalid by any court of competent jurisdiction, it shall not affect the validity of any remaining parts of this ordinance.

SECTION 7. This joint ordinance and resolution shall be in full force and effect upon its adoption by the Governing Bodies of the City of Lawrence, Kansas, and Douglas County, Kansas, and publication as provided by law.

ADOPTED by the Governing Body of the City of Lawrence, Kansas, this ____ day of July, 2012.

APPROVED:

Robert J. Schumm, Mayor

ATTEST:

Jonathan M. Douglass, City Clerk

APPROVED AS TO FORM AND LEGALITY:

Toni R. Wheeler, City Attorney

ADOPTED by the Board of County Commissioners of Douglas County, Kansas, this 11th day of July, 2012.

Jim Flory, Chair
Mike Gaughan

Mike Gaughan, Commissioner

Jim Flory

Nancy Thellman, Commissioner

ATTEST:

Jameson D. Shaw, County Clerk

K.S.A. **12-747**

West's Kansas Statutes Annotated Currentness
Chapter 12. Cities and Municipalities
Article 7. Planning and Zoning
Planning, Zoning and Subdivision Regulations in Cities and Counties
12-747. Same; comprehensive plan; contents; procedure for adoption; annual review of plan

(a) A city planning commission is hereby authorized to make or cause to be made a comprehensive plan for the development of such city and any unincorporated territory lying outside of the city but within the same county in which such city is located, which in the opinion of the planning commission, forms the total community of which the city is a part. The city shall notify the board of county commissioners in writing of its intent to extend the planning area into the county. A county planning commission is authorized to make or cause to be made a comprehensive plan for the coordinated development of the county, including references to planning for cities as deemed appropriate. The provisions of this subsection may be varied through interlocal agreements.

(b) The planning commission may adopt and amend a comprehensive plan as a whole by a single resolution, or by successive resolutions, the planning commission may adopt or amend parts of the plan. Such resolution shall identify specifically any written presentations, maps, plats, charts or other materials made a part of such plan. In the preparation of such plan, the planning commission shall make or cause to be made comprehensive surveys and studies of past and present conditions and trends relating to land use, population and building intensity, public facilities, transportation and transportation facilities, economic conditions, natural resources and may include any other element deemed necessary to the comprehensive plan. Such proposed plan shall show the commission's recommendations for the development or redevelopment of the territory including: (a) The general location, extent and relationship of the use of land for agriculture, residence, business, industry, recreation, education, public buildings and other community facilities, major utility facilities both public and private and any other use deemed necessary; (b) population and building intensity standards and restrictions and the application of the same; (c) public facilities including transportation facilities of all types whether publicly or privately owned which relate to the transportation of persons or goods; (d) public improvement programming based upon a determination of relative urgency; (e) the major sources and expenditure of public revenue including long range financial plans for the financing of public facilities and capital improvements, based upon a projection of the economic and fiscal activity of the community, both public and private; (f) utilization and conservation of natural resources; and (g) any other element deemed necessary to the proper development or redevelopment of the area. Before adopting or amending any such plan or part thereof, the planning commission shall hold a public hearing thereon, notice of which shall be published at least once in the official city newspaper in the case of a city or in the official county newspaper in the case of a county. Such notice shall be published at least 20 days prior to the date of the hearing. Upon the adoption or amendment of any such plan or part thereof by adoption of the appropriate resolution by a majority vote of all members of the planning commission, a certified copy of the plan or part thereof, together with a written summary of the hearing thereon, shall be submitted to the governing body. No comprehensive plan shall be effective unless approved by the governing body as provided by this section. The governing body either may: (1) Approve such recommendations by ordinance in a city or resolution in a county; (2) override the planning commission's recommendations by a 2/3 majority vote; or (3) may return the same to the planning commission for further consideration, together with a statement specifying the basis for the governing body's failure to approve or disapprove. If the governing body returns the planning commission's recommendations, the planning commission, after considering the same, may resubmit its original recommendations giving the reasons therefor or submit new and amended recommendations. Upon the receipt of such recommendations, the governing body, by a simple majority thereof, may adopt or may revise or amend and adopt such recommendations by the respective ordinance or resolution, or it need take no further action thereon. If the planning commission fails to deliver its recommendations to the governing body following the

planning commission's next regular meeting after receipt of the governing body's report, the governing body shall consider such course of inaction on the part of the planning commission as a resubmission of the original recommendations and proceed accordingly. The comprehensive plan and any amendments thereto shall become effective upon publication of the respective adopting ordinance or resolution.

(c) An attested copy of the comprehensive plan and any amendments thereto shall be sent to all other taxing subdivisions in the planning area which request a copy of such plan. Such plan or part thereof shall constitute the basis or guide for public action to insure a coordinated and harmonious development or redevelopment which will best promote the health, safety, morals, order, convenience, prosperity and general welfare as well as wise and efficient expenditure of public funds.

(d) At least once each year, the planning commission shall review or reconsider the plan or any part thereof and may propose amendments, extensions or additions to the same. The procedure for the adoption of any such amendment, extension or addition to any plan or part thereof shall be the same as that required for the adoption of the original plan or part thereof.

CREDIT(S)

Laws 1991, ch. 56, § 7; Laws 1997, ch. 147, § 4.

LIBRARY REFERENCES

Zoning and Planning ⇦30.
Westlaw Topic No. 414k30.
C.J.S. Zoning and Land Planning §§ 2, 5, 12, 39.

K. S. A. **12-747**, KS ST **12-747**

Current through 2012 regular session.

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(t) Planning Director as Administrative Official
Except where otherwise specifically provided in the Development Code, the Planning Director shall be the administrative official charged with interpreting and enforcing the provisions of the Development Code.

20-1302 TEXT AMENDMENTS

(a) Initiation
An amendment to the text of the Development Code may be initiated by the City Commission, the Planning Commission, or, as to provisions affecting Urban Conservation Districts, by the Historic Resources Commission; and adopted in accordance with the rules of that body. Applications for text amendments may also be initiated by private parties and shall be filed with the Planning Director. The application shall be in writing and shall include the proposed text and the reasons for proposing the amendment. The Planning Director shall forward the application to the City Commission for review and consideration of initiating the amendment taking into consideration the need for the amendment. Any proposed amendment shall follow the process set forth in this section after initiation.

(b) Public Hearing Notice
Newspaper notice of the Planning Commission's public hearing shall be provided in accordance with Section 20-1301(q).

(c) Staff Review/Report
The Planning Director will review each proposed text amendment in accordance with the review and decision-making criteria of subsection (f) of this Section and, if deemed necessary, distribute the proposed amendment to other agencies and reviewers. Based on the results of those reviews, the Planning Director will provide a report on the proposed amendment to the Planning Commission and City Commission.

(d) Planning Commission's Review/Recommendation
The Planning Commission shall hold a public hearing on the proposed text amendment, review the proposed text amendment in accordance with the review and decision-making criteria of subsection (f) of this Section and recommend in writing that the City Commission approve, approve with modifications or deny the proposed amendment. The Planning Commission is also authorized to forward the proposed amendment to the City Commission with no recommendation.

(e) City Commission Decision
After receiving the Planning Commission's recommendation, the City Commission shall take one of the following actions on the proposed text amendment:

(1) approve, approve with modifications, or deny; or

(2) return the application to the Planning Commission for further consideration, together with a written explanation of the reasons for the City Commission's failure to approve or disapprove.

(i) The Planning Commission, after considering the explanation by the City Commission, may resubmit its original recommendations with its reasons for doing so or submit a new or amended recommendation.

(ii) Upon the receipt of such recommendation, the City Commission may, by a simple majority vote, approve the proposed text amendment, approve it with modifications, or deny it.

(iii) If the Planning Commission fails to deliver its recommendations to the City Commission following the Planning Commission's next regular meeting after receipt of the City Commission's report, the City Commission will consider such course of inaction on the part of the Planning Commission as a resubmission of the original recommendations and proceed accordingly.

(3) The City Commission may act by a simple majority vote, except for action pursuant to Section 20-1302(e)(1) that is contrary to the Planning Commission's recommendations, in which case the action shall be by a 2/3 majority vote of the full membership of the City Commission.

(f) Review and Decision-Making Criteria

In reviewing and making decisions on proposed zoning text amendments, review bodies shall consider at least the following factors:

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

(2) whether the proposed text amendment is consistent with the Comprehensive Plan and the stated purpose of this Development Code (See Section 20-104).

(g) Date of Effect

The Development Code text amendment will become effective upon publication of the adopting ordinance.

K.S.A. **12-756**

West's Kansas Statutes Annotated Currentness
Chapter 12. Cities and Municipalities
Article 7. Planning and Zoning
Planning, Zoning and Subdivision Regulations in Cities and Counties

12-756. Same; zoning; zones or districts; procedure to establish; notice and hearing

(a) Before any city or county establishes any zone or district or regulates or restricts the use of buildings or land therein, the governing body shall require the planning commission to recommend the nature and number of zones or districts which it deems necessary and the boundaries of the same and appropriate regulations or restrictions to be enforced therein. Except as provided in the zoning regulations, all such regulations shall be uniform for each class or kind of building or land uses throughout each district, but the regulations in one district may differ from those in other districts and special uses may be designated within each district with conditions attached.

(b) Upon the development of proposed zoning regulations, the planning commission shall hold a public hearing thereon. Notice of such public hearing shall be published at least once in the official city newspaper in the case of a city or in the official county newspaper in the case of a county at least 20 days prior to the date of the hearing. In the case of a joint zoning board, notice of such hearing shall be published in the official city and official county newspapers. Such notice shall fix the time and place for such hearing and shall describe such proposal in general terms. The hearing may be adjourned from time to time and at the conclusion of the same, the planning commission shall prepare its recommendations and by an affirmative vote of a majority of the entire membership of the commission adopt the same in the form of proposed zoning regulations and shall submit the same, together with the written summary of the hearing thereon, to the governing body. The governing body either may: (1) Approve such recommendations by the adoption of the same by ordinance in a city or resolution in a county; (2) override the planning commission's recommendations by a 2/3 majority vote of the membership of the governing body; or (3) may return the same to the planning commission for further consideration, together with a statement specifying the basis for the governing body's failure to approve or disapprove. If the governing body returns the planning commission's recommendations, the planning commission, after considering the same, may resubmit its original recommendations giving the reasons therefor or submit new and amended recommendations. Upon the receipt of such recommendations, the governing body, by a simple majority thereof, may adopt or may revise or amend and adopt such recommendations by the respective ordinance or resolution, or the governing body need take no further action thereon. If the planning commission fails to deliver its recommendations to the governing body following the planning commission's next regular meeting after receipt of the governing body's report, the governing body shall consider such course of inaction on the part of the planning commission as a resubmission of the original recommendations and proceed accordingly. The proposed zoning regulations and any amendments thereto shall become effective upon publication of the respective adopting ordinance or resolution.

(c) The provisions of this section shall become effective on and after January 1, 1992.

CREDIT(S)

Laws 1991, ch. 56, § 16.

LIBRARY REFERENCES

Zoning and Planning ⇐31, 134.
Westlaw Topic Nos. 414k31; 414k134.
C.J.S. Zoning and Land Planning §§ 12 to 16, 40.

LEAGUE OF WOMEN VOTERS®
OF LAWRENCE/DOUGLAS COUNTY

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October 22, 2012

Mr. Bruce Liese, Chairman
Members, Lawrence-Douglas County Metropolitan Planning Commission
City Hall • Lawrence, KS 66044

RE ITEMS 9-11: RECONSIDERATION OF AMENDMENTS OF THE CP, ZONING ORDINANCE AND REZONING REGARDING THE NW CORNER OF 6TH AND K10.

Dear Chairman Liese and Planning Commissioners:

The Lawrence/Douglas County League of Women Voters Environmental Position on Land Use under Economic Considerations states that the City should keep the central area of the city "strong, active, and diverse." Our Position goes on to say (excerpted), "The Central Business District should be Lawrence's primary regional commercial center, and proposals for extension of regional, community ... developments should be analyzed in light of potential negative impact on the CBD.... Land zoned for commercial ... should revert to its original zoning if not utilized within a certain period of time."

We believe that the 146 acres of new commercial zoning in the 6th and K10 location, predictably would have a negative effect not only on the CBD, but the remainder of the city, as well. It could become the third regional shopping center, a real planning misfortune considering the lack of supporting population for the amount of commercial zoning that we now have. For this reason we objected to this current proposal that has now been remanded to the Planning Commission (PC) for review. The instruction from the City Commission is for you not to change anything now, but rather, to start over.

We appeal to you to recognize that this area with its unique access to regional transportation would be a major, choice location for an **employment-related center** as an industrial-business park (IBP District). If planned carefully and creatively, and not zoned before it is extensively designed with committed users, it could be the employment gem of our region and would give Lawrence the economic boost that so many would like to see. The original plan that now exists for this area would support such an approach if it were "tweaked" to limit the intensity of the uses and expanded to include not only the IBP approach but also a carefully controlled IL (Limited Industrial District) with accessory supporting uses. The system could be included in a Planned Development (PD Overlay) District. Both districts could be designed to avoid impacting neighboring properties if the zoning is limited and controlled by this type of planning.

Because this property has been annexed, a UR (Urban Reserve) District would allow the area to be marketed for an employment type of use and not rezoned until users are committed to it.

We appeal to the Planning Commission to keep the Comprehensive Plan as it is now or make it a less intensive industrial designation. Please do not designate it as commercial use or rezone it as CC 600, or for that matter allow any commercial use that is not accessory to the IBP District. We urge you to **not** throw away this opportunity by rezoning this property now. Wait until it is planned and committed to a creative employment-oriented use that will actually benefit the economic situation of Lawrence instead of challenging it.

We appreciate that you will carefully consider our letter. Thank you.

Sincerely yours,

Melinda Henderson,
President

Alan Black
Chair, Land Use Committee

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PLANNING COMMISSION REPORT
Regular Agenda – Public Hearing Item

PC Staff Report
5/21/12

ITEM NO. 5: COMPREHENSIVE PLAN AMENDMENT TO H2020 - CHP 6 and CHP 14; CC600 (AAM)

CPA-4-2-12: Consider a Comprehensive Plan Amendment to Chapter 6 of *Horizon 2020* to create CC600 District policies and to Chapter 14 Specific Plans, to revise the *West of K-10 Plan* and *A Nodal Plan for the Intersection of West 6th Street & Kansas Highway 10 (K-10)* designating the node of 6th Street and K-10 as a CC600. *Initiated by City Commission on 4/10/12.*

STAFF RECOMMENDATION: Staff recommends forwarding a recommendation of approval of this comprehensive plan amendment to *Horizon 2020*, to the Lawrence City Commission to amend Chapter 6: Commercial Land Use to create CC600 District policies, Chapter 14: Specific Plans to revise the *West of K-10 Plan* to change the designation of the 6th and K-10 node to a CC600 commercial center, and to remove *A Nodal Plan for the Intersection of West 6th Street and Kansas Highway 10 (K10)* from Chapter 14: Specific Plans.

STAFF RECOMMENDATION: If appropriate, approve and sign Planning Commission Resolution PCR-5-4-12.

KEY POINTS

1. This is a request to create a new commercial center designation in *Horizon 2020,* CC600, to accommodate an increase in allowable commercial square footage at the West 6th and K-10 node, currently designated as a CC400, to allow for a community recreational center and associated retail uses to be constructed on the northwest corner of the node.
2. In addition to adding the CC600 commercial center designation to Chapter 6: Commercial land Use, this amendment amends Chapter 14: Specific Plans to change the designation for this node in the West of K-10 plan to a CC600, to add the eastern corners of the node to the West of K-10 plan thereby incorporating the unbuilt portions of the property included in the plan titled *A Nodal Plan for the Intersection of West 6th Street and Kansas Highway 10 (K10)* (6th and SLT Nodal Plan), and removing the 6th and SLT Nodal Plan from Chapter 14: Specific Plans.

PROJECT SUMMARY

This comprehensive plan amendment (CPA) was initiated by the City Commission at their April 10, 2012 meeting and will create a new Commercial Center designation (CC600) in the Comprehensive Plan, *Horizon 2020* that would allow up to 600,000 square feet of commercial retail space at the West 6th Street and K-10 node through the modification of Chapter 6:

Commercial, increasing the permitted commercial retail space from 400,000 sq. ft. at this node to 600,000 sq. ft. While the commercial retail uses, as defined in the text of Chapter 6, would be limited in the node, non-retail commercial, office, recreation, utility, and other uses permitted in the Development Code would be permitted without an area limit.

In addition, this CPA will modify Chapter 14: Specific Plans to remove the 6th and SLT Nodal Plan, and modify the *West of K-10 Plan* to incorporate the area included in the 6th and SLT Nodal Plan and change the land use designation of the subject node to a CC600. The CPA is intended to accommodate a regional recreation facility on 50 acres of the subject 146 acres located at the northwest corner of the West 6th Street and K-10 node. The project will be a public /private partnership including the donation of 50 acres to the city to construct the facility. While many details need to be determined, the project is currently planned to include basketball courts, indoor recreation track, cardio facilities, recreation areas, an arena capable of holding sporting or entertainment events, potential uses for the University of Kansas, and other ancillary uses typical of such a facility – retail merchandise, food/drink, etc.

In addition to the 50-acre recreation facility, the remaining acreage on the northwest corner of the node is planned to support the facility with expansion opportunities, additional recreation uses, and commercial uses – restaurant, retail, hotel, etc. The current planning documents designate the entire property for industrial/warehouse/office uses. Commercial uses are generally viewed by the Development Code as equal to or lesser uses compared to industrial uses and so the project can feasibly be viewed as compatible with the comprehensive plan designation; however, there are specific policies and Development Code language that tie commercial zoning in the Development Code directly to the comprehensive plan and the plan and code need to be revised to accommodate the project as noted more specifically below. A text amendment to add the CC600 zoning district to the Land Development Code was also initiated by the City Commission at their April 10, 2012 meeting.

STAFF REVIEW

This Comprehensive Plan Amendment request involves proposed changes to Chapter 6: Commercial Land Use and Chapter 14: Specific Plans of *Horizon 2020*. The changes to Chapter 6 include:

1. Revising on pg. 6-3 how the term "commercial" is used in the chapter to clarify which commercial uses are included within the limitation of the 600,000 sq. ft. of permissible uses.
2. Adding a CC600 section on p. 6-9 under the Commercial Community Center description.
3. Moving the West 6th Street and K-10 node from the CC400 center designation to the CC600 designation on P. 6-21.
4. Adding Policy 3.10 regarding CC600 centers.
5. Revising 6-1 to show the West 6th Street and K-10 node as a CC600 and updating the transportation network on the map to reflect the T2030 Transportation Plan.
6. Three changes that involve chapter clean-up, not related to this specific request:
    a. Re-numbering the policies in Goal 3.
    b. Moving the policy "Criteria for Mixed-Use Districts" from the end of Goal 3 to its logical location at Policy 3.5
    c. Changing Use Permitted Upon Review on p. 6-13 to reflect the current language in the Land Development Code of Special Use Permit.

The changes to Chapter 14 include:

1. Revising the West of K-10 plan to reflect current land use approvals for the West 6th and K-10 node, changing the nodal designation to a CC600 and adding land uses that had previously been in the 6th and SLT Nodal Plan east of K-10 into the West of K-10 plan.
2. Removing the 6th and SLT Nodal Plan from Chapter 14 since it is now incorporated into the West of K-10 Plan.

Copies of the revised Chapter 6: Commercial Land Use, Chapter 14: Specific Plans, and the West of K-10 Plan are attached to this staff report with the changes marked.

Retail Market Study: Policy 3.13 in *Horizon 2020* requires a project specific retail market study for projects that would create 150,000 square feet or more of commercial space. Section 20-1107 of the Land Development Code applies to zoning or site plan applications that could create 50,000 square feet of retail space. Staff is reviewing this project for compliance with the Land Development Code, in addition to the criteria in *Horizon 2020*, based on the rezoning request, and because the criteria in the development code is the most recently adopted set of criteria. Staff is conducting this analysis taking the most recent citywide market study completed in Fall of 2010 (http://www.lawrenceks.org/planning/documents/2010Retail.pdf) and updating the supply figures based on this request to add roughly 180,000 sf of space commercial (retail) uses. This staff analysis is provided in lieu of an applicant supplied market study since the City of Lawrence is a party to this application.

Horizon 2020, Policy 3.13 (b) states that, *"The project shall not be approved if the market study indicates the commercial project or any proposed phase cannot be absorbed into the community within three years from the date of its estimated completion, or that it would result in a community-wide retail vacancy rate greater than eight percent."* The Development Code uses a vacancy rate threshold of 8% as one factor in order to determine market health, and the most recent citywide market study figured the city-wide vacancy rate at 7%, slightly higher than the 2006 vacancy rate of 6.7%. The addition of this project, when completed and entirely vacant, will push the city-wide vacancy rate to 8.8%. Staff has also conducted further analysis that takes into consideration other commercial projects that have received approvals, but have not been constructed to date. The below table illustrates the impact that other major projects that have been approved will have on the overall vacancy rate:

	Total Square Feet	Total Occupied Square Feet	Total Vacant Square Feet	City-wide Vacancy Rate
Total Current Retail Inventory	**9,120,567**	**8,478,372**	**642,195**	**7.0%**
Requested Northwest corner – 6th and K-10 Node	180,000	0	180,000	8.8%
Mercato	359,640	0	359,640	
Fairfield Farms	200,000	0	200,000	
North Mass	217,337*	0	217,337	
Total	**10,077,544**	**8,478,372**	**1,599,572**	**15.9%**

*This figure is taken from the project's market study and includes space that may not be truly retail in nature.

If all approved commercial space that has been approved were to be constructed and assumed vacant, the city-wide vacancy rate would rise to 15.9%. If all the approved commercial space that has been approved were to be constructed but assumed occupied, except for the subject of this request, the city-wide vacancy rate would be 8.2%.

While the market study shows that the project, upon completion, will push the city-wide vacancy rate above 8%, this figure alone is not an adequate representation of the impact of this development. This figure is computed by assuming that the project will either be entirely vacant upon completion, or that it will cause the same amount of space to become vacant in other areas of town. While new commercial development can lead to vacancies in other parts of town, the current economic conditions have all but halted speculative commercial building in Lawrence. The current development trend is that buildings are built with known users or committed tenants and therefore, it is unlikely that the space will be vacant upon completion. In addition, this request for additional retail square footage at this node is being made with understanding that it will support the proposed recreational center. Therefore, the types of retail anticipated will be ancillary and supportive to the main use at the northwest corner of the node.

Other demand factors, such as income, employment and population need to be taken into account as well, when looking at the overall impact of this project on the market as a whole. The 2010 Retail Market Report shows that since 2000, population has grown approximately 16%, while retail sales have only increased 3.3%, and income, adjusted for inflation, has only increased 3.9%. On the supply side of the market, retail stock has increased 69.7% since 2000, however, it is important to note that some of that increase is because of changes in the methodology for figuring total retail space. What is important to take away from the above number is that demand has not kept pace with supply as shown by the limited income, population, and retail sales growth.

Also important is an analysis of "pull factors" or a measure of local commerce based on a comparison of local spending to the state as a whole. A pull factor above 1.00 indicates that a community attracts retail sales, while a factor below 1.00 indicates that the community is losing retail sales to outside areas. The Kansas Department of Revenue issues pull factor reports for all of Kansas. The most recent, issued in 2011, states that Lawrence's pull factor was 1.02 in 2010, which as noted in the market study, is a 9.7% decline over the last decade from a height of 1.13 in 2000. In addition, Douglas County's pull factor has been below 1.00 for the last decade and recently has fallen to .86 in 2010. The declining Lawrence and Douglas County pull factors indicate that the City is losing more and more retail sales to other areas outside of Douglas County. There is potential to recapture this leakage by increasing the demand factors mentioned above, as well as increasing the types of appropriately located retail stock.

The market study also provides a demand analysis based on the amount of square feet of retail space per capita. In 2010 in Lawrence there were approximately 98 sf of retail space per capita. Using an average growth rate from 2000-2010 of 1250 people per year, Lawrence could add as much as 121,000 square feet of retail each year in order to keep the ratio of retail square feet to people at 98. In Section 20-1107 (c)(3)(iv) of the Land Development Code, a maximum threshold of 100 square feet per resident is established to help maintain market health. The 180,000 square feet of commercial space being requested with this project results in a ratio of 100 square feet per capita if the project were built today. However, this analysis does not take into consideration any of the other approved commercial development. The addition of commercial space at Mercato, Fairfield Farms and North Mass that is approved, but not constructed, would result in a ratio of 109 retail square feet per capita.

The analysis satisfies the requirements of the Land Development Code and *Horizon 2020* with respect to the submission of a Retail Market Study. In staff's opinion, proposals to add retail space should be carefully scrutinized with respect to the indicators associated with demand not keeping pace with supply and because vacancy rates are arguably reaching unhealthy levels. The proposed additional retail square footage at this node has a focus of drawing non-local visitors by providing retail space that is supportive in nature to the proposed recreational center. The project and associated retail square footage is also being designed in a way to focus on drawing regional or non-local visitors to the area, which in turn is presumed to bring more visitors to the area through spill-over. Even though this project will push the vacancy rate above the 8% threshold, it is unlikely that this development will be speculative in nature. The current economic conditions are showing a trend that buildings are built with committed tenants. It is presumed that this development will have a regional draw that results in a more favorable pull factor; therefore, the development should not have a detrimental impact on the community's retail market.

Staff reviewed this amendment based upon the comprehensive plan amendment review criteria listed below [identified in Chapter 13 (Implementation) of *Horizon 2020*].

COMPREHENSIVE PLAN AMENDMENT REVIEW

A. Does the proposed amendment result from changed circumstances or unforeseen conditions not understood or addressed at the time the Plan was adopted?

Staff's response: Chapter 6 anticipates changes and additions to the commercial framework in the over time. The proposed amendment is a result of changing circumstances that have occurred. The comprehensive plan provides for two CC centers, CC200 and CC400 which would allow a maximum of 400,000 square feet of commercial space for the node. The Commercial Regional designation is the next larger district, allowing a maximum of 1.5 Million square feet of commercial space. Staff has identified that it would be useful to have a designation for certain locations between 400,000 and 1.5 million sq. ft., to permit a higher level of community commercial area to serve the community.

B. Does the proposed amendment advance a clear public purpose and is it consistent with the long-range goals and policies of the plan?

Staff's response: The proposed amendment is generally consistent with the goals and policies outlined in Chapter 6. The proposed amendment is an advancement of a clear public purpose in that it will allow a larger amount of commercial space at this node in order to accommodate commercial uses necessary to support the proposed community recreational facility. This amendment also helps to provide a framework to guide development of CC600 centers through specific policies.

C. Is the proposed amendment a result of a clear change in public policy?

Staff's response: While the proposed amendment is not a result of a clear change in public policy, it fits with the goals and policies already established in Chapter 6. In addition, plans for a regional recreation center at this node necessitate revisions to the comprehensive plan in order to accommodate the increase in commercial uses associated with that development.

While *Horizon 2020* currently designates this node as a CC400, and specifically the northwest corner of the node for industrial/warehouse/office uses, there are alternative land use patterns that would also be compatible at this intersection of two state highways.

In addition, the following shall be considered for any map amendments:

A. Will the proposed amendment affect the adequacy of existing or planned facilities and services?

Staff's response: The east portion of the node is already served by city sewer, water, streets and other services, as it is annexed into the city and is the beneficiary of infrastructure projects constructed during the last decade. The west half of the node can be served by extending existing sewer infrastructure across K-10 and existing water across Hwy 40.

The current water and wastewater planning documents anticipate extensions of utilities to this area based on certain timing assumptions and adopted land use plans. While this amendment has potential to accelerate the timing of extending services and may place increased demand on the water and wastewater systems, infrastructure can serve the area but plans may need to be adjusted to account for the proposed uses.

B. Will the proposed change result in reasonably compatible land use relationships?

Staff's response: This node is currently designated as a CC400, and this comprehensive plan amendment changes that designation to a CC600, increasing the allowable commercial square footage within the node. The current planning documents designate the northwest corner of the node for industrial/warehouse/office uses and this amendment would reclassify the northwest corner from industrial/warehouse/office to commercial with a limit on the amount of retail permitted. It also adds opportunity for additional commercial retail uses on the southwest and southeast corners where little exists under the current designation.

Commercial uses are generally viewed by the Development Code as equal to or lesser uses compared to industrial uses and so the project can feasibly be viewed as compatible with the land use relationships. The revised West of K-10 plan keeps an open space buffer on the north line of the northwest corner in the node in order to provide a transition to the established neighborhood to the north. Appropriate site design will also help to ensure reasonable compatible land use relationships for the area.

C. Will the proposed change advance the interests of the citizens of Lawrence and Douglas County as a whole, not solely those having immediate interest in the affected area?

Staff's response: The expansion of this commercial area will provide new opportunities for the community as a whole, as well as non-local visitors. The project has the potential to attract visitors to the city through tournaments at the proposed recreational center thereby contributing non-local dollars to the local economy.

PROFESSIONAL STAFF RECOMMENDATION

Staff recommends forwarding a recommendation of approval of this comprehensive plan amendment to *Horizon 2020*, to the Lawrence City Commission to amend Chapter 6:

Commercial Land Use to create CC600 District policies, Chapter 14: Specific Plans to revise the *West of K-10 Plan* to change the designation of the 6th and K-10 node to a CC600 commercial center, and to remove *A Nodal Plan for the Intersection of West 6th Street and Kansas Highway 10 (K10)* from Chapter 14: Specific Plans.

West of K-10

Plan

Lawrence-Douglas County Planning Department

Lawrence-Douglas County Planning Commission –
Douglas County Board of County Commissioners –
Lawrence City Commission –

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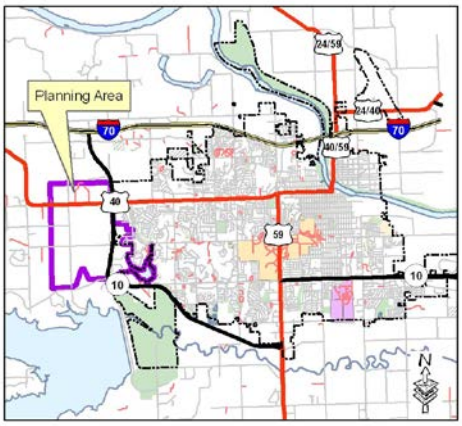
I. Introduction and Purpose

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.



West of K-10 Vicinity Map

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 West of K-10 Future Land Use map (Map 4-1) deviates from The *West 6th Street/K-10 Nodal Plan* by designating land in the southwest corner differently. The alterations reflect changing conditions since the nodal plan was adopted. This Plan recommends updating the *West 6th Street/ K-10 Nodal Plan* following adoption of this Plan to reflect the new approved land uses.~~

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 ~~deviates from the West *6th Street/K-10 Nodal Plan* and~~ 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

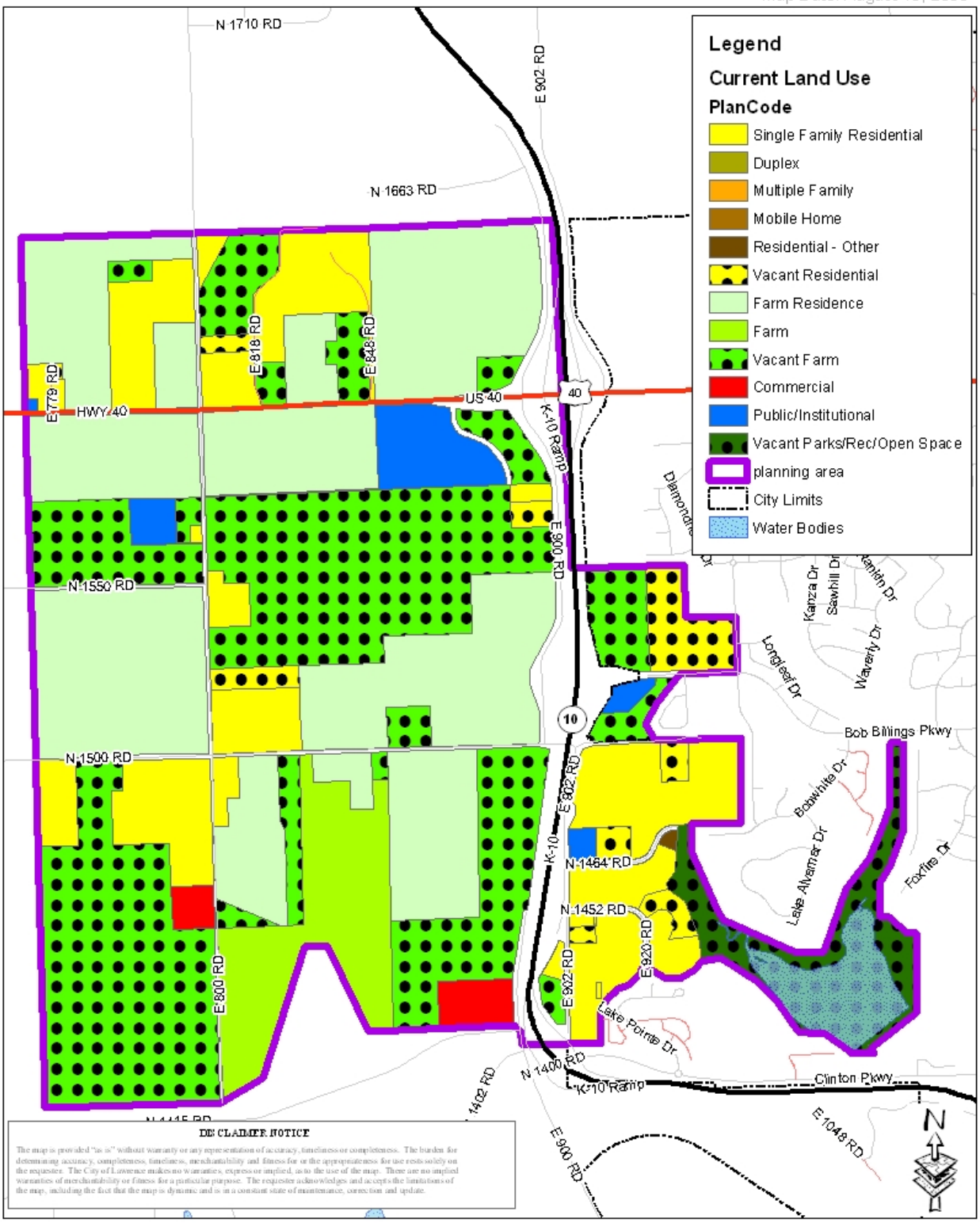
The current land uses in the planning area consist of approximately 2,438 acres of land, excluding street right-of-way, as shown in Table 2-1. The majority of the planning area, approximately 1,800 acres, is in farm use. Most of the remainder of the land uses are types of residential uses. Commercial, 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

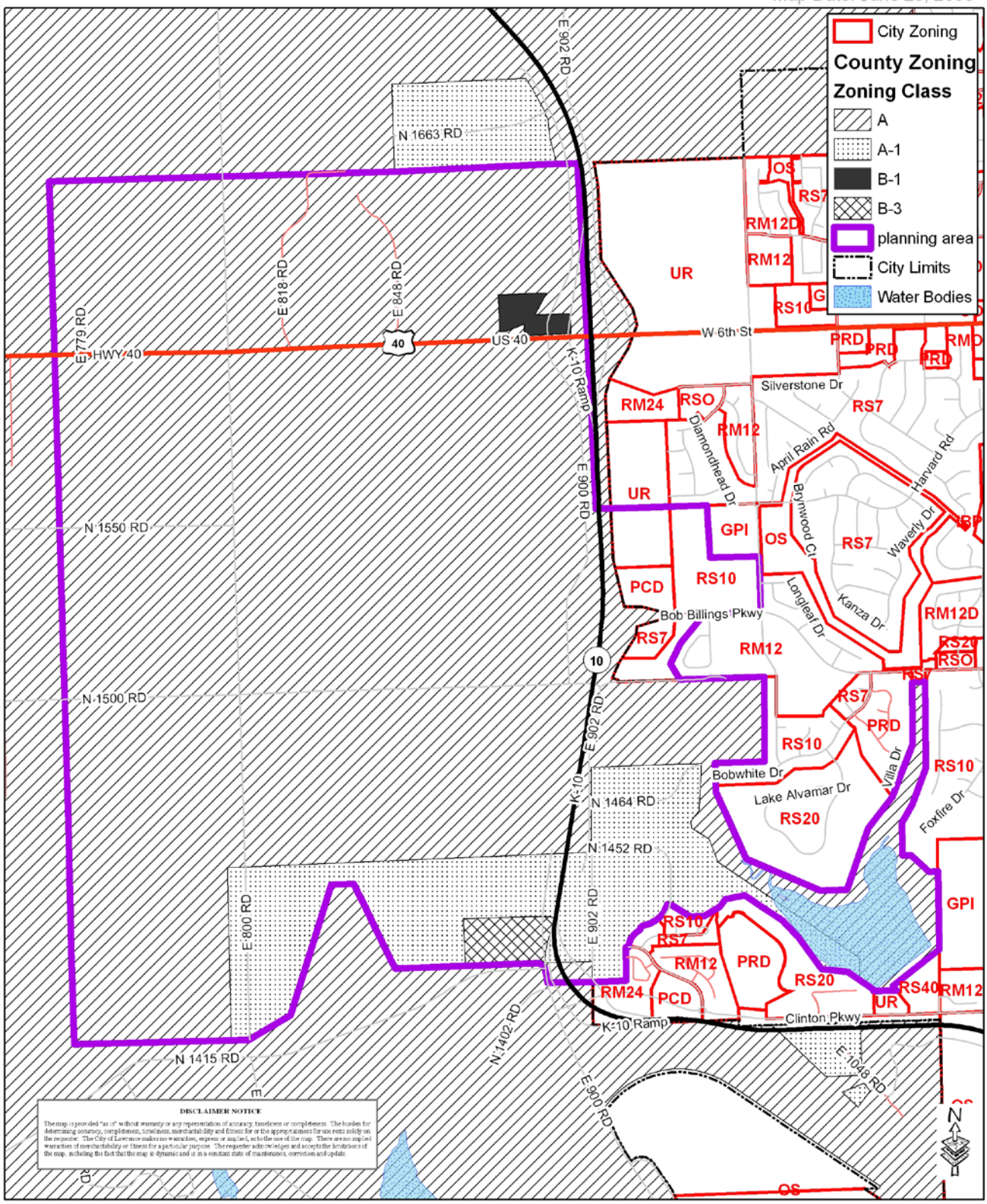
City Zoning	District Name	Comprehensive Plan Designation
RS10	Single-Dwelling Residential (10,000 sq. feet per dwelling unit)	**Low-Density Residential**
RS7	Single-Dwelling Residential (7,000 sq. feet per dwelling unit)	**Low-Density Residential**
RM12	Multi-Dwelling Residential (12 dwelling units per 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.

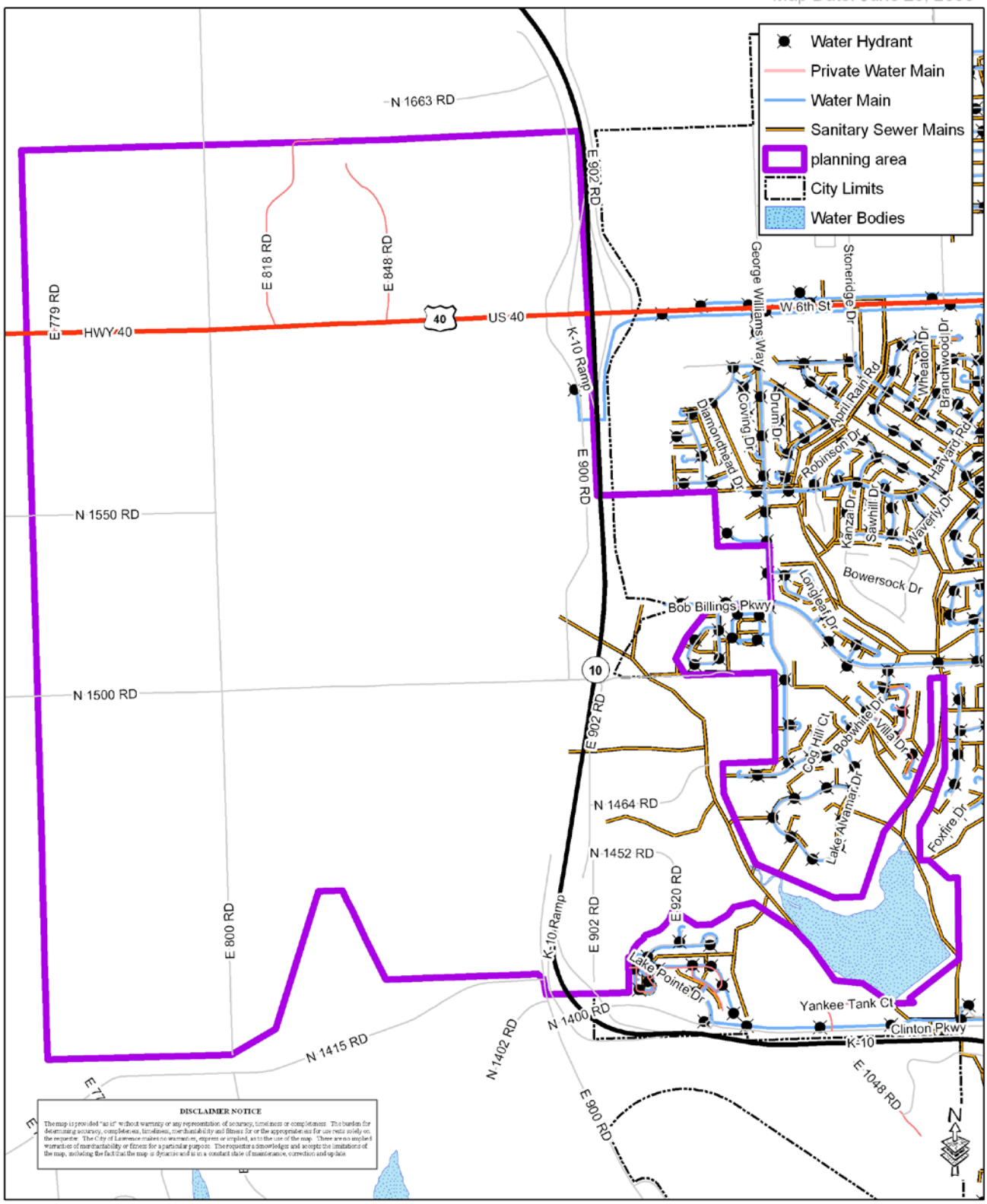
Gas

Southern Star Gas has two lines running though 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.

West of K-10 Plan

Map 2-3 City Water and Sanitary Sewer

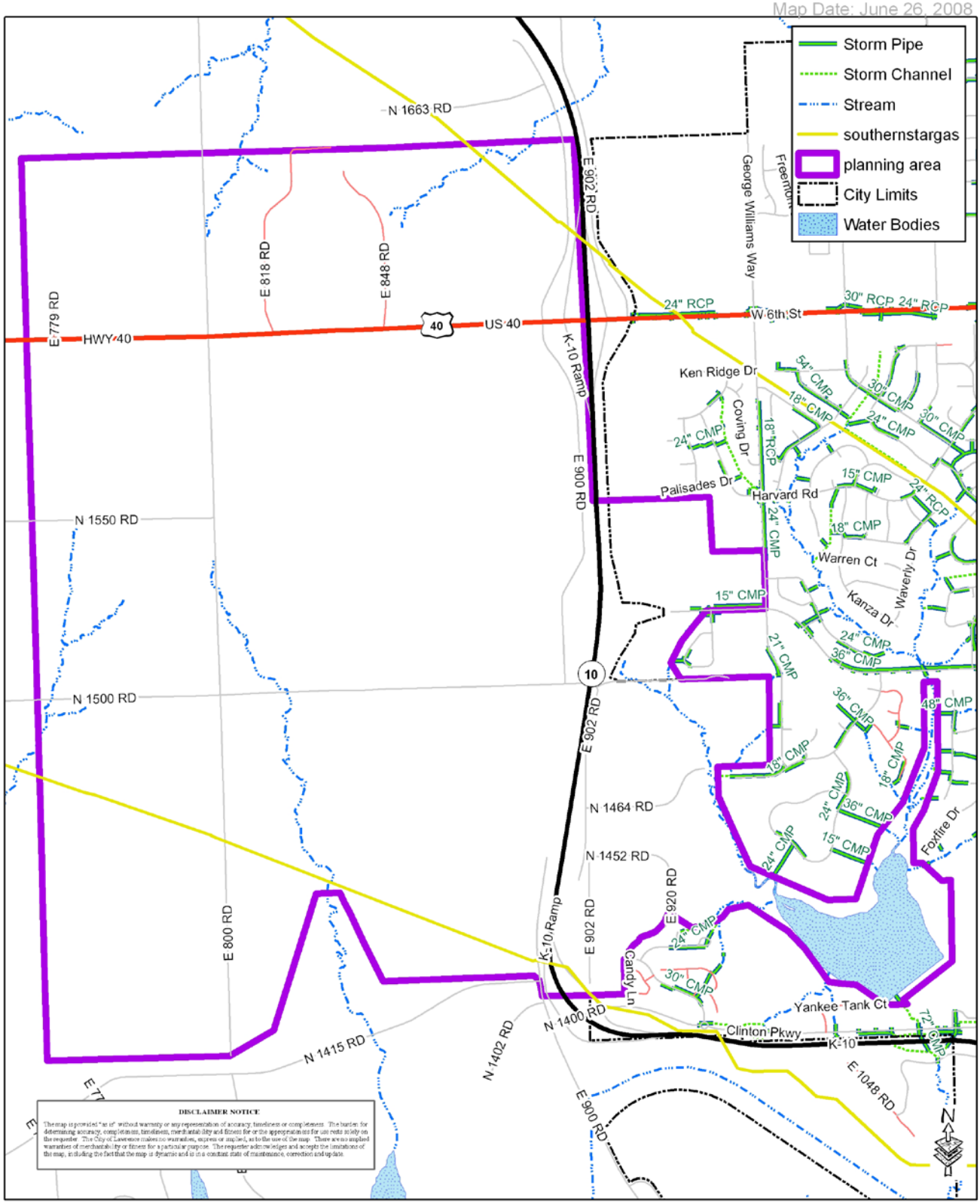
Map Date: June 26, 2008



West of K-10 Plan

Map 2-4 City Storm Water and Southern Star Gas

Map Date: June 26, 2008



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.

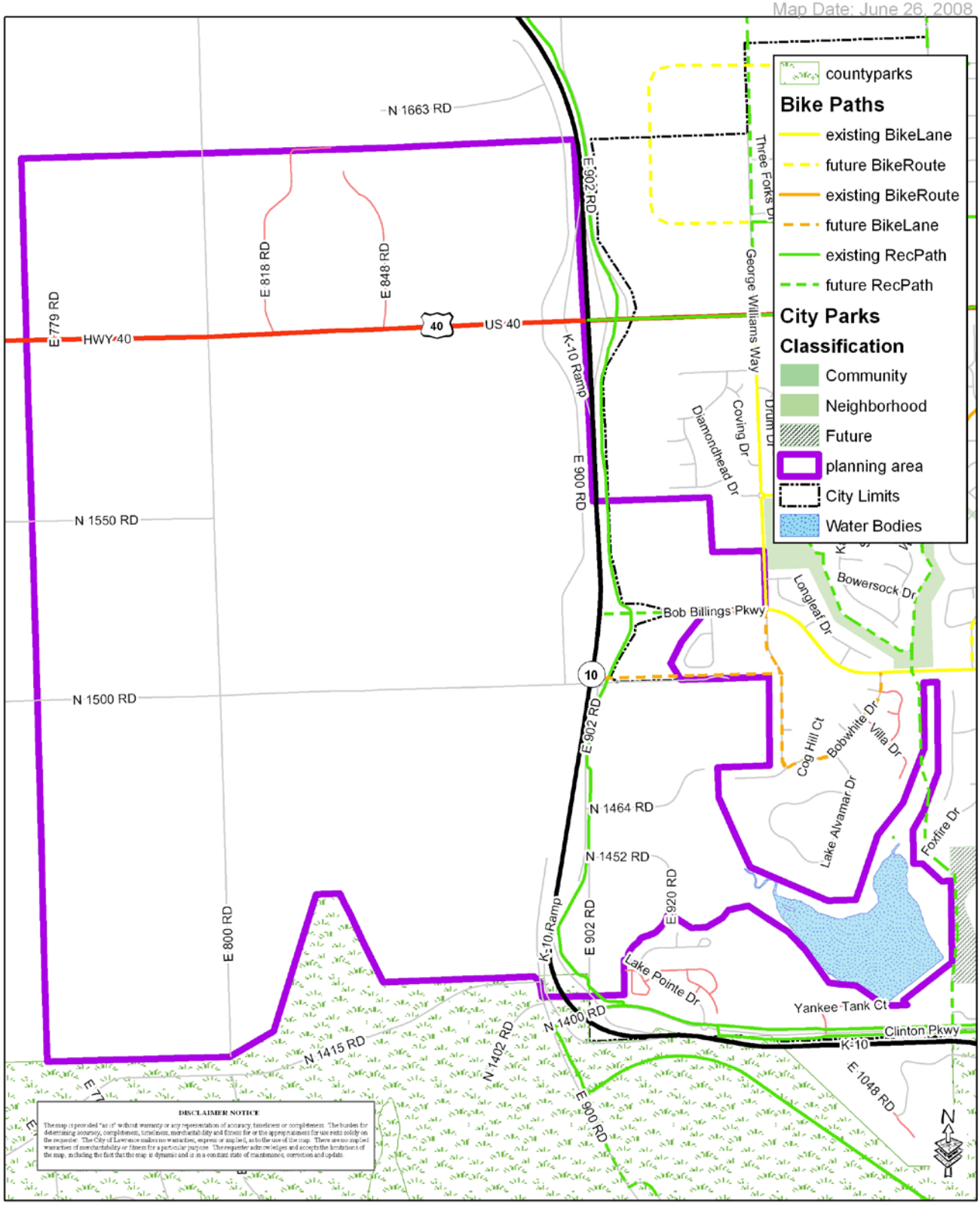
The planning area includes existing and future bike routes, lane, and recreational paths and these are shown on Map 2-5. Bike lanes are a separate space designated with striping, signage or pavement markings for exclusive use by bicycles with a street or road. There is an existing bike lane along Bob 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

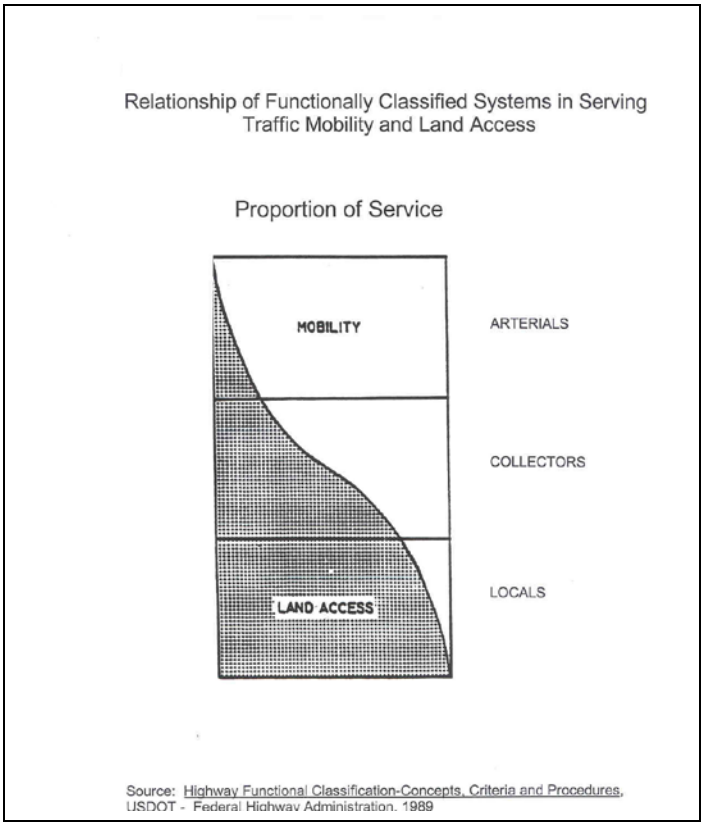
Map Date: June 26, 2008



E. Transportation

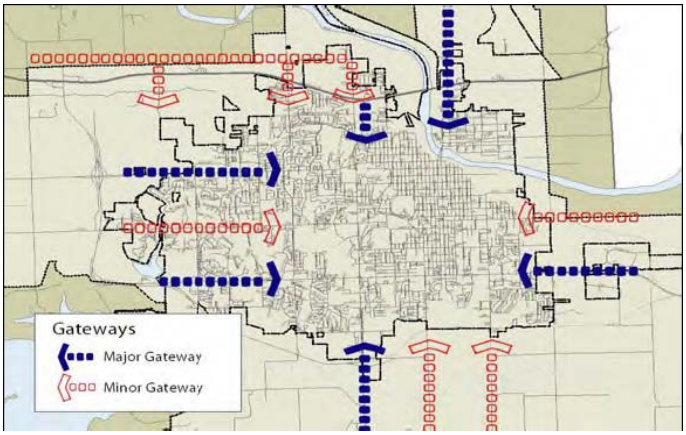
Transportation 2030 (T2030) is the comprehensive, long-range transportation plan for the metropolitan area. T2030 designates streets according to their functional classification or their primary purpose. These functional classifications are shown on Map 2-6. The classification system can be described 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.



T2030 Figure 2.4 - Lawrence Gateways

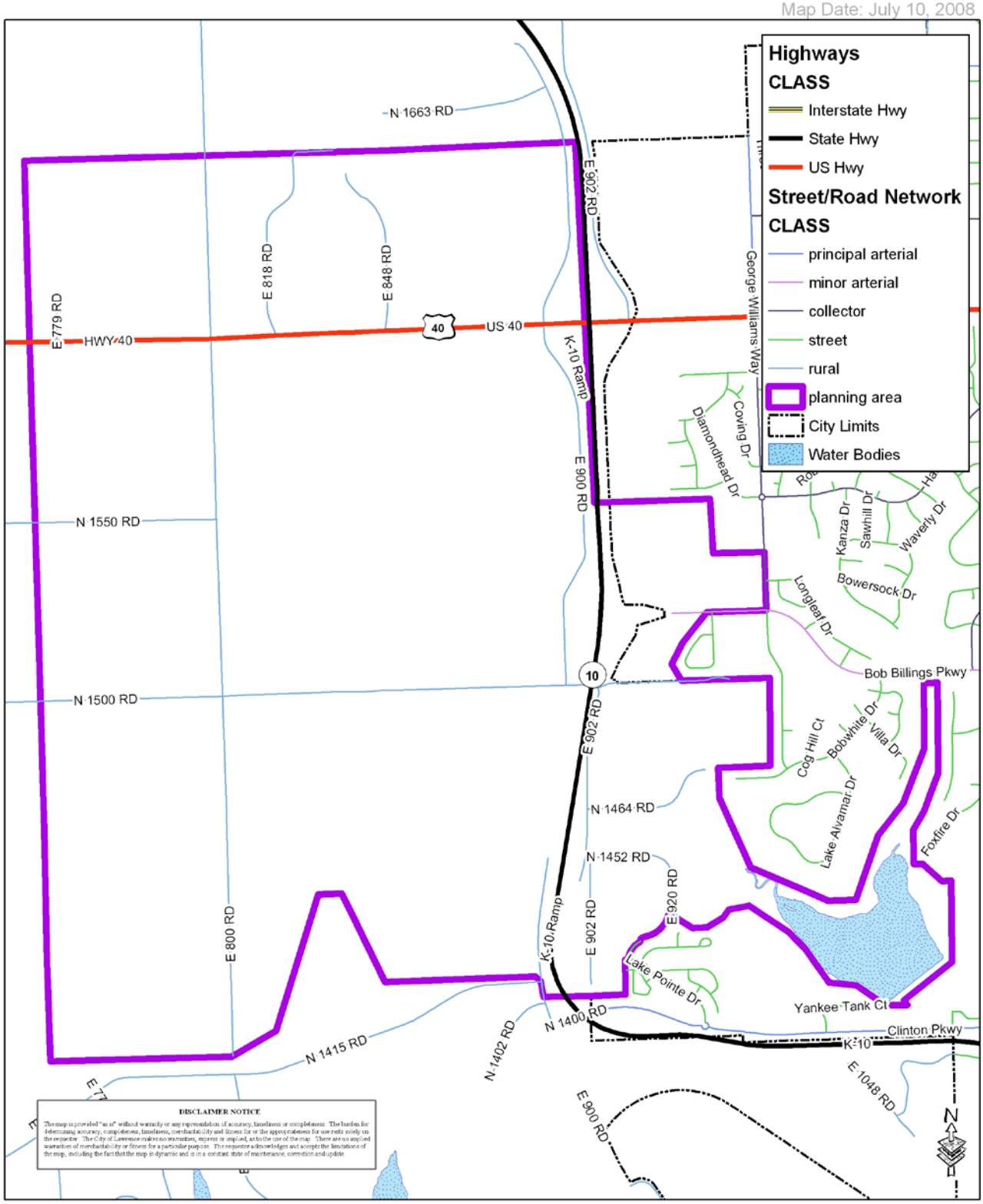
Transportation 2030 identifies the South Lawrence Traffic Way (SLT/K-10) and US Hwy 40 as truck routes.

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.

West of K-10 Plan
Map 2-6 Street Classification

Map Date: July 10, 2008



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

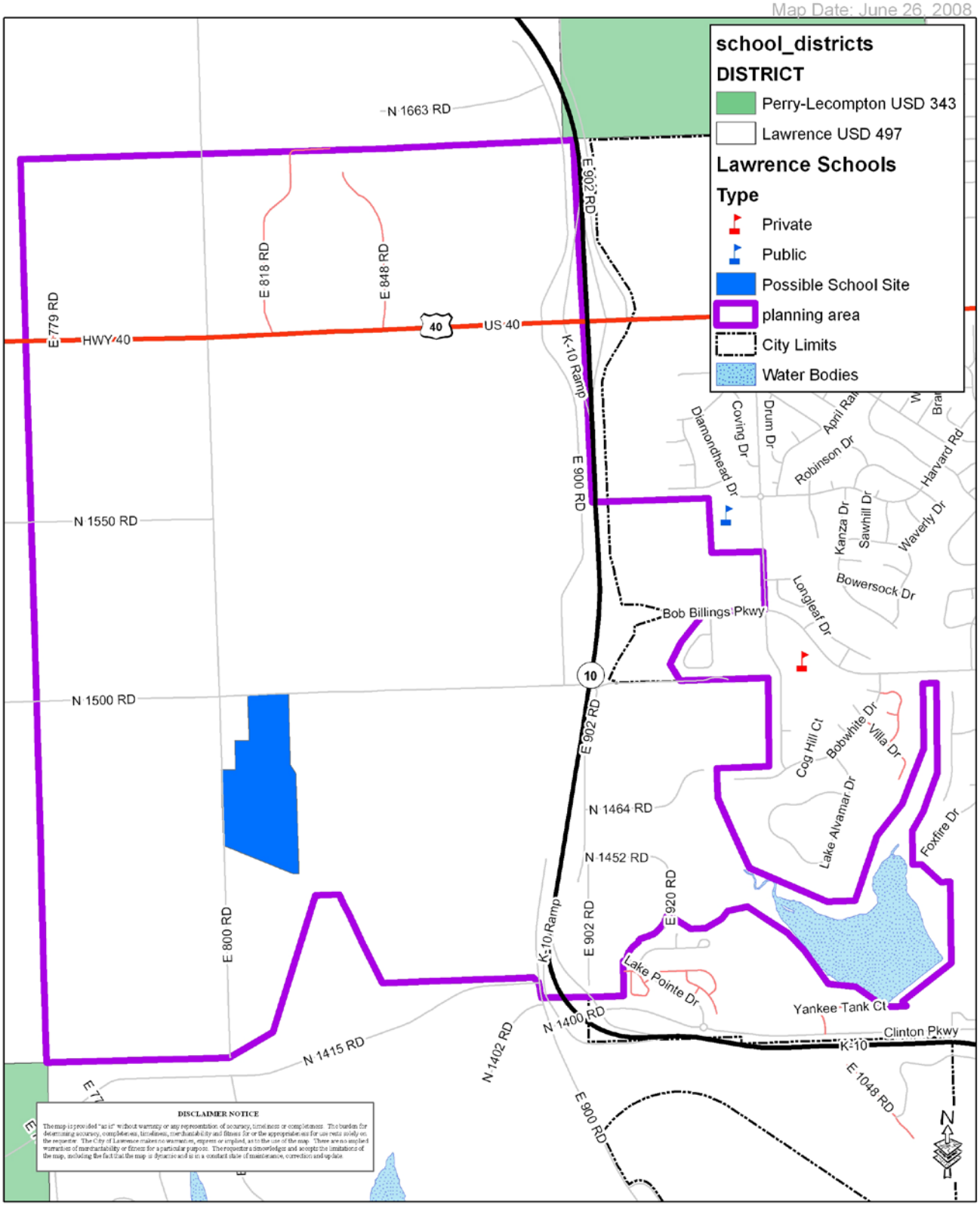
1996 Stormwater Management Master Plan as encompassing 756 acres and drains into Yankee Tank Lake (Lake Alvamar), a private lake just north of Clinton Parkway.

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 severs as a major source of drinking water for the City of Lawrence. In 2003, the Upper Wakarusa Watershed Resortation 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.

West of K-10 Plan

Map 2-7 School Districts and Possible School Location

Map Date: June 26, 2008

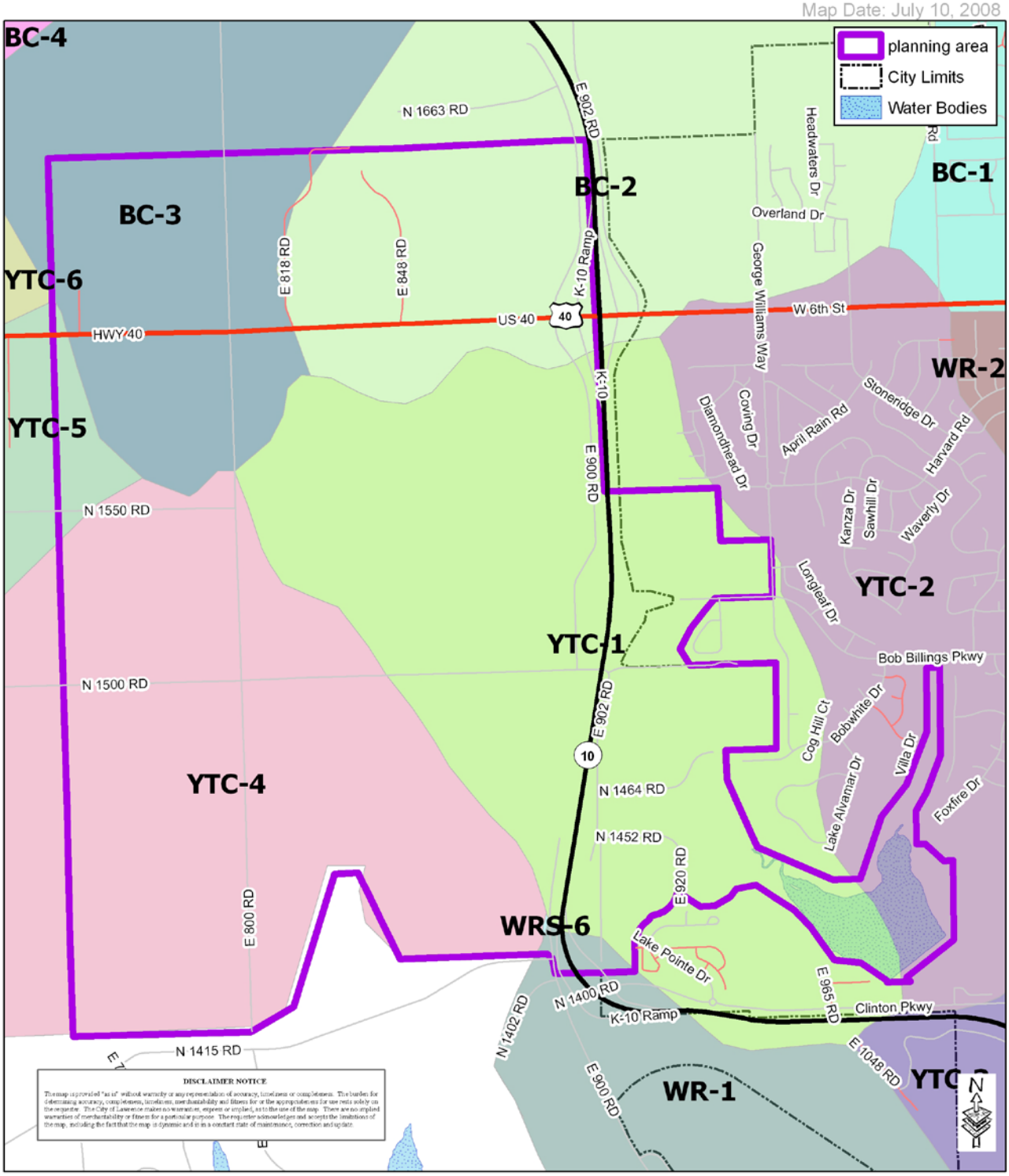


West of K-10 Plan

Map 2-8 Drainage Sub-Basins

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

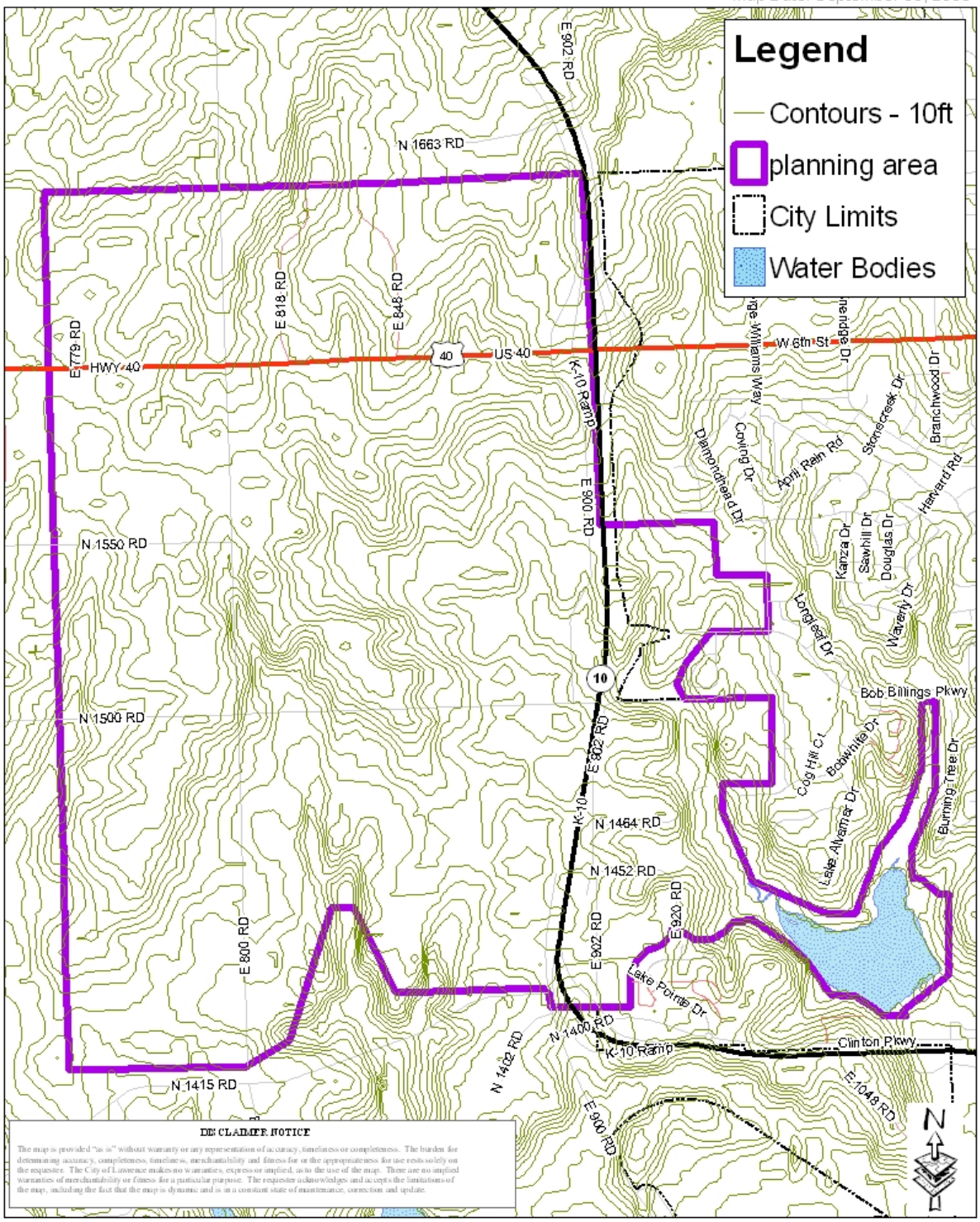
Map Date: July 10, 2008



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, ie. 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.

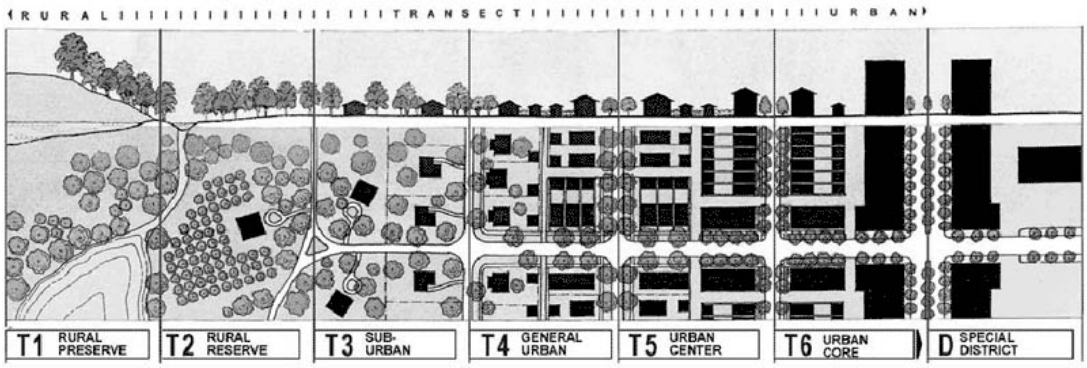
Conventional Future Land Use Option

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.

~~This option is predominately consistent with the adopted *West 6th and South Lawrence Trafficway Nodal Plan*. Land use designations have been changed in the southwest quadrant to reflect the existing church at 847 Hwy 40 and additional development considerations. The uses that carry over from the *West 6th and South Lawrence Trafficway Nodal Plan* are predominately employment related.~~

TND Option

The model for the TND option (Map 4-2) is built primarily around work the PlaceMakers firm did in early 2007. Through a week long charrette (design workshop) process, PlaceMakers, with the input from the area's landowners, produced a TND master plan based on the Transect method of organizing development. The model shows how TND neighborhoods could be organized in part of this planning area.



Urban Transect

The *Lawrence SmartCode* is the regulatory tool that will be used to implement the TND option. The *Lawrence SmartCode* was calibrated by PlaceMakers based on the charrette and from collaboration with City staff after the charrette and public comment. The TND option of development in the area will only be available if the *Lawrence SmartCode* is adopted by the Lawrence City Commission.

The model is meant to provide a guide to future TND development in the planning area. Landowners/developers will have to develop their own plans that conform to the *Lawrence SmartCode* in order to develop TND neighborhoods. There are two community types allowed by the *Lawrence SmartCode* in a Greenfield development situation. One community type is a Cluster Land Development (CLD). The other community type is a Traditional Neighborhood Development (TND). A minimum of 60 acres is required to develop a new TND neighborhood. 40 acres is required to develop a CLD neighborhood.

Compatibility

An obvious challenge arises with providing two future land use options for the planning area. Compatibility issues will inevitably arise when placing a suburban development next to one designed to be a TND. The challenge is how to properly and effectively build new neighborhoods when one option is chosen next to a development that used the other design option.

Keys to increased compatibility:

1. New neighborhoods, whether of a suburban nature or TND, must connect to each other via the street and pathway system. Streets, sidewalks and trails must connect from one neighborhood to the next. The first neighborhood built, and each subsequent neighborhood, should stub out the streets intended for connection to adjoining neighborhoods that will be created later.

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

~~**Office**~~
~~The intent of the office use is to allow for general office uses that would be minimally invasive to nearby residential uses.~~
~~***Primary Uses:*** office, multi-family dwellings~~
~~***Zoning Districts:*** CO (Commercial Office), POD (Planned Office District)~~
~~***Intensity:*** 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 exiting 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 recreation 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. 90 percent of the retail space shall be located on the northwest and northeast corners of US40/6th Street and K-10 Highway, while the remaining 10 percent is to be shared between the southwest and southeast corners. See the K-10/US40 Node discussion below for 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), CC 200 (Community Commercial Center), CN2 (Neighborhood Commercial Center), CO (Commercial Office), and PD (Planned Development Overlay) Districts
Intensity: medium

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 a regional recreation center along with retail and other commercial uses. The total allocated retail space for this corner is approximately 180,000 square feet. The location at the intersection of two highways makes this a prime location for commercial uses along with a regional recreation center. 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, 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 northern portion of the corner. The allocated retail space for this corner is approximately 360,000 square feet. This corner, along with the southeast corner, has the widest range of land use possibilities based on the planned improvements and ready access to city services and infrastructure. 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 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, along with the southeast corner of the intersection is allocated a share of the remaining 60,000 square feet of retail space (10% of the 600,000 square feet of retail for the entire CC600 intersection). As such, the northwest and northeast portions of the corner are designated CC600 to accommodate a share of the available 60,000 square feet of retail along with other commercial uses. 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, along with the southwest corner of the US40 and K-10 Highway intersection, is allocated a share of the remaining 60,000 square feet of retail space (10% of the 600,000 square feet of retail for the entire CC600 intersection). 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

~~The northwest and southwest corners of US 40/6th Street and K-10 were designated by the *West 6th Street/K-10 Nodal Plan* for office, research/industrial, and warehouse uses, except for a section designated appropriate for public/institutional activities~~. 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) ~~IG (General 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

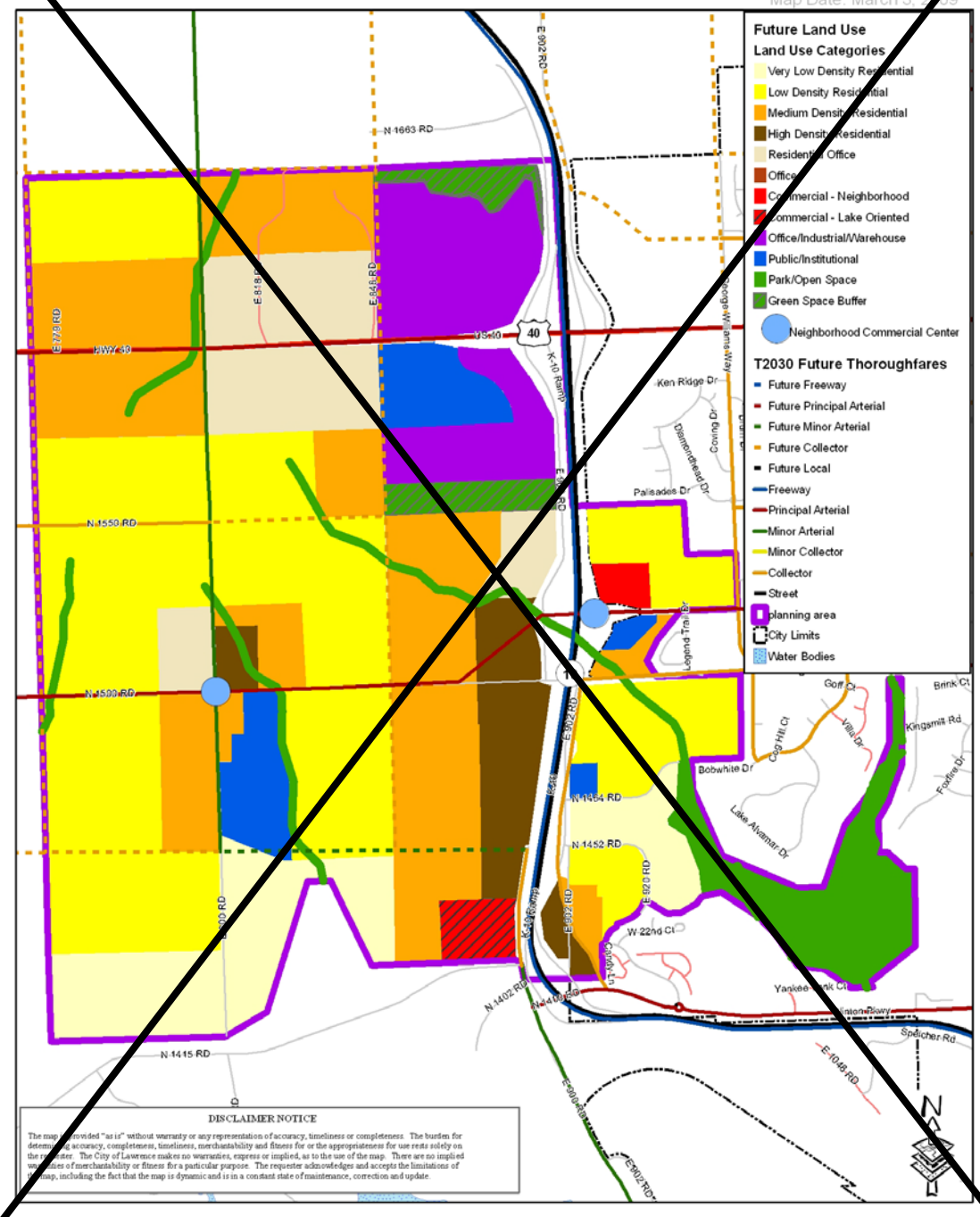
This designation is provided on the northwest and southwest corners of West 6th Street and K-10. It is to provide a buffer for lower intensity uses that will be adjacent to the commercial, office, industrial, and warehouse areas. There are a number of ways to provide transitions to less intense land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

Primary Uses: Open Space

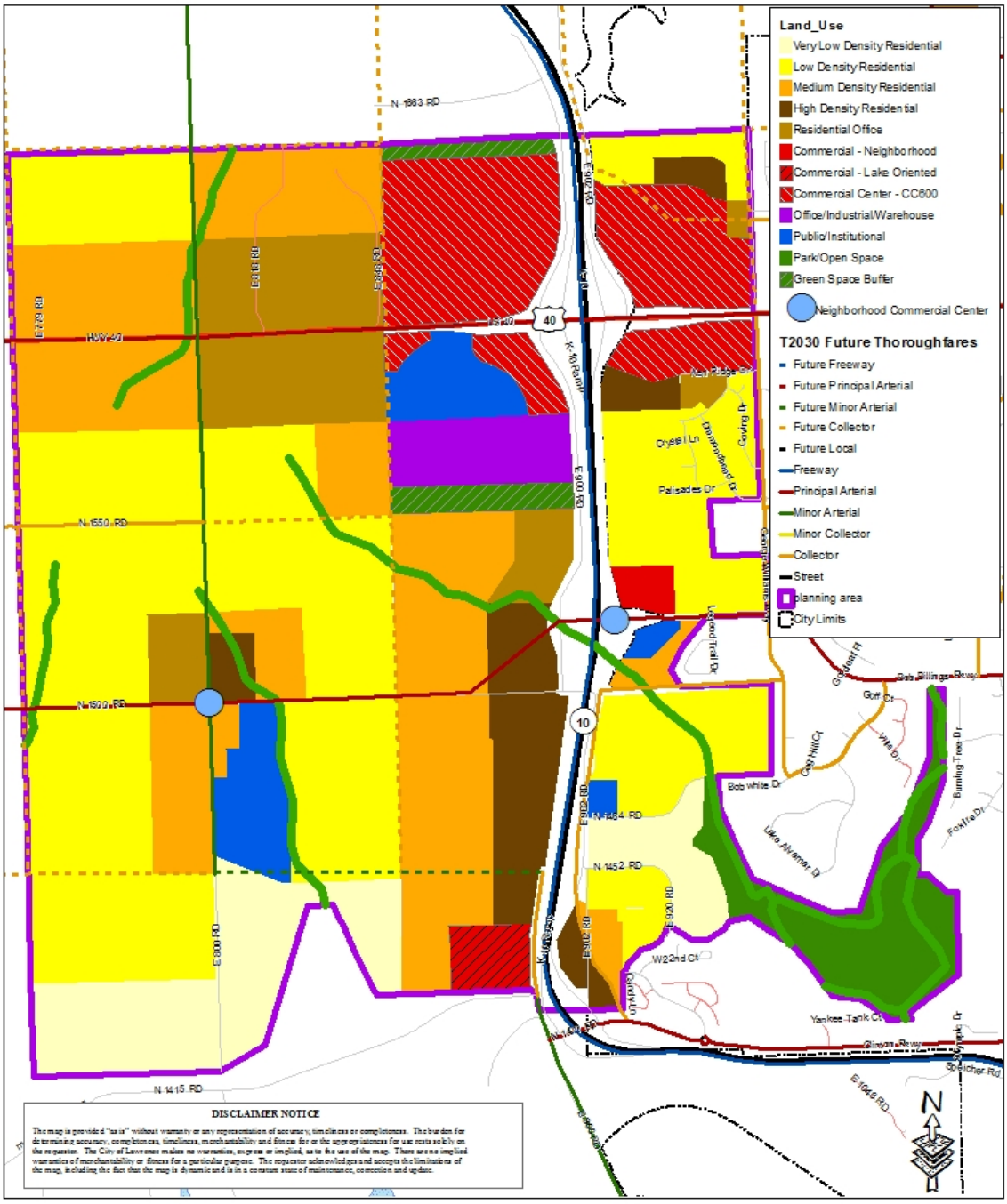
Zoning Districts: GPI (General Public and Institutional District), OS (Open Space), UR (Urban Reserve)

Intensity: light

West of K-10 Plan
Map 4-1 Future Land Use



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

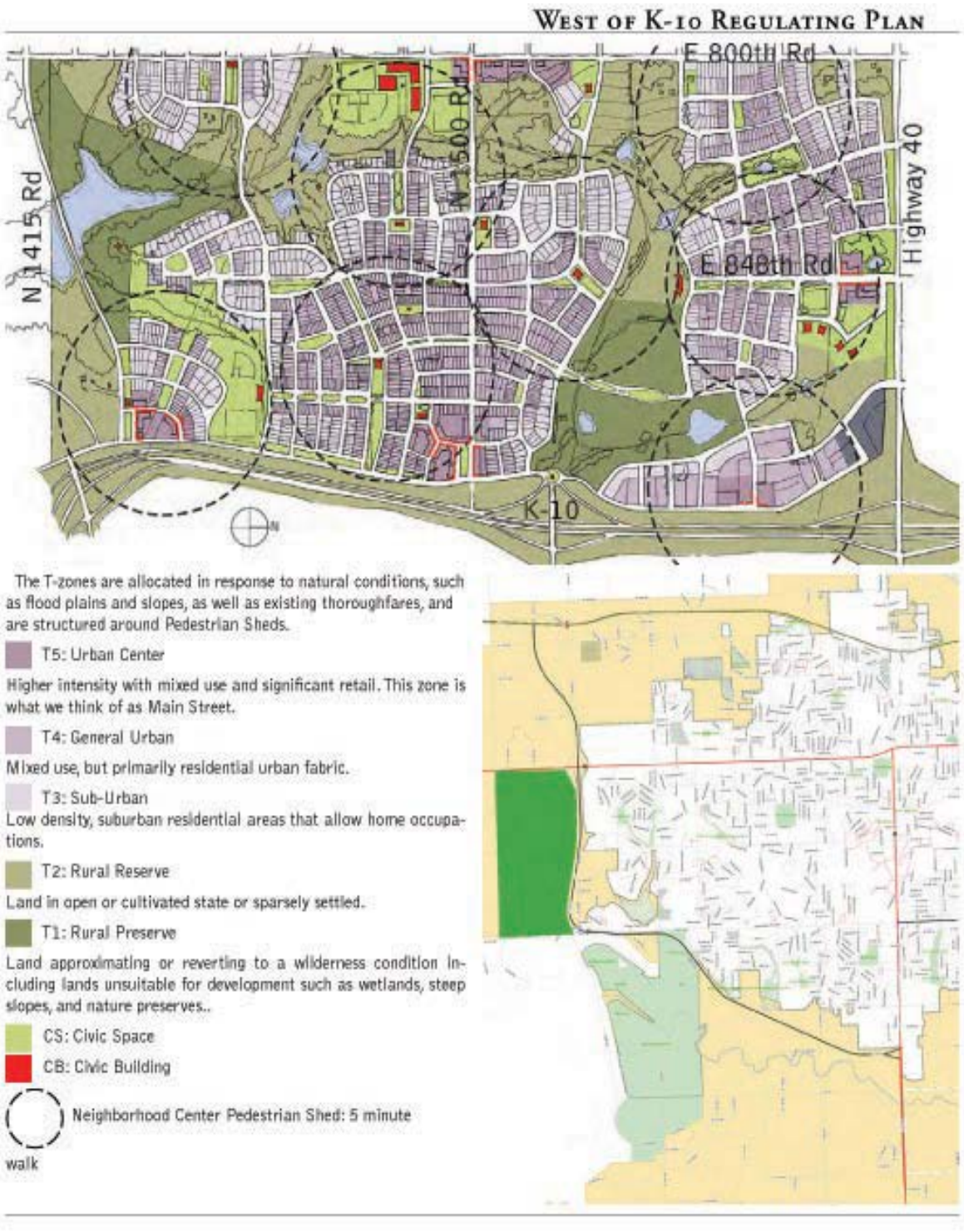
T4: General Urban
This category is mixed use, but primarily residential urban fabric.
Primary Uses: Urban residential.
Zoning Districts: T4
Minimum Base Density: 12 units/acre

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



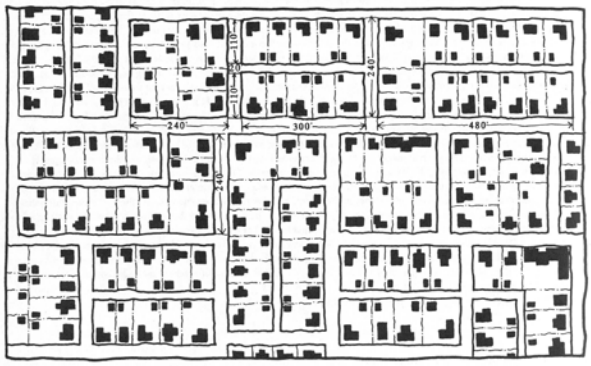
V. Great Neighborhoods

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.



Short Blocks

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.

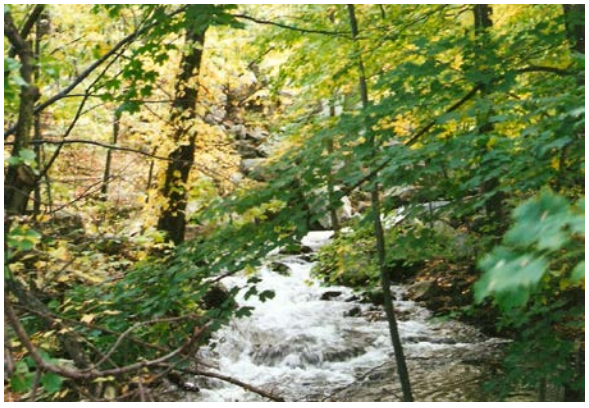
Bike Lane

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

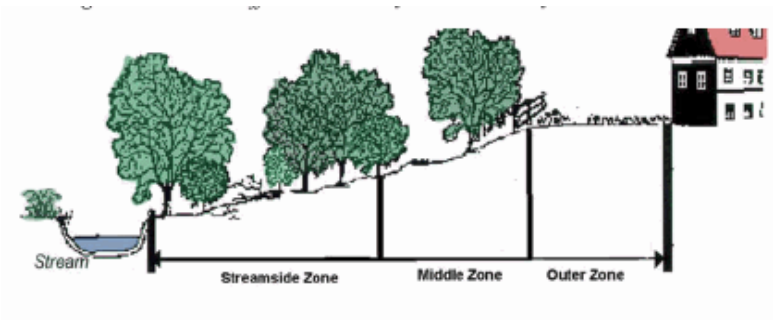
Care should be taken to design new neighborhoods and developments in this area with the natural layout of the land. Preserving the natural systems already in place prior to development should be a priority for the planning area. Streams should follow their natural paths and should not be rerouted or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


Stream

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.



Typical stream buffer/setback cross section

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

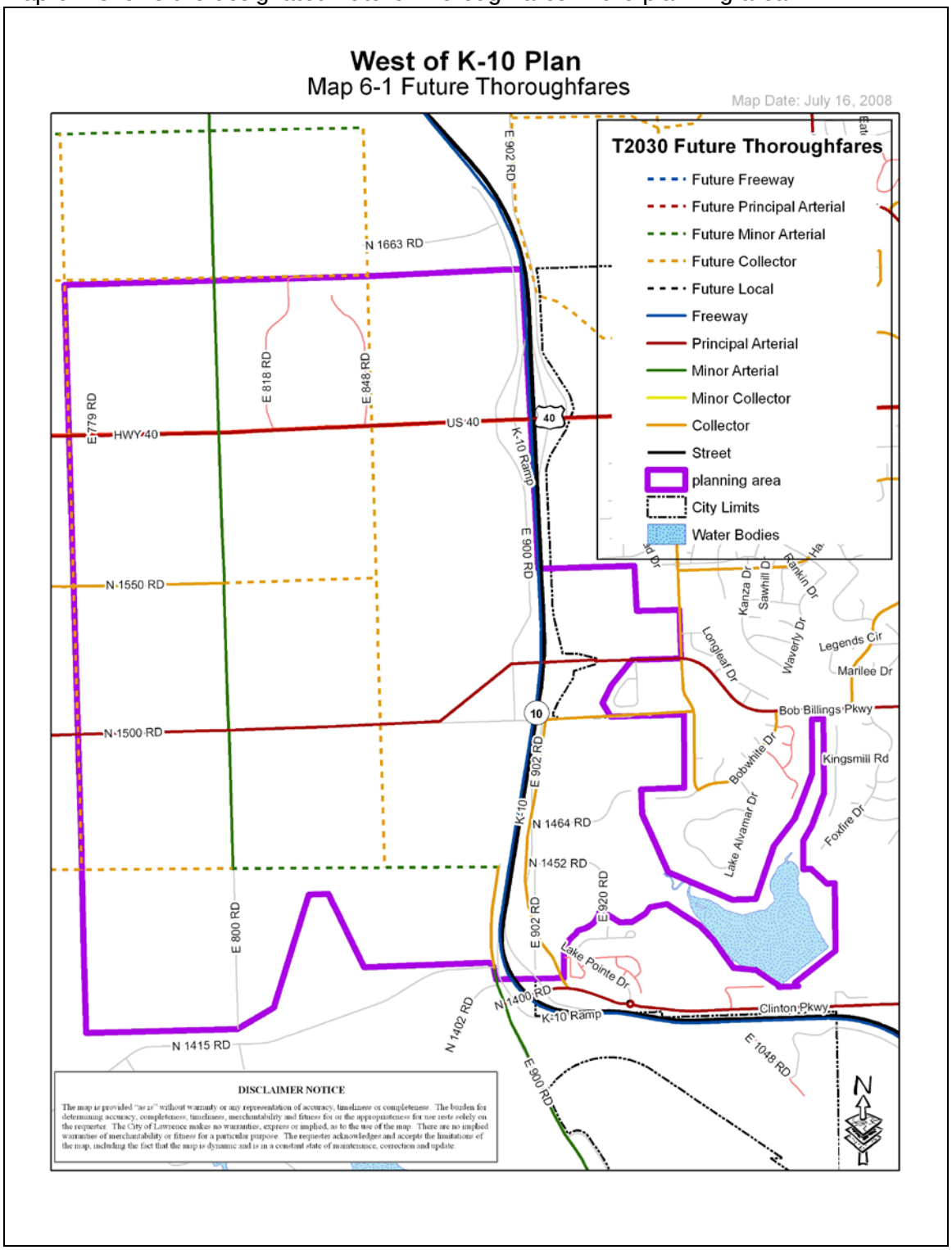
Development shall enhance the identified gateways of the planning area by creating aesthetically pleasing corridors. Aesthetically pleasing landscaped entry ways along gateways should be required. Both public and private property owners are responsible for achieving and maintaining this aesthetically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

Indoor Aquatic Center

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.

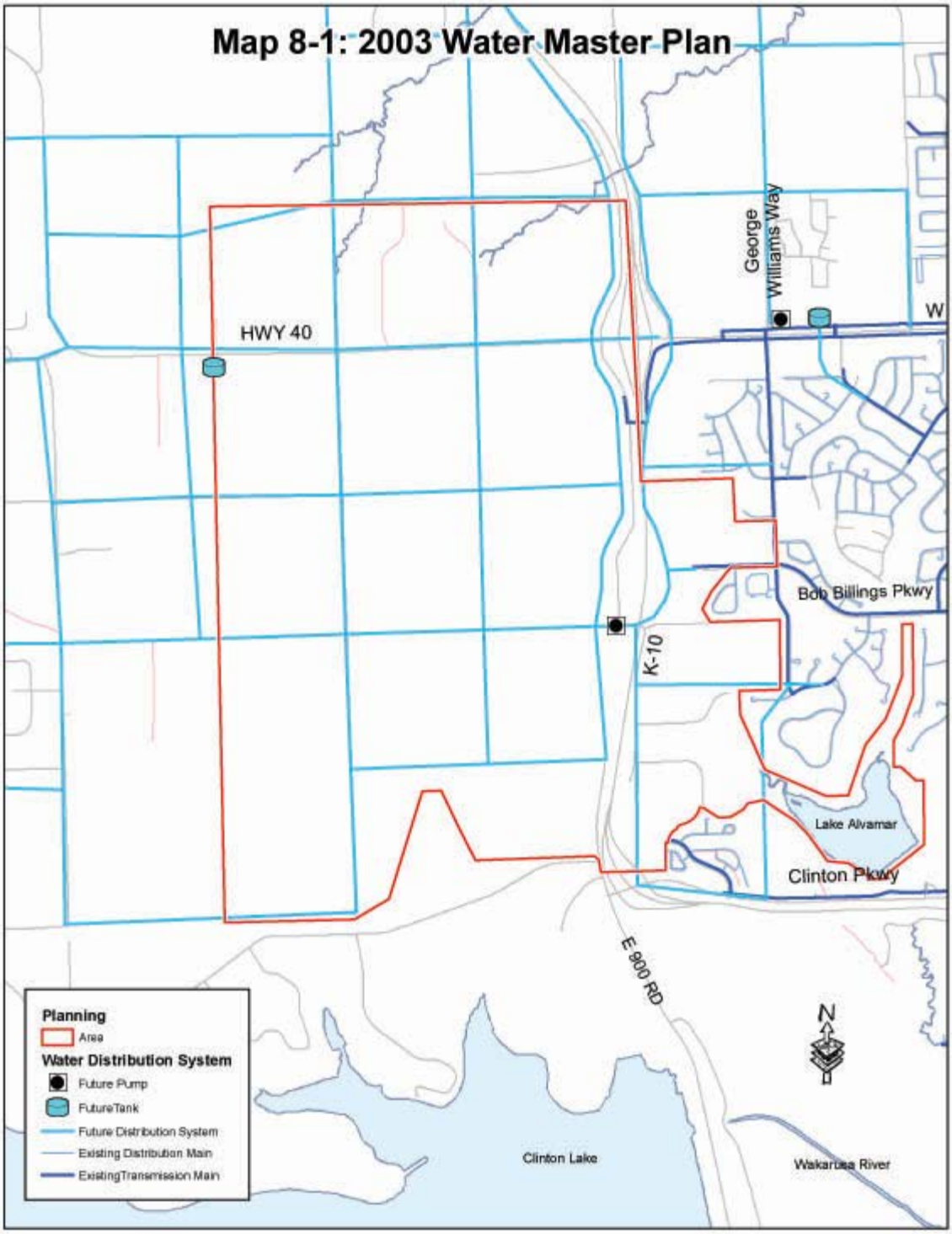
There is a limited area of the Baldwin Creek Drainage Basins immediately south of 6th Street. Per the 2003 Wastewater Master Plan these areas are to follow their natural drainage and flow to the north of 6th Street for further collection and conveyance.

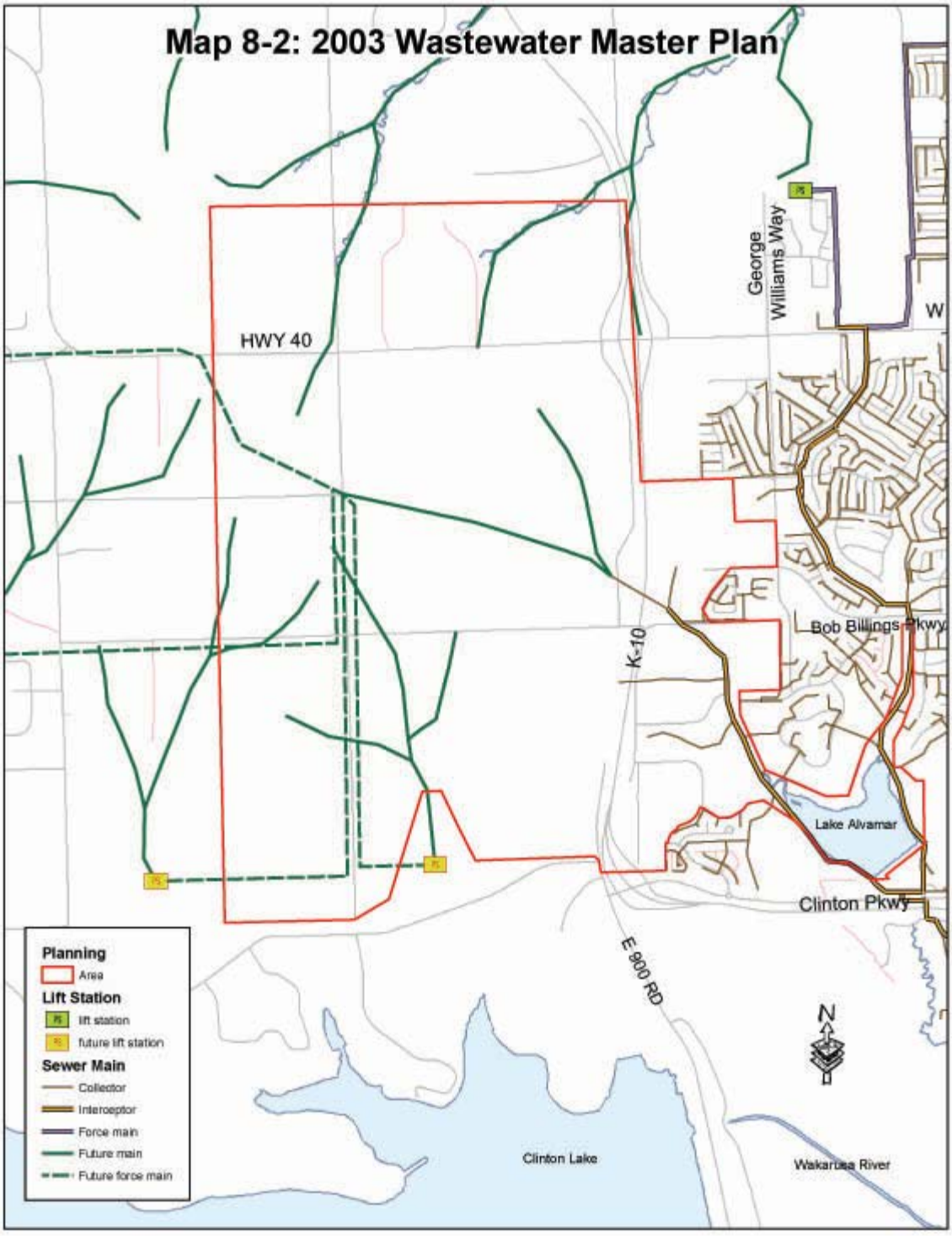
Per the 2003 Wastewater Master Plan the improvements required to extend sanitary sewer service to the west side of K-10, other than those identified as relief improvements to the existing system, were to be at the developer's expense.

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 8-1: 2003 Water Master Plan
HWY 40
George Williams Way
Bob Billings Pkwy
K-10
Lake Alvamar
Clinton Pkwy
E 900 RD
Clinton Lake
Wakarusa River
N
Planning
Area
Water Distribution System
Future Pump
FutureTank
Future Distribution System
Existing Distribution Main
ExistingTransmission Main


Map 8-2: 2003 Wastewater Master Plan
HWY 40
George Williams Way
K-10
Bob Billings Pkwy
Lake Alvamar
Clinton Pkwy
E 900 RD
Clinton Lake
Wakarusa River
N
Planning
Area
Lift Station
lift station
future lift station
Sewer Main
Collector
Interceptor
Force main
Future main
Future force main

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

- ~~Update the *West 6th Street/ K-10 Nodal Plan* to reflect adopted Future Land Use designation of the *West of K-10 Plan.*~~
  ~~**Who**: Planning Commission, City Commission, County Commission~~

- ~~Amend subdivision regulations to establish a 50' extraordinary setback on US 40/West 6th Street west of K-10 Highway.~~
  ~~**Who**: Planning Commission, City Commission, County 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

Commercial Land Use

CHAPTER SIX - COMMERCIAL LAND USE

The Plan's goal is to strengthen and reinforce the role and function of existing commercial areas within Lawrence and Douglas County and promote economically sound and architecturally attractive new commercial development and redevelopment in selected locations.

STRATEGIES: COMMERCIAL DEVELOPMENT

The principal strategies for the development and maintenance of commercial land use areas are:

- Support downtown Lawrence as the Regional Retail/Commercial/Office/Cultural Center with associated residential uses through the careful analysis of the number, scale, and location of other mixed-use commercial/retail developments in the community. Downtown Lawrence is the cultural and historical center for the community and shall be actively maintained through implementation of the adopted design guidelines that regulate the architectural and urban design character of this regional center.

- Establish and maintain a system of commercial development nodes at selected intersections which provide for the anticipated neighborhood, community and regional commercial development needs of the community throughout the planning period.

- Require commercial development to occur in "nodes", by avoiding continuous lineal and shallow lot depth commercial development along the city's street corridors and Douglas County roads.

- Encourage infill development and/or redevelopment of existing commercial areas with an emphasis on Downtown Lawrence and existing commercial gateways. Sensitivity in the form of site layout and design considerations shall be given to important architectural or historical elements in the review of development proposals.

- Improve the overall community image through development of site layout and accessibility plans that are compatible with the community's commercial and retail areas.

- Require new Commercial Centers in the unincorporated portion of Douglas County to be located at the intersection of two hard surfaced County Routes or the intersection of a hard surfaced county route and a state or federally designated highway and no closer than four miles to another Commercial Center in the unincorporated portion of Douglas County.

NODAL DEVELOPMENT

The Goals and Strategies in this chapter center on the Nodal Development Concept for new commercial development and the definitions of the four different categories of commercial nodes: Neighborhood, CC200, CC400, and Regional Commercial. The Nodal Development Concept encompasses all four corners of an intersection, although all four corners do not need to be commercially developed. The concept of nodal development shall also be applied to the redevelopment of existing commercial areas when the redevelopment proposal enlarges the existing commercial area. The following text provides a detailed description of the appropriate uses and development patterns for each respective category of commercial development.

Nodal Development is the antithesis of "Strip Development". "Strip Development" is characterized by high-intensity, auto-oriented uses, shallow in depth and extending linearly along a street corridor, with little consideration given to access management and site aesthetics. The Nodal Development concept requires the clear termination of commercial development within near proximity of an intersection. Commercial development that does not occur directly at the corner of an intersection must be integrated, through development plan design and platting with the property that is directly at the intersection's corner. Termination of commercial development can be accomplished through a number of methods, including: 1) Placement of transitional uses, such as office and multi-family to buffer the adjoining neighborhood from the commercial area; 2) restricting the extension of new commercial uses past established commercial areas; and 3) defining the boundaries of the development through the use of "reverse frontage" roads to contain the commercial uses.

DESIGN STANDARDS

The city shall strive to improve the design of shopping areas. The objective will be to work with commercial developers to achieve compact, pedestrian-oriented centers versus conventional strip malls. The overall goal of these standards is to improve community aesthetics, encourage more shopping per trip, facilitate neighborhood identification and support, and make shopping an enjoyable event.

New design standards shall be developed and adopted which better integrate the centers into the surrounding neighborhoods and create a focal point for those that live nearby. They should include elements that reflect appropriate and compatible site design patterns and architectural features of neighboring areas. Site design and building features shall be reflective of the quality and character of the overall community and incorporate elements familiar to the local landscape. Using a variety of building incentives to encourage mixed use development will bring consumers closer to the businesses

Design elements of particular interest that will receive close scrutiny include:

1. Site design features, such as building placement, open space and public areas, outdoor lighting, landscaping, pedestrian and bicycle amenities, interfacings with adjacent properties, site grading and stormwater management, parking areas and vehicular circulation (including access management).

2 Building design features, such as architectural compatibility, massing, rooflines, detailing, materials, colors, entryways, window and door treatments, backsides

of buildings, service/mechanical/utility features and human-scale relationships.

COMMERCIAL CENTER CATEGORIES

The Comprehensive Plan includes recommendations for the improvement of existing commercial areas and the development of compatible new commercial areas. It establishes a system of commercial and retail development that applies to both existing and new development locations. This system involves the designation of different types of commercial areas to distinguish between the basic role and types of land uses and the scale of development. These include the neighborhood, community and regional commercial classifications. The following descriptions are based upon recognized standards formulated by the Urban Land Institute (ULI) and knowledge gathered by the community through past experiences.

An integral component in the description of each commercial center category is the designation of an amount of commercial gross square footage deemed appropriate for each center classification. However, this plan recognizes that there will be instances in which a rezoning request for a commercial district will not be accompanied by a development plan showing the total amount of gross square footage associated with the rezoning request. In such circumstances, part of the commercial rezoning request shall include a statement regarding the maximum amount of commercial square footage that will be permitted with each particular commercial rezoning request.

■ *Commercial Uses*

For the purposes of this section of the Plan, the term "commercial" means retail businesses as defined as one whose primary coding under the North American Industrial Classification System (NAICS) falls into at least one of the following sectors:

i. Sector 44-4S: Retail Trade;
ii. Subsector 722: Food Services and Drinking Places;
iii. Subsector 811: Repair and Maintenance; and
iv. Subsector 812: Personal and Laundry Services

~~that sell goods and services on-site for which sales tax is collected. This definition does not include offices uses.~~

■ *Downtown Commercial Center*

The Downtown Commercial Center is the historic core of governmental, commercial, institutional, social and cultural activity. Transitions to adjacent neighborhoods are traditionally provided through alleyways or landscaping improvements rather than a change in use or density. The Downtown Commercial Center is restricted to the historic commercial core of Lawrence. The boundaries of Downtown Lawrence correspond with the boundaries outlined in the "Comprehensive Downtown Plan", and are described as: *starting at the Kansas River, south along Kentucky Street to just south of Vermont Towers, then east to Vermont Street, south along Vermont Street to North Park Street, east along North Park Street to Rhode Island Street, north along Rhode Island Street to 11th Street, west along 11th Street to the alley east of New Hampshire Street, north along the New Hampshire Street alley to 9th Street, east on 9th Street*

to Rhode Island Street, then north on Rhode Island Street to the Kansas River.

The Downtown Commercial Center is the Regional Retail/Commercial/Office/Cultural Center for the community and is considered a destination driver that attracts and serves the area beyond that of the local community. The Downtown Commercial Center has an established development and architectural/urban design pattern. Unique among commercial centers in Lawrence, the Downtown Commercial Center combines a variety of land uses, including governmental, retail, office, public facilities, institutions, churches, and residential. Linear in design, the Downtown Commercial Center is focused along Massachusetts Street with New Hampshire and Vermont Streets serving as secondary activity areas. General building patterns are urban. Mixed-use, multi-story buildings are the most common building form and parking is provided on-street and through community parking lots and parking structures.
Building designs and public improvements are focused on providing a pedestrian-oriented commercial experience. Massachusetts Street has a distinct streetscape with sawtooth parking and a focus on first floor (pedestrian oriented) retail use. Vermont and New Hampshire Streets provide the major vehicular movement patterns and provide access to the majority of the community parking areas. Alleyways, which provide service access, are one of the main character-defining elements that distinguish the Downtown Commercial Center from other commercial centers. To ensure there are a variety of commercial uses, the maximum footprint for an individual store is limited to approximately 25,000 gross square feet. One of the keys to the success of the Downtown Commercial Center is the ability to provide a wide range of leasable square footage that is both flexible and capable of being tailored to a specific use. Construction within the Downtown Commercial Center is regulated by a set of design guidelines administered through an Urban Conservation Overlay Zoning District.

An important ingredient to ensuring the continued viability of Downtown is keeping it the center of the city's social and institutional activities. To maintain downtown as the city and County's hub of governmental functions; uses and buildings such as City Hall, the County Courthouse, Municipal Library, Douglas County Senior Center, Fire/Medical Department's Main Office, Police and Sheriff Offices, the Municipal Pool and the Municipal and District Courts shall remain located in Downtown.

■ *Neighborhood Commercial Centers*

The typical nodal development concept for Neighborhood Commercial Centers includes commercial on only one corner of an arterial/collector street intersection or arterial/arterial street intersection. The remaining corners are appropriate for a variety of other land uses, including office, public facilities and high density residential. Commercial development shall not be the dominant land use at the intersection or extend into the surrounding lower-density residential portions of the neighborhood. The surrounding residential area shall be provided adequate buffering from the commercial uses through transitional zoning or lower-intensity developments. Transitions shall be accomplished by using a number of methods, such as intensive landscaping and berming, grouping of lower-intensity developments, incorporation of existing natural land features into site layout and design (ex. open space along a creek), or a combination of these methods.

Neighborhood Commercial Centers may contain a variety of commercial uses, including a grocery store, convenience store, and other smaller retail shops and services such as a barbershop or beauty salon. To insure there are a variety of commercial uses and that no one

use dominates a Neighborhood Commercial Center, no one store shall occupy an area larger than 40,000 gross square feet. The only exception is a grocery store, which may occupy an area up to 80,000 gross square feet.

A Neighborhood Commercial Center provides for the sale of goods and services at the neighborhood level. Neighborhood Commercial Centers shall contain no more than a total of 100,000 gross square feet of commercial space with the exception of Neighborhood Commercial Centers that include a grocery store. Neighborhood Commercial Centers that have a grocery store larger than 60,001 gross square feet may have up to a total of 125,000 gross square feet of commercial space.

To ensure that the commercial area in a new Neighborhood Commercial Center has adequate lot size and depth, any proposal for a commercial development shall have a length-to-depth ratio between 1:1 and 3:2.

In order to facilitate the orderly development of future commercial nodes, Lawrence shall attempt to complete "nodal plans" for each future commercial center in advance of development proposals.

If a nodal plan had not been created by the city, the need to create a nodal plan for a specific intersection shall be "triggered" by the first development request (rezoning, plat, preliminary development plan, etc.) submitted to the Planning Department for any portion of the node. The creation of the nodal plan may involve input from landowners within the nodal area, adjoining neighborhoods and property owners, and appropriate local and state entities. The appropriate governing body (City or County Commission) shall approve the nodal plan before development approval within the nodal area can move forward.

- ***Mixed-Use Redevelopment Center***

The City of Lawrence includes areas where existing structures that have not been utilized for their original purposes for an extended period of time, have experienced a high turnover rate, or have remained vacant for an extended period of time and, therefore, are suitable for redevelopment. Such areas present potential opportunities for redevelopment into mixed-use centers, offering a mix of residential, civic, office, small-scale commercial, and open space uses. This mixed use is encouraged in individual structures as well as throughout the area.

Mixed-use redevelopment centers shall include a mix of uses designed to maintain the character of the surrounding neighborhood, achieve integration with adjacent land uses, and be no larger than six acres in size. As such, retail uses within mixed-use redevelopment centers shall not exceed 25% of the net floor area within the subject area, and a single retail shop or tenant shall not occupy more than 16,000 square feet of a ground-floor level, net floor area. Neighborhood integration shall also be accomplished by providing transitions through alleyways and use and landscaping buffers, and by ensuring existing structures are incorporated into the new center where possible. New development shall respect the general spacing, mass, scale, and street frontage relationships of existing structures and surrounding neighborhoods. The City's Historic Resources Administrator shall be contacted if it is likely that historic structures exist within or near the project area.

Centers shall provide multi-modal services, allowing bicycle, pedestrian, vehicular, and, if

available, transit options. Pedestrians should be able to navigate the site safely and efficiently, and travel to and from the site with ease. Pedestrian-scaled street furnishings, plantings, and gathering places shall be utilized to allow for social activity in public places. Bicycle parking shall be provided when required by the Zoning Regulations, and transit services shall be incorporated into the design where necessary.

■ *Mixed-Use Districts*

The City of Lawrence includes areas where infill and new development opportunities exist that would appropriately be developed or redeveloped as a mixed-use district. Such areas present potential opportunities for development and redevelopment as mixed-use districts, offering a mix of residential and non-residential uses. This mixed use is encouraged in individual structures as well as throughout the area. There are also areas that are currently mixed use in nature that should be preserved.

Mixed-use districts shall include a mix of uses designed to maintain the character of the surrounding neighborhood, achieve integration with adjacent land uses, and be no larger than 20 acres in size. Neighborhood integration may also be accomplished by providing transitions through alleyways, variation among development intensity, implementation of landscaping buffers, or by ensuring existing structures are incorporated into the development where possible. New development shall respect the general spacing, mass, scale, and street frontage relationships of existing structures and surrounding neighborhoods. The City's Historic Resources Administrator shall be included in the review process if it is likely that historic structures exist within or near the project area.

Mixed use districts shall provide multi-modal services, allowing bicycle, pedestrian, vehicular, and transit options. Pedestrians should be able to navigate the site safely and efficiently, and travel to and from the site with ease. Pedestrian-scaled street furnishings, plantings, and public spaces shall be planned to be utilized to allow for social activity. Bicycle parking shall be provided when required by the Zoning Regulations, and transit services shall be incorporated into the design where necessary.

■ *Inner-Neighborhood Commercial Centers*

A subcategory of this section is Inner-Neighborhood Commercial Centers. Typically, this is an existing commercial area within an established neighborhood. Existing Inner-Neighborhood Commercial Centers are located at:

- Southeast corner of 12th Street and Connecticut Street
- West side of the intersection of 14th Street and Massachusetts Street
- Intersection of N. 7th Street and Locust Street
- 6th Street between Indiana Street and Mississippi Street
- E. 9th Street corridor starting at Rhode Island and going east
- Northeast corner of Barker Street and 23rd Street
- 7th Street and Michigan Street.
- Northeast corner of 13th and Haskell

Redevelopment of these existing Inner-Neighborhood Commercial Centers should be facilitated through the use of alternative development standards that allow for reductions in required parking, open space, setbacks, lot dimensions and other requirements that make it difficult to redevelop existing commercial areas

■ *Community Commercial Center*

A Community Commercial Center provides goods and services to several different neighborhood areas. It requires a site of sufficient size to accommodate buildings, parking, stormwater detention and open space areas. Although it may include a food or drug store, it is likely to provide a broad range of retail uses and services that typically generate more traffic and require larger lot sizes then found in a Neighborhood Commercial Center. Community Commercial Center uses may include hardware stores, video outlets, clothing stores, furniture stores, grocery store, movie theaters, home improvement stores, auto supply and services, athletic and fitness centers, indoor entertainment centers, etc.

Community Commercial Center (under 200,000 square feet): CC200

The primary purpose of the CC200 category is to provide for the expansion and redevelopment of existing Community Commercial Centers. However, a new CC200 Center can be designated. Expansion of an existing CC200 Center shall not intrude into surrounding residential areas or lower-intensity land uses. Any proposal for commercial expansion or redevelopment occurring in an area designated as a CC200 Center shall include a plan for reducing curb cuts, improving pedestrian connections, providing cross access easements to adjacent properties, and creating and/or maintaining buffering for any adjacent non-commercial uses.

All corners of CC200 Center intersections should not be devoted to commercial uses. CC200 Centers should have a variety of uses such as office, employment-related uses, public and semi-public uses, parks and recreation, multi-family residential, etc.

To insure that there are a variety of commercial uses and that no single store front dominates the CC200 Center, no individual or single store shall occupy more than 100,000 gross square feet. A general merchandise store (including discount and apparel stores) that does not exceed 65,000 gross square feet in size may be located in a CC200 Center. The sum of the gross square footage for all stores that occupy space between 40,000 and 100,000 cannot exceed 50 percent of the gross commercial square footage for the corner of the intersection where it is located. To provide adequate access and adequate circulation, CC200 Centers shall be located at an arterial/collector street intersection or arterial/arterial street intersection.

CC200 Centers shall be located with primary access designed to occur from arterial or collector streets, with secondary access occurring from neighborhood feeder streets or reverse frontage roads. The purpose of the secondary access is to collect internal neighborhood traffic so that accessibility from the adjoining neighborhoods does not require exiting the neighborhood to access community shopping. These secondary access points are intended only for neighborhood traffic. The surrounding street design shall be done in a manner to discourage access to the Commercial Center by non-neighborhood traffic. Pedestrian and bike connection to the neighborhood shall be emphasized along the secondary routes.

In order to facilitate the orderly development of future commercial nodes, Lawrence shall

attempt to complete "nodal plans" for each future commercial center in advance of development proposals.

In the absence of a city created nodal plan, the need to create a nodal plan for a specific intersection will be "triggered" by the first development request (rezoning, plat, preliminary development plan, etc.) submitted to the Planning Department for any portion of the node. The creation of the nodal plan may involve input from landowners within the nodal area, adjoining neighborhoods and property owners, and appropriate local and state entities. The appropriate governing body (City or County Commission) shall approve the nodal plan before approval of the development within the nodal area can move forward.

Community Commercial Center (under 400,000 square feet): CC400

The second category of Community Commercial Centers is the CC400 Center. Although these centers usually average 150,000 gross square feet, they may be as large as 400,000 gross square feet of retail commercial space if justified by an independent market study. CC400 Centers shall be located at the intersection of two arterial streets that have at least a four-lane cross-section or the intersection of a four-lane arterial with a state or federally designated highway.

CC400 Centers shall be located with primary access designed to occur from arterial or collector streets, with secondary access occurring from neighborhood feeder streets or reverse frontage roads. The purpose of the secondary access is to collect internal neighborhood traffic so that accessibility from the adjoining neighborhoods does not require exiting the neighborhood to access community shopping. These secondary access points are intended only for neighborhood traffic. The surround street design shall be done in a manner to discourage access to the Commercial Center by non-neighborhood traffic. Pedestrian and bike connection to the neighborhood shall be emphasized along the secondary routes.

The nodal development concept for CC400 Centers includes the possibility of commercial development on more than one corner of an intersection. The non-commercial corners of a community commercial node are appropriate for a variety of non-commercial retail uses including office, public or religious facilities, health care, and medium- to high-density residential development. Community Commercial development shall not extend into the surrounding lower-density residential portions of neighborhoods. The adjoining residential area shall be provided adequate buffering from the commercial uses through transitional zoning or development. Transitions may be accomplished by using a number of methods, including extensive landscaping and berming, grouping of lower-intensity uses, incorporation of existing natural land features into site layout and design (ex. open space along a creek), or a combination of these methods.

To insure that a specific intersection complies with the CC400 Center nodal standards, a nodal plan for each new CC400 Center must be created. The nodal plan will define the area of the node and provide details including: 1) existing natural features; 2) appropriate transitional uses; 3) appropriate uses for each specific corner of the intersection; 4) access points for each corner; 5) necessary infrastructure improvements; 6) overall flow of traffic in and around the node and the surrounding area; and 7) any other necessary information.

A key element to a nodal plan is the designation of the appropriate uses for each corner of the

node, which shall be governed by the above-listed details. Those details will be used to analyze a potential node. The analysis of the node may readily reveal the appropriate use for each specific corner. However, the analysis may reveal that no one use is appropriate for each specific corner, but instead a variety of uses may be considered appropriate for a specific corner. In a situation where all the corners maybe considered appropriate for commercial uses, the location of the commercial space will be dictated by the timing of the development application and the development standards located in this chapter.

In order to facilitate the orderly development of future commercial nodes; Lawrence shall attempt to complete "nodal plans" for each future commercial center in advance of development proposals.

If the city has not created a nodal plan, the need to create a nodal plan for a specific intersection will be "triggered" by the first development request (rezoning, plat, preliminary development plan, etc.) submitted to the Planning Department for any portion of the node. The creation of the nodal plan may involve input from landowners within the nodal area, adjoining neighborhoods and property owners, and appropriate local and state entities. The appropriate governing body (City or County Commission) shall approve the nodal plan before approval of the development within the nodal area can move forward.

At least 95 percent of the commercial gross square footage in a new CC400 Center shall be located on two corners of the intersection. The remaining five percent shall be located on one of the remaining two corners. To comply with the square footage maximum for a CC400 Center and to ensure that the commercial area has adequate lot size and depth, any commercial development proposal for a single corner shall have a length-to- depth ratio between 1:1 and 3:2 and be a minimum of 20 acres in size. Proposals in which the commercial gross square footage is less than ten percent of the total square footage of the proposal do not have to meet the minimum acreage and lot length-to-depth ratio requirements.

No one store in a CC400 Center shall occupy more than 175,000 gross square feet. The sum of the gross square footage for all stores that occupy space between 100,000 gross square feet and 175,000 gross square feet shall not exceed 70 percent of the gross commercial square footage for the corner of the intersection. If a proposal for a corner of the intersection includes more than 100,000 gross square feet of commercial space, the proposal shall include a single store building that has at least 40,000 gross square feet of commercial space.

Community Commercial Center (under 600,000 square feet): CC600

The third category of Community Commercial Centers is the CC600 Center. The primary purpose of the CC600 center is to provide opportunities for development of new Community Commercial Centers for fringe areas as neighborhoods grow and develop,

These centers allow a maximum of 600,000 square feet of commercial retail space and shall be located at the intersection of two state or federally designated highways. Other uses of a non-retail nature do not have a space limitation. A maximum of 90 percent of the commercial retail square footage in a CC600 center shall be located on two corners of the intersection. The remaining 10 percent shall be located on one or both of the remaining two corners.

CC600 centers should be developed in a nodal development pattern and be part of a specific land use plan that includes the node. The nodal plan shall also address surrounding land uses

and provide for adequate transitioning of uses.

- ***Regional Commercial Centers***

A Regional Commercial Center may provide the same services as a Community Commercial Center but should provide a greater variety and number of general merchandise, apparel and furniture stores, among other tenants. Because of the overall scale and mix of uses, a regional retail commercial center attracts and serves a population greater than and beyond that of the community.
The minimum area for a commercial development plan on any corner is 40 acres and the minimum street frontage is 1,400 linear feet. This will ensure a new Regional Commercial Center is capable of development with the critical mass mixture, including sites for multiple big box buildings, required parking, stormwater detention, and open space areas. A Regional Commercial Center node shall not contain more than 1.5 million gross square feet of retail commercial space. The only location for the next Regional Commercial Center is at the intersection of either two state or federal highways, or the intersection of a street identified on the Major Thoroughfares Map as an arterial street and a state or federal highway.

Development of another Regional Commercial Center will have significant impacts on the Lawrence/Douglas County community and its existing retail centers, and will place increased service demands on the community's infrastructure system. Due to these impacts, consideration of a Regional Commercial Center by the Planning and City Commissions shall utilize the best available information in the analysis, public hearing and decision making process. Therefore, when the next Regional Commercial Center is proposed, an independent market analysis shall be required at the review and analysis stage and prior to public hearing. The entity proposing the Regional Commercial Center shall provide the funds necessary for the city to hire an independent consultant, selected by the applicant from a list of approved consultants established by the city, to perform the market analysis study.

The market analysis study shall be required, at a minimum, to analyze the proposed Regional Commercial Center based on the following criteria: 1) the overall viability of the commercial proposal and the impact of the proposal on the economic vitality and health of the community in the form of impacts on existing commercial centers; 2) the appropriate phasing or timing of development of the ultimate center size based on the community's ability to absorb additional commercial square footage over a three year period; 3) a comparison of the private costs versus public infrastructure and services costs to develop the commercial center proposed; and 4) other factors identified as relevant impacts on the market by either the developer or the city. The three year time period is a typical cycle for a commercial development to go from a concept to the opening of a store.

As with the Community Commercial Center, in order to insure that a specific intersection complies with the Regional Commercial Center nodal standards, a nodal plan for a new Regional Commercial Center shall be created. The nodal plan shall define the area of the node and provide details, including: 1) existing natural features; 2) appropriate transitional uses; 3) appropriate uses for each specific corner of the intersection; 4) access points for each corner; 5) necessary infrastructure improvements; 6) overall flow of traffic in and around the node and the surrounding area; and 7) any other necessary information.

A key element to a nodal plan is the designation of the appropriate uses for each corner of the

node, which shall be greatly governed by the above-listed details. Those details will be used to analyze a potential node. The analysis of the node may readily reveal the appropriate use for each specific corner. However, the analysis may reveal that no one use is appropriate for each specific corner, but instead a variety of uses may be considered appropriate for a specific corner. In a situation where all the corners may be considered appropriate for commercial uses, the location of the commercial space will be dictated by the timing of the development application and the development standards located in this chapter.

If the city has not created a nodal plan, the need to create a nodal plan for a specific intersection shall be "triggered" by the first development request (rezoning, plat, preliminary development plan, etc.) submitted to the Planning Department for any portion of the node. The creation of the nodal plan may involve input from landowners within the nodal area, adjoining neighborhoods and property owners, and appropriate local and state entities. The appropriate governing body (City or County Commission) shall approve the nodal plan before development approval within the nodal area can move forward.

■ *Existing Strip Commercial Developments*

Existing strip commercial development areas are characterized by developments that do not meet current standards for lot dimensions and area, lot frontage, curb cut location(s), or the presence of internal frontage roads for cross access. These areas developed at a time when development standards permitted smaller lots, shallower lot depth, minimum spacing between curb cuts and multiple access points from a site to an arterial street; traffic studies were also not required prior to development at that time. These strip commercial development areas have become obsolete as a result of their inability to adjust to increased traffic volumes and congestion, current needs for site area and depth for redevelopment, and the changing patterns of shopping of the motoring public. As these strip areas become less desirable locations, the ability to redevelop individual lots becomes a matter of both property owner and community concern. The community concern is primarily with the creation of vacant, undeveloped or underdeveloped commercial areas that have the potential to blight the city's gateways.

A combination of innovative tools should be developed to assist owners of lots within the existing strip development areas to redevelop. These tools need to include regulations that provide accommodations for shallow lot depth, the combination of lots and access points, and the creation of cross access between lots to minimize the need for individual lot access to arterial streets. In addition, other tools of a policy nature which would be helpful to redevelopment need to be considered and, where appropriate, adopted by the appropriate governing bodies. These tools may include the ability for establishment of public/private partnerships, special overlay districts, modified development standards for redevelopment based on an adopted redevelopment plan, tools to assist in lot consolidation and purchase, adopted access management plans and access point relocations, special benefit districts for sidewalks and public transportation stops, assistance in acquiring cross access easements, and similar tools providing community benefit.

Existing Strip Commercial Development areas shall not be permitted to expand or redevelop into the surrounding lower-intensity areas. Redevelopment within Strip Commercial Development areas shall be approved only when the redevelopment complies with any adopted redevelopment plan or access management plan for the area. Cross access easements and curb cut consolidation should be considered a standard element of any redevelopment plan, as shall

a solid screen or buffer along all property lines that adjoin residentially zoned or developed areas.

■ *Auto-Related Commercial Centers*

A unique type of commercial development is an Auto-Related Commercial Center. These centers include a wide variety of uses such as auto sales and repair, truck stops, restaurants, hotels, and other similar uses. However, these uses are not limited to Auto-Related Commercial Centers. A common feature of all these uses is that they typically have a small amount of commercial square footage under roof, but require a large amount of acreage.

Because these centers have a limited variety of uses and a relatively small amount of commercial square footage, Auto-Related Commercial Centers do not fit within the definition of a Community or Regional Commercial Center. These types of centers are very intensive and therefore need to be directed to areas that have an ability to handle the intensive nature of an Auto-Related Commercial Center.

Auto-Related Commercial Centers shall be located at the intersection of two state or federally designated highways. To ensure that the Auto-Related Commercial Centers develop in a planned manner that provides a positive benefit to the community, Auto-Related Commercial Centers shall have a lot length-to-depth ratio of 3:2 and must be a minimum of 20 acres in size.

All the potential locations of an Auto-Related Commercial Center are in areas that serve as "gateways" into the city. Since they are in "gateway" areas, any proposal for an Auto-Related Commercial Center shall be closely scrutinized for architectural appearance, landscaping, signage, etc.

■ *Recreational Uses*

Commercial uses that are primarily physical recreation in nature (uses such as go-karts, skating rinks, bowling alleys, basketball arenas, soccer arenas, miniature golf, pitch and putt golf, etc.) may be located in the appropriate Commercial Center classification. High levels of noise and light can be generated by Recreational Uses. Because of this high level of noise and light, Recreational Uses shall be compatible with the surrounding existing or planned uses. Proposals for such uses do not need to meet the size or ratio requirements stated in the respective Commercial Center definitions. Proposals for Recreational Uses shall provide adequate buffering for adjacent non-commercial uses, shall use a minimal number of curb cuts, and provide cross access easements to adjoining properties.

If a Recreational Use is proposed in a Neighborhood or CC200 Center, the amount of commercial gross square footage occupied by the Recreational Use shall be counted toward the maximum amount of commercial gross square footage allowed. A Recreational Use located in a CC200 can occupy up to 50,000 gross square feet. The purpose of regulating the size of Recreational Uses in Neighborhood and CC200 Centers is to preserve and protect the smaller, neighborhood scale associated with these types of Centers.

The amount of commercial gross square footage occupied by Recreational Uses located in a CC400 or a Regional Commercial Center shall not be counted toward the maximum amount of gross commercial square footage allowed in the respective Commercial Center. The square

footage of a Recreational Use is not included in the total commercial square footage because CC400 and Regional Commercial Centers are typically larger-scale commercial developments. This reduces the impact of the Recreational Use on the scale and massing of the CC400 or Regional Center.

The acreage used to accommodate a Recreational Use may be used to meet the minimum acreage requirements for a respective Commercial Center, if the Recreational Use and additional commercial uses at the corner of the node are integrated together.

Community facility-type recreational facilities can be located in non-commercial areas if given the extra scrutiny that is associated with the issuance of a special permit such as a ~~Use Permitted upon Review~~ Special Use Permit.

LAWRENCE - EXISTING COMMERCIAL AREAS

Lawrence currently has a number of commercial and retail development areas:

- Downtown Lawrence
- N. 2nd Street and N. 3rd Street
- Iowa Street (Harvard Street to W. 6th Street)
- S. Iowa Street (23rd Street to the South Lawrence Trafficway)
- W. 23rd Street (Iowa Street to the existing commercial development east of Louisiana Street)
- E. 23rd Street (Learnard Street to Harper Street)
- W. 6th Street (Alabama Street to Iowa Street)
- W. 6th Street (Iowa Street to Kasold Drive)
- W. 6th Street and Monterey Drive
- W. 6th Street and Wakarusa Drive
- Clinton Parkway and Kasold Drive
- Clinton Parkway and Wakarusa Drive
- 19th Street and Massachusetts Street
- 19th Street and Haskell Drive
- 15th Street and Kasold Drive
- 15th Street and Wakarusa Drive
- 9th Street (Kentucky Street to Mississippi Street)

Existing commercial areas in Lawrence will need to be upgraded in the future to remain viable in the marketplace. The Plan calls for the incremental improvement of these existing developments through the addition of landscaping and aesthetic improvements as uses change. Some existing developments may be converted to other uses as needs change within the community. Specific land use recommendations for the existing commercial development areas are provided below.

- ***Downtown Lawrence***

Throughout the development of this Plan, the need to preserve, improve and enhance Downtown Lawrence has been shown to have broad community support. Goals and policies in the Plan are written to ensure Downtown Lawrence remains competitive and viable as a

Regional Retail Commercial Center. Downtown Lawrence shall remain the Regional Retail/Commercial/Office/Cultural Center because it is: 1) a physical and cultural symbol of the strength of the community; 2) a gathering point for many civic and cultural functions; 3) the "historic core" of the community which establishes a vital continuity between the past and the present community; and 4) the site of major public and private investment.

The Comprehensive Downtown Plan reiterates the specific functions of a downtown. These functions include provisions for a retail core, office space, entertainment services, peripheral residential development, cultural facilities (including performing arts, museums and libraries) community social needs (including club and organizational meeting facilities), government offices and facilities, health services, convention and hotel facilities. The Comprehensive Downtown Plan also states this area should provide, "the economic, physical and aesthetic environment around which the populace can develop an intense pride in the community, a focal point for identification and drawing together for common interests, a meeting place where people can communicate and relax -- the heart of the city".

To distinguish Downtown Lawrence from other commercial and retail areas, and to preserve and enhance its role in the community, Downtown Lawrence is designated as the Regional Retail/Commercial/Office/Cultural Center and shall be the only location within the planning area developed for such use. Gateways to Downtown Lawrence should be emphasized and enhanced to contribute to the "sense of place" of this unique area of the community.

The distinction as the Regional Retail/Commercial/Office/Cultural Center, above and beyond other commercial areas within the community, is significant. Downtown Lawrence serves the greater needs of the community as a focal point for social, community and governmental activities. The Plan's goals and policies encourage the continued development of a broad mix of uses in downtown Lawrence with an emphasis on retail as a major land use. It is vital to the community's well-being that Downtown Lawrence remain the viable Regional Retail Commercial Center.

For Downtown Lawrence to remain economically stable and vital there is a need to expand the boundaries beyond the current configuration illustrated in the adopted Comprehensive Downtown Plan. This anticipates the need to provide additional parking areas and locations for commercial and public-related development in the future. At this time, the Comprehensive Plan does not recommend areas for downtown expansion, but opportunities for expansion and redevelopment do exist within the current boundaries of Downtown Lawrence. Action to expand Downtown Lawrence can only be reasonably undertaken following a comprehensive re-evaluation of downtown needs, assets, growth potentials, use mix, and preferred locations for conservation and development. Re-study of the Comprehensive Downtown Plan should explore the following options to improve Downtown Lawrence: development of a comprehensive parking plan and implementation schedule, evaluation of transportation options, improvement of access to downtown from the east, west and south, and inclusion of more uses along the river and integration of these developments into downtown.

- ***N. 2nd Street and N. 3rd Street***

The Comprehensive Plan recommends that N. 2nd Street and N. 3rd Street play an enhanced role in the community as a commercial corridor, acting as an important entryway/gateway to Lawrence. This corridor is considered to be an Existing Strip Commercial area. The

Comprehensive Plan identifies the intersection of the N. 3rd Street and I-70 as a possible location for an Auto-Related Commercial Center.

Marginal, obsolete and underutilized sites and incompatible uses along this corridor should be redeveloped or reconstructed. For example, existing heavy industrial uses along the northern portion of the corridor should be relocated within the planning area and the sites redeveloped with compatible commercial, service or retail uses. New development and redevelopment shall include improved parking, signage and landscaping improvements that enhance the overall aesthetic and environmental conditions along the corridor. The city should encourage and work with land owners to undertake property improvement within the area. The city should consider special financing mechanisms, such as benefit districts or tax increment financing to assist in private and public improvement projects for the area.

Historically, the North Lawrence area including the N. 2nd and N. 3rd Street corridor has had repeated floodwater and stormwater problems. The Comprehensive Plan recommends that a comprehensive drainage study be completed as soon as possible and before any additional new development occurs along the N. 2nd Street and N. 3rd Street corridor. The study shall be a joint project between the city and private property owners. The drainage study shall provide a plan for addressing existing flooding and stormwater problems, as well as devising a plan for dealing with additional runoff from future development in the area.

- ***N. Iowa Street (Harvard Road to W. 6th Street)***

N. Iowa Street is considered an existing Community Commercial Center limited to 200,000 square feet of commercial gross square footage (CC200 Center). The N. Iowa Street area includes a variety of independent developments and the Hillcrest Shopping Center. Most parcels within the northern segment are already developed. Future development and redevelopment shall occur within the existing commercially zoned areas and shall emphasize coordinated access control and transition yard improvements with adjoining residential areas.

- ***S. Iowa Street (23rd Street to K-10)***

S. Iowa Street is considered an existing Regional Commercial Center. S. Iowa is a strip development that is intensely development between 23rd Street and K-10. The corridor connects with existing commercial development along 23rd Street. With recent development at the northeast corner of 31st Street and Iowa Street, and the location of several discount stores in close proximity to one another, this commercial corridor has evolved into a Regional Commercial Center, serving regional shopping and entertainment needs.

K-10 provides a physical barrier and edge to the commercial corridor that has developed. Additional retail commercial uses shall not occur south of the highway, except for the possible location of an Auto-Related Commercial Center. Two of the four corners of the intersection have existing auto-related uses. Located at the northwest corner is a hotel and an automobile dealership is located on the northeast corner. Because of access to two major highways (K-10 and US-59) the area south of K-10 could be a location for an Auto-Related Commercial Center. Both corners are an appropriate location for an Auto-Related Commercial Center, provided that the floodplain issues for the southwest corner can be addressed.

Commercial property exists both east and west of S. Iowa Street along 31st Street. Emphasis

shall be given to maintaining this commercial node and requests to extend the commercial corridor for additional retail development shall not be considered; however office and office research activities would be appropriate land uses along this arterial corridor.

In general, development and redevelopment along the Iowa Street segment shall emphasize consolidated access, frontage roads, coordinated site planning and design, and high quality development. Development signage should be in scale with sites and should complement and not compete with signage of adjoining parcels. Improved landscaping would enhance the visual appeal of the corridor. Landscaped transition yards should be established between residential and non-residential uses.

- ***W. 23rd Street (Iowa Street to the existing commercial development east of Louisiana Street)***

The W. 23rd Street corridor is an Existing Strip Commercial area. The commercial development along W. 23rd Street is the prototypical "strip development" that is centered on the automobile. This area was once considered to be one of Lawrence's most desirable locations for a retail business. However, the status of the W. 23rd Street corridor as a highly desirable retail location has been supplanted by retail developments at South Iowa and in the western portion of the city.

The 23rd Street corridor will remain an important commercial location in the city. For the segment of the corridor between S. Iowa Street and Tennessee Street, the Plan emphasizes visual site improvements related to signage, landscaping and development design. A key factor in the long-term stability of this area is the improvement of traffic access and operations as properties along this corridor redevelop. If access and circulation are not simplified and the area made comfortable to the motorist, shoppers may seek other portions of the community in which to do business. In cooperation with property owners, the city should undertake parkway landscaping improvements. This action, coupled with placing utility lines underground (wherever practical), will help to improve the physical image of the area. All new development or redevelopment occurring along this corridor shall be required to consolidate curb cuts and provide access easements to adjoining properties.

Landscape and screening improvements between commercial and residential areas are particularly important along this segment where development is compact and differing land uses are situated in close proximity.

- ***E. 23rd Street (Learnard Street to Harper Street)***

E. 23rd Street is an Existing Strip Commercial Development. Redevelopment and infill opportunities are available along the entire corridor and are emphasized along the older commercial segment of 23rd Street, east of the Santa Fe Railroad. This area has historically been a "fringe location" and has not been developed as intensively as the western section of 23rd Street. The Comprehensive Plan recommends the area maintain a community commercial focus. A substantial amount of property exists between Haskell Avenue and Harper Street that should be redeveloped to geographically balance commercial development occurring in other areas of the community. The area should become more retail and office in orientation. Future development and redevelopment shall include parcel consolidation and re-subdivision to establish properly sized and configured commercial sites to encourage a coordinated and unified

development pattern.

Like the Iowa Street corridor, emphasis is also placed on improved and coordinated signage in scale with development, as well as on minimizing curb cuts on 23rd Street.

- ***W. 6th Street (Alabama Street to Iowa Street)***

This is the oldest section of the W. 6th Street corridor and is an Existing Strip Commercial Development. There are a variety of uses along this corridor, but the primary two are fast food restaurants and medical offices and supplies. This section is typical strip development with small individual lots, each with a curb cut onto W. 6th Street. The Comprehensive Plan does not recommend the expansion of this area beyond the property currently zoned commercial or office. All new development or redevelopment occurring along this corridor shall be required to consolidate curb cuts and provide access easements to adjoining properties.

- ***W. 6th Street (Iowa Street to Kasold Street)***

This portion of the W. 6th Street corridor is an Existing Strip Commercial Development. The development patterns along this section of W. 6th Street are newer than eastern portion of W. 6th Street. However, the commercial area is still a "strip development", characterized by numerous curb cuts and intensive retail development fronting the majority of W. 6th Street. The Comprehensive Plan does not recommend the expansion of this area beyond the property currently zoned commercial or office. All new development or redevelopment occurring along this corridor shall be required to consolidate curb cuts and provide access easements to adjoining properties.

- ***W. 6th Street and Monterey Way***

The intersection of W. 6th Street and Monterey Way is an existing Neighborhood Commercial Center with a nodal development pattern. The Comprehensive Plan does not recommend expanding the commercial uses beyond the existing commercially zoned property.

- ***W. 6th Street and Wakarusa Drive***

The intersection of W. 6th Street and Wakarusa Drive is an existing Community Commercial Center limited to 200,000 square feet of commercial gross square footage (CC200 Center) with a nodal development pattern. While this intersection is designated a CC200 Center, there already exists more commercial gross square footage at the intersection than is recommended for a CC200 Center.

Portions of the intersection of W. 6th Street and Wakarusa Drive are still developing. However, the southern half of the intersection is completely developed and shall not be expanded beyond the existing commercially zoned property. The northern half of the intersection is undeveloped. Commercial development of this portion of the intersection shall not extend beyond Overland Drive (extended) to the north, Congressional Drive (extended) to the west; and Champion Lane (extended) to the east. Development proposals for the northern portions of the intersection shall include not only commercial uses, but also a variety of other uses including office, community, recreational and multi-family uses.

- ***Clinton Parkway and Kasold Drive***

The intersection of Clinton Parkway and Kasold Drive is an existing Neighborhood Commercial Center with a nodal development pattern. The Comprehensive Plan does not recommend expanding the commercial uses beyond the existing commercially zoned property.

- ***Clinton Parkway and Wakarusa Drive***

The intersection of Clinton Parkway and Wakarusa Drive is an existing Neighborhood Commercial Center with a nodal development pattern. The Comprehensive Plan does not recommend expanding the commercial uses beyond the existing commercially zoned property.

- ***E. 19th Street and Massachusetts Street***

The intersection of 19th Street and Massachusetts Street is an existing Neighborhood Commercial Center with a nodal development pattern. The Comprehensive Plan does not recommend expanding the commercial uses beyond the existing commercially zoned property. New development and redevelopment proposals for this area shall include plans for the consolidation of curb cuts and provision of cross access easements to adjoining properties.

- ***E. 19th Street and Haskell Avenue***

The southeast corner of the intersection of E. 19th Street and Haskell Avenue is an existing Neighborhood Commercial Center with a nodal development pattern. The commercial zoning at this intersection includes the city park property on the southwest corner of the intersection. The Comprehensive Plan does not recommend expanding the commercial uses beyond the current commercial zoning at the southeast corner. Enhancement of the corner's existing retail space is highly encouraged. Like the Inner-Neighborhood Commercial Centers, this area would benefit from a reduction in development standards that would increase the potential for redevelopment.

- ***W. 15th Street and Wakarusa Drive***

The intersection of W. 15th Street and Wakarusa Drive is an existing Neighborhood Commercial Center with a nodal development pattern. The southeast corner is commercially zoned. The current uses at this corner are a bank and small shopping center. The Comprehensive Plan does not recommend expanding the commercial uses beyond the existing commercially zoned property.

- ***W. 15th Street and Kasold Drive***

The northeast corner of the intersection of W. 15th Street and Kasold Drive is an existing Neighborhood Commercial Center with a nodal development pattern. The commercial zoning at this intersection includes the southwest corner. The Comprehensive Plan does not recommend the expansion of commercial uses beyond the footprint of the existing retail uses on the northeast corner.

- ***W. 9th Street (Kentucky Street to Illinois Street)***

This area is an existing Neighborhood Commercial Center with a strip development pattern that

serves as a gateway into Downtown Lawrence. The group of buildings at the northeast corner of W. 9th Street and Indiana Street has a scale and configuration of structures similar to Downtown Lawrence. The majority of the development along this corridor is characterized by stand-alone structures with multiple curb cuts. New development and redevelopment proposals along this corridor shall include consolidation of curb cuts and cross access easements to adjoining properties. Because the corridor serves as a gateway to Downtown Lawrence, the Downtown Architectural Design Guidelines should be amended to specifically address this area.

Existing Commercial Areas	Strip	Nodal	Approximate Built Square Footage*	Neighborhood Commercial	Existing Strip Commercial	CC200	CC400	Regional Commercial
Downtown	X		1.3 million					X
N. 2nd St and N. 3rd St	X		225,000		X			
Iowa (Harvard Rd to W. 6th St)		X	190,000			X		
S. Iowa (23rd St to K-10)	X		1.3 million					X
W. 23rd St (Iowa St to Louisiana St)	X		660,000		X			
E. 23rd St (Learnard St. to Harper St.)	X		190,000		X			
6th St (Alabama to Iowa St)	X		140,000		X			
W. 6th St (Iowa to Kasold)	X		209,000		X			
W. 6th St & Monterey Way		X	100,000	X				
W. 6th St &Wakarusa Dr		X	400,000			X		
Clinton Pkwy & Kasold Dr		X	110,000	X				
Clinton Pkwy & Wakarusa Dr		X	28,000	X				
E. 19th St & Massachusetts St		X	95,000	X				
E. 19th St & Haskell Ave		X	27,000	X				
W. 15th St & Kasold Dr		X	50,000	X				
W. 15th St & Wakarusa Dr		X	19,000	X				
9th St (Kentucky St to Illinois St)	X		40,000	X				

* This column includes all approved gross square footage of commercial space.

Linear and Nodal development definitions follow the definitions found on page 6-2.

The definitions of Neighborhood, Existing Strip Commercial, CC200, CC400, and Regional Commercial Centers are on pages 6-3 through 6-12.

A list of existing Inner-Neighborhood Commercial Centers is found on page 6-7.

LAWRENCE - NEW COMMERCIAL AREAS

All new commercial and office development shall occur in accordance with the plan recommendations. New commercial, retail and related uses shall be developed as a node with shared parking areas, common access drives, and related design and appearance. Nodes shall be positioned and oriented to the primary street intersections where they are located, avoiding a "strip" pattern as a result of extension of commercial uses along the streets from where the node originated.

Commercial nodes include other important community services and facilities, such as satellite post offices, police, fire and emergency services, religious facilities, community centers and other services and institutions. Inclusion of these uses assists the integration of the commercial area into the overall neighborhood, serving multiple communities and service needs in a single location, and creating physically distinctive use areas apart from traditional commercial areas.

The Comprehensive Plan includes recommendations for the location of new commercial development. As the community grows, it may be necessary to change the recommended location of a Commercial Center(s) or not use a designated intersection for a commercial uses. If there is a need to move the recommended location of a Commercial Center or downgrade the recommended size of a center, the Comprehensive Plan shall be amended. Through the amendment process, the proposed location and/or change in size of the Commercial Center will be reviewed based on the effects the change will have on infrastructure systems, the surrounding land uses, the neighborhood and the community-at-large.

The Comprehensive Plan does not support increasing the size or number of new Commercial Centers, however small, new inner-neighborhood centers are possible and/or anticipated as part of an overall new planned neighborhoods.

- ***Inner-Neighborhood Commercial Centers***

New Inner-Neighborhood Commercial Centers shall be allowed in very unique situations, such as when Center is part of an overall planned neighborhood development or can be easily integrated into an existing neighborhood. Inner-Neighborhood Commercial Centers are to be an amenity to the adjacent residents and serve only the immediate neighborhood.

A new Inner-Neighborhood Commercial Center shall have no gas pumps, drive-thru or drive-up facilities. The Center shall be pedestrian oriented and have no more than 3,000 gross square feet of commercial space. The Center shall be located on a local, collector or arterial street. It may also take access from an alley. Inner-Neighborhood Commercial Center uses may include book stores, dry cleaning services, food stores, beauty salons, etc. Inner-Neighborhood Commercial Centers may also include residential uses.

New Inner-Neighborhood Commercial Centers shall be designed as an integrated part of the surrounding neighborhood so that appearance of the commercial area does not detract from the character of the neighborhood.

Horizon 2020 does not specifically indicate the location of new Inner-Neighborhood Commercial Centers due to their unique situations.

- ***Neighborhood Commercial Centers***

The Comprehensive Plan recommends the following intersections as potential locations for new Neighborhood Commercial Centers.

1. Franklin Road extended and E. 28th Street extended
2. E 1500 Rd and N 1100 Rd
3. E 1000 Rd and N 1000 Rd
4. E 1000 Rd and N 1200 Rd
5. Clinton Parkway and K-10
6. W. 15th Street and K-10
7. E 800 Rd and at the potential east/west arterial 1 mile north of US-40
8. E 700 Rd and US-40
9. E 800 Rd and N 1500 Rd
10. E 1000 Rd and N 1750 Rd
11. E 1500 Rd and US Highway 24/40

These areas are all intended for development as small, compact commercial nodes that provide goods and services to the immediately adjoining neighborhood areas. They shall be developed in a manner that is consistent with the goals, policies and recommendations of the Comprehensive Plan.

- ***Community Commercial Centers (CC200)***

The Comprehensive Plan recommends the following intersection as potential location for a new CC200 Centers.

1. E. 23rd Street and O'Connell Road

- ***Community Commercial Centers (CC400)***

The Comprehensive Plan recommends the following intersections as potential locations for new CC400 Centers.

1. Eastern leg of the SLT and K-10 (southeast of the intersection of E 1750 Rd and K-10)
~~2. W. 6th Street and K-10~~
~~3.~~2. US-59 and N 1000 Rd

The development of these nodes shall carefully follow the commercial goals and policies. Commercial development shall not occur in advance of market conditions that would support such development, nor shall it be permitted to occur in a manner that is contrary to adopted city infrastructure plans.

- ***Community Commercial Centers (CC600)***

The Comprehensive Plan recommends the following intersection as potential location for a new CC600 Center.

1. W. 6th Street and K-10

- ***Auto-Related Commercial Centers***

The Comprehensive Plan recommends the following intersections as potential locations for new Auto-Related Centers.

1. I-70 and K-10
2. US-59/40 and I-70
3. US-59 and K-10

- ***Regional Commercial Centers***

The need for development of a new Regional Commercial Center within the community is not anticipated within the planning period. Consideration of requests to expand existing commercial areas shall include the potential for development of additional Regional Commercial Centers and the impact of such expansion and development on the existing commercial inventory. The need for additional regional commercial development within the community shall be evaluated on a regular basis, based upon updated land use and population data. Before a new Regional Commercial Center is considered, the Comprehensive Plan shall be amended to include the possibility of a new Regional Commercial Center.

UNINCORPORATED DOUGLAS COUNTY - EXISTING COMMERCIAL AREAS

Unincorporated Douglas County currently maintains a variety of commercial areas. Each of these areas provides neighborhood level retail goods and services to both farm and non-farm residents. As the rural areas of Douglas County continue to receive new non-farm residential development, demands will increase for retail goods and services.

It is recommended that these commercial locations be developed as small convenience service nodes, providing products to meet the day-to-day requirements of rural residents. The development of these nodes shall follow the basic principles described for commercial development or redevelopment. It is important that these commercial locations provide for adequate wastewater treatment facilities in the future. Any new or expanded developments shall utilize treatment systems that minimize potential environmental impacts.

The design of these locations should be consistent with the rural character of Douglas County. Therefore, design and development standards should promote larger, more spacious settings and encourage building and site design reflective of the unique characteristics surrounding each location.

UNINCORPORATED DOUGLAS COUNTY - NEW COMMERCIAL AREAS

Commercial locations in both unincorporated Douglas County and Douglas County communities together provide reasonable accessibility in terms of distance and the type of goods and services available. As Douglas County continues to urbanize, the need for additional commercial space in the unincorporated portions of Douglas County will increase. New commercial areas shall not be located within a four mile radius of any existing commercial area. There are already a number of existing commercially zoned areas in the unincorporated portions of Douglas County. Most of these locations are well placed at the intersection of a

hard surfaced County Route and a state or federally designated highway.

Areas that are already zoned commercially and are located at the intersection of a hard surfaced county route and state or federally designated highway should be expanded to serve any increased demand for commercial space in the county. The Comprehensive Plan recommends that only one new commercial area be created in the unincorporated portion of the county. The southeastern area of the county does not have any commercially zoned areas. To serve this area a commercial development could be located at the intersection of US-56 and K-33 or US-56 and County Route 1061.

A limiting factor to the size of any commercial development in unincorporated Douglas County will be the availability of utilities, particularly water and sanitary sewer. Any on-site treatment system shall be designed to minimize its impacts on the environment. The amount of gross square footage of a commercial development shall be limited to a total of 15,000 gross square feet to serve the surrounding rural area.

Commercial activities related to conference, recreational, or tourism uses associated with Clinton Lake, Lone Star Lake, or Douglas County Lake shall be exempt from the locational criteria applied to new commercial areas or expansions of existing commercial areas. A commercial area serving the recreational needs (boat rental, bait shop, lodging, etc.) of persons using the county's lake facilities may be located at an entrance point to a lake.

Conference, recreational, or tourism uses located in the Rural Area, and which include some significant level of urban development, shall satisfy the criteria listed in Chapter Four. Such uses shall also include a mandatory minimum 200' natural buffer area or other appropriate distance as determined by the Board of County Commissioners. Proposed conference, recreational, or tourism facilities shall include a site specific site plan with rezoning applications to demonstrate that the criteria listed in Chapter 4, and the 200' buffer area, have been met.

COMMERCIAL LAND USE GOALS AND POLICIES

Guidelines are needed to allow for the retention and expansion of the established commercial areas of the community.

GOAL 1: Established Commercial Area Development

Encourage the retention, redevelopment and expansion of established commercial areas of the community.

Policy 1.1: Recognize and Emphasize Downtown Lawrence as the Regional Retail/Commercial/Office/Cultural Center

A. Encourage and support the development of a broad mix of land uses, with an emphasis on retail as a major land use, the provision of parking facilities, improved accessibility, and the expansion of Downtown Lawrence while maintaining the integrity of surrounding neighborhoods.

B. Strengthen, define and support neighborhood residential areas adjacent to Downtown Lawrence in order to reinforce the safety, image and identity of Downtown Lawrence.

C. Closely analyze (through Policies 1.7, 3.7 G, 3.9 E, and any other relevant Policies) the impact of requests for development of community and/or regional shopping areas to ensure that such development does not have a negative impact on the Regional Retail/Commercial/Office/Cultural Center. This analysis would be used to evaluate the potential impact on the future viability of the Regional Retail/Commercial/Office/Cultural Center as a whole and not the potential impact on individual businesses or properties.

Policy 1.2: Sustain Downtown Lawrence as a Mixed Use Activity Center

Continue to encourage a broad mix of uses in Downtown Lawrence, including retail, office, residential, entertainment, lodging, unique visitor attractions, expanded conference facilities, a core concentration of governmental, cultural and social facilities and services, as well as recreation, leisure and community events.

Policy 1.3: Assure Compatibility of Development

A. Encourage new development and redevelopment to consider horizontal and vertical proportions, building forms, roof types, and exterior materials and details existing in the surrounding area.

B. New development and redevelopment shall conform to the applicable adopted design guidelines.

Policy 1.4: Redevelopment of Existing Commercial Areas

A. Existing commercial areas should be improved and upgraded. Particular emphasis should be given to existing commercial gateways. Overall storm water management, vehicular and pedestrian access, and site maintenance shall be undertaken.

B. Upgrade the image and appearance of existing developments with new lighting, landscaping, signage and pedestrian access.

C. Encourage public and/or private partnerships for redevelopment.

D. Consider financial and development incentives to encourage re-use (renovation or redevelopment) of commercial properties.

Policy 1.5: Provide Opportunities for Limited Commercial Development in the Unincorporated Areas of Douglas County

A. Encourage redevelopment and limited expansion of existing commercial areas in the unincorporated areas of Douglas County.

B. No new commercial development shall occur within the UGA.

Policy 1.6: Maintain an Inventory of Commercial Land

Maintain an appropriate supply of commercially zoned land so that site choices are available and infrastructure expansion can occur in an efficient and orderly manner. Annually evaluate current and approved planned land uses and land availability. The evaluation shall consider, but not be limited to: approved planned development not yet constructed, compatibility with existing nearby development, parcel size and infrastructure service delivery and phasing plans.

Policy1.7 Monitor Economic Impact of Commercial Growth

A. The amount of commercial space, the quality of commercial space, commercial space vacancy rates, and the size of commercial space shall be monitored for each quadrant of the city (15^{th} Street shall be the north-south dividing line and Iowa Street the east-west dividing line). Each matrix cell shall include the total gross square footage of all the buildings in each respective size range and condition grade. Each cell shall also include the vacancy rate for buildings of each respective size and condition.

B. These variables shall be placed in a matrix and used in analyzing any commercial rezoning request and/or development plan.

C. The matrix shall be updated annually.

D. Planning Staff shall be responsible for maintaining and revising the matrix. However some of the data for some of the variables, particularly vacancy rates, may have to be provided by outside sources.

E. Planning Staff will provide an annual sales tax per square foot ratio. This data will be provided for different sectors within the city limits.

F. Establish and implement a methodology for the annual collection of business use data in support of economic impact analyses.

Matrix

	Condition of the Commercial Space				
	Excellent	**Good**	**Fair**	**Poor**	**Total**
0 - 2,500 Sq. Ft.	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate
2,501 - 5,000	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate
5,001 - 15,000	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate
15,001 - 30,000	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate
30,001 - 60,000	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate
60,001 - 120,000	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate
120,001 - 200,000	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate
200,001 +	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate
Total	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate	total sq. ft./vacancy rate

The above matrix will be completed for each quadrant of the city, plus an additional table summarizing the totals for the entire city.

Guidelines are needed to allow for a compatible transition from commercial development to residential neighborhoods and other less intensive land uses. These guidelines are needed throughout the community, including both established commercial areas and anticipated development areas.

GOAL 2: Compatible Transition from Commercial Development to Less Intensive Uses

Ensure compatible transition from commercial development to residential neighborhoods and other less intensive land uses.

Policy 2.1: Use Appropriate Transitional Methods

A. Commercial areas shall minimize adverse impacts on adjacent residential areas. Screening and buffering shall be provided which may include landscaped setbacks, berms and open space areas. Traffic and parking shall not adversely affect neighborhood quality. Noise, safety and overall maintenance of commercial properties shall be carefully monitored.

B. Use landscaped transition yards between residential and non-residential uses that include additional lot depth, berms, landscape screening, and/or fences and walls to provide additional buffering between differing land use intensities.

C. Compatible transition from commercial uses to less intensive land uses shall consider:

1. Site Orientation

    a. Vehicular access shall be from collector, arterial or access streets.

    b. Pedestrian access shall be designed to provide internal and external circulation from adjacent neighborhoods.

    c. Streets designed with elements to provide visual or physical buffering may serve as boundaries between different intensities of land uses.

2. Building Relationships

    a. A back-to-back relationship is preferable between uses.

    b. Commercial buildings and parking lots shall not have lesser setbacks than those required of abutting residential uses.

    c. The height and massing of commercial buildings and accessory structures shall be oriented to avoid creating a negative visual effect on residential neighborhoods.

d. Vehicular access to commercial activities should be separated from pedestrian access.

3. Land Features

a. Encourage the integration of mature trees, natural vegetation, and natural and environmentally sensitive areas whenever feasible to buffer commercial developments from other more or less intensive land uses.

b. Encourage the use of existing topography to separate commercial developments and other more or less intensive land uses.

4. Screening and Landscaping

a. Encourage creative and extensive use of landscaping and berming techniques for natural transitions between differing intensities of land uses.

b. Fences shall not be used as a sole method of providing screening and buffering between differing intensities of land uses.

c. Encourage site design that uses existing vegetation, such as stands of mature trees, as natural buffers or focal points.

d. Encourage the use of high quality materials in the construction of screening and landscape areas to decrease long-term maintenance costs.

5. Lighting

a. Lighting used to illuminate parking areas, signs or structures should be placed to deflect light away from adjoining properties or public streets through fixture type, height and location.

Policy 2.2: Locate Less Compatible Uses Toward the Interior of Commercial Areas

A. The overall design and arrangement of commercial development shall be compatible with adjacent residential uses.

B. Ensure adequate screening of unsightly views of commercial developments (such as loading docks, rooftop equipment, service entrances, trash containers, parking areas, exterior storage) through the extensive use of elements such as landscaping, berms, fencing, architectural design, open space, setbacks, and/or building orientation.

C. In order to ensure that parking lots are not the dominant visual feature associated with commercial areas, buildings shall be located adjacent to the public rights-of-way and parking located toward the interior of the development.

Policy 2.3: Higher-Density Residential Development as Transitional Use

Use higher-density residential development as a transitional land use between commercial developments and the surrounding low-density residential neighborhoods.

Policy 2.4: Provide Sufficient Site Area for the Design of Transitional Elements

Site improvements within commercial areas such as lighting, signage and landscaping shall be designed and coordinated in order to create a positive identity and visual image throughout the development area.

Policy 2.5: Office, Research and Semi-Public Development as Transitional Use

A. Encourage using low-intensity office, research and semi-public development as a transition between commercial development and low-density residential neighborhood. The development shall include:

1. Design elements such as height, massing, and scale compatible with the surrounding low-density residential uses;

2. Site design that is compatible with surrounding residential neighborhoods with consideration given to extensive screening, building and parking orientation, and preservation of natural site amenities; and

3. Site access provided from arterial, collector or access streets, with traffic directed away from surrounding residential areas.

Policy 2.6: Parks, Recreation and Open Space as Transitional Use

Encourage the use of medium- to low-intensity recreational facilities such as neighborhood parks, bike/hike trails and natural areas as transitional areas.

Guidelines are needed to provide direction on how much, where and at what scale commercial development is appropriate for the market it is intended to serve.

GOAL 3: Criteria for Commercial Development

Provide regional, community and neighborhood shopping opportunities to meet the commercial and retail needs of the community.

Policy 3.1: Utilize Locational Criteria for Commercial Development

A. **Commercial Nodes:** Nodes shall occur at arterial/collector or arterial/arterial intersections depending on the type of commercial center.

B. **Strip Commercial Development:** Stop the formation or expansion of Strip Commercial Development by directing new development in a more clustered pattern.

C. **Assembling of Land:** Encourage the assembling of small tracts to form larger, more cohesive parcels to enable well-planned and orderly development to occur.

D. **Vehicular Access:** Limit the principal vehicular access of commercial development to arterial, collector or frontage (access) streets.

E. **Site Layout:** Commercial development shall be located to avoid substantial disruption of natural drainage and vegetation.

F. **Compatibility with Adjacent Land Uses:** Encourage the location of commercial nodes where they can efficiently utilize local resources, where their adverse impacts on adjacent uses are minimized, and where they will effectively provide the community with desired products, services and employment opportunities.

G. **Public Improvements:** Construction of a new commercial center cannot begin until all infrastructure improvements serving the center have been completed.

Policy 3.2: Establish Design Standards for Commercial Development

A. The city shall develop reasonable design standards for new and redeveloped commercial areas which improve:

1. Integration with the surrounding neighborhoods;
2. Pedestrian movement to and within the commercial areas;
3. The aesthetics of the districts from the surrounding street system; and
4. The design to create attractive focal points for the surrounding populations.

B. Incentive systems shall be developed to encourage commercial areas to provide

mixed use projects that include residential and office uses integral to the design.

C. These design standards and incentives shall be adopted into HORIZON 2020 and implemented through zoning, subdivision and the Capital Improvements Plan.

Policy 3.3: Criteria for Inner-Neighborhood Commercial Centers

A. Encourage redevelopment of existing Inner-Neighborhood Commercial Centers through alternative standards for:

1. Required parking;
2. Open space requirements;
3. Required setbacks; and
4. Required lot size.

B. Do not encourage the expansion of existing Inner-Neighborhood Commercial Centers.

C. Inner-Neighborhood Commercial Centers may be located on local, collector, or arterial streets. They may also take access from an alley.

D. Standards for New Inner-Neighborhood Commercial Centers:

1. Inner-Neighborhood Commercial Centers shall be allowed only in those situations where the center is an integral part of an overall planned neighborhood or if the Center can be integrated into an existing neighborhood;
2. Centers shall not have gas pumps, drive-thru or drive-up facilities;
3. Centers may include residential uses;
4. Centers shall no more than 3,000 gross square feet of commercial space; and
5. Centers shall be designed as an integrated part of the surrounding neighborhood so that their appearance does not detract from the character of the neighborhood.

Policy 3.4: Criteria for Mixed-Use Redevelopment Centers

A. Encourage redevelopment of areas where existing structures are underutilized, have experienced a high turnover rate, or have remained vacant for an extended period of time.

B. Mixed-Use Redevelopment Centers shall be no larger than six acres in size.

C. Mixed-Use Redevelopment Centers shall include a mix of the following uses within the subject area and where possible, include mixed-use structures:

1. Residential;
2. Civic;
3. Office;

4. Small-scale commercial:
    a. Total commercial spaces shall not exceed 25% of the net floor area within the subject area, and
    b. A single retail space shall not occupy more than 16,000 square feet of ground-floor level, net floor area of a structure; and
5. Open space.

D. Mixed-Use Redevelopment Centers shall maintain the character of the surrounding neighborhood*s* by:

1. Achieving integration with adjacent land uses by providing transitions between uses through alleyways and use and landscape buffers;
2. Incorporating existing structures wherever possible;
3. Maintaining general structure spacing, massing, scale, and street frontage relationship when incorporating new structures.

E. Mixed-Use Redevelopment Centers shall provide multi-modal services to include the following options:

1. Pedestrian, including pedestrian-scaled street furnishings, plantings and gathering spaces;
2. Bicycle, including bicycle parking;
3. Vehicular; and
4. Transit, if available.

Policy 3.5: Criteria for Mixed-Use Districts

A. Encourage preservation of areas that are mixed use in nature, as well as development and redevelopment of areas with vacant land, or where existing structures are underutilized, have experienced a high turnover rate, or have remained vacant for an extended period of time.

B. Mixed-Use Districts shall be no larger than 20 acres in size.

C. Mixed-Use Districts shall include a mix of the following uses within the subject area and where possible, in mixed-use structures:
    a. Residential;
    b. Non-residential.

D. Mixed-Use Districts shall maintain the character of the surrounding neighborhoods by:
    a. Achieving integration with adjacent land uses by providing transitions through alleyways, variation among development intensity, and implementation of landscape buffers;
    b. Incorporating existing structures wherever possible;
    c. Maintaining general structure spacing, massing, scale, and street frontage relationship when incorporating new structures.

E. Mixed-Use Districts shall provide multi-modal services to include the following options:

a. Pedestrian oriented public spaces, which shall include pedestrian-scaled street furnishings, and plantings;
b. Bicycle, including bicycle parking;
c. Vehicular; and
d. Transit.

Policy 3.6~~5~~: Criteria for Neighborhood Commercial Centers

A. Neighborhood Commercial Centers shall be located at the arterial/arterial or arterial/collector street intersections.

B. Limit the commercial uses in neighborhood centers to one corner of the intersection.

C. New Neighborhood Commercial Centers shall be at least one (1) mile from any existing or new Commercial Center.

D. Neighborhood Commercial Centers shall contain no more than 100,000 gross square feet of commercial space with the exception of Neighborhood Commercial Centers that include a grocery store. Neighborhood Commercial Centers with a grocery store of 60,001 or more gross square feet may have up to a total of 125,000 gross square feet of commercial space.

E. No one commercial use in a Neighborhood Commercial Center shall occupy an area larger than 40,000 gross square feet. The only exception is a grocery store, which may occupy an area up to 80,000 gross square feet.

F. A nodal plan shall be completed before a proposal for a Neighborhood Commercial Center goes before the Planning Commission.

G. Locate office, public, semi-public, parks and recreation or medium- and higher-density residential developments on remaining corners of intersection to avoid excessive concentrations of commercial traffic and unnecessary duplication of commercial services.

H. Low-density residential uses may be located at the remaining corners of the intersection if sufficient screening measures are provided to offset noise and views of the intersection are provided.

I. Integrate neighborhood commercial centers into the surrounding residential neighborhoods by including pedestrian access, appropriate transitional elements and, if possible, the location of public or semi-public uses or parks and recreation uses adjacent to the commercial development.

J. Neighborhood Commercial Centers shall be designed with pedestrian mobility as a top priority.

1. Pedestrians shall be able to easily walk to all stores in a neighborhood center without using a vehicle.

2. Parking lots shall provide pedestrian accessways to reduce the potential of pedestrian/vehicle conflicts.

K. Façades shall have a variety of textures, colors, shapes, etc. such that the buildings in a Neighborhood Center do not have a single uniform appearance.

L. Neighborhood Centers should have dedicated open space areas that useable by the Center's employees and shoppers.

M. Neighborhood Commercial Centers shall not expand into the surrounding portions of the neighborhood.

N. Any commercial development proposal for a corner in a new Neighborhood Commercial Center shall have a length-to-depth ratio between 1:1 and 3:2.

O. Neighborhood Commercial Centers shall develop in a manner that is consistent with the city's adopted design guidelines.

Policy 3.~~7~~6: Criteria for Existing Strip Commercial areas

A. A redevelopment plan should be made for each existing Strip Commercial Center

B. Tools such as public/private partnerships, special overlay districts, reduced development standards, lot consolidation and purchase, access management plans, cross access easements, etc. should be used to enhance redevelopment opportunities for existing Strip Commercial areas.

C. Existing Strip Commercial areas shall not expand into surrounding lower-intensity zoning areas.

D. Curb cut consolidation and cross access easements shall be included when an existing site plan is revised or a new site plan proposed.

E. Existing Strip Commercial areas shall develop or redevelop in a manner consistent with the city's adopted design guidelines.

Policy 3.~~7~~8: Criteria for Community Commercial Centers (under 200,000 square feet) CC200

A. CC200 Centers shall be located at the intersection of arterial/arterial streets.

B. CC200 Centers shall have no more than 200,000 gross square feet of commercial space.

C. No single store shall occupy more than 100,000 gross square feet.

D. A general merchandise store (including discount and apparel stores) shall not exceed 65,000 gross square feet.

E. The sum of the gross square footage for all stores occupying space between 40,000 and 125,000 shall not be more than 75 percent of gross commercial square footage for the corner of the intersection.

F. Corners of the node not developed with commercial uses shall have extensive on-site screening and shall be utilized for office, employment-related, public and semi-public, parks and recreation, and higher-density residential uses. Encourage the development of mixed-use centers (office, employment-related uses, public and semi-public uses) adjacent to community commercial development to provide mutual attraction to employees and retailers and to enhance the visual image of the area.

G. New or existing CC200 Centers shall not encroach or expand into the surrounding residential or lower-intensity uses.

H. A proposal requiring a revised or new site plan for property in a CC200 Center shall include plan for reducing curb cuts, providing cross access easements to adjacent properties, and buffering for adjacent non-commercial uses.

I. A nodal plan shall be completed before proposals for the redevelopment or expansion of an existing CC200 Center that include more than 50 percent of the existing gross commercial square footage or plans to expand the center by more than 20 percent go before the Planning Commission.

J. Proposals for the redevelopment or expansion of an existing CC200 Center that include more than 50 percent of the existing gross commercial square footage or plans to expand the center by more than 20 percent shall include a building with at least 40,000 gross square feet of commercial space.

K. A nodal plan shall be completed before a proposal for a new CC200 Center goes before the Planning Commission.

L. Proposals for a new CC200 Center shall include a building with at least 40,000 gross square feet of commercial space.

M. CC200 Centers shall develop or redevelop in a manner that is consistent with the city's adopted design guidelines.

Policy 3.9~~8~~: Criteria for Community Commercial Centers (under 400,000 square feet) CC400

A. CC400 Centers shall be located at the intersection of two arterial streets that both have at least a four lane cross-section or the intersection of a four-lane arterial and a state or federally designated highway.

B. CC400 Centers must be a minimum of 3.75 miles apart.

C CC400 Centers shall have a maximum of 400,000 gross square feet of commercial space.

D. At least 95 percent of the commercial gross square footage in a new CC400 Center shall be located on two corners of the intersection. The remaining five percent shall be located on one of the remaining two corners.

E. No single store in a CC400 Center shall occupy more than 175,000 gross square feet.

F. The sum of the gross square footage for all stores occupying between 100,000 and 175,000 cannot be more than 70 percent of the gross commercial square footage for the corner of the intersection.

G. If the proposal for a corner of the intersection includes more than 100,000 gross square feet of commercial space, the proposal shall include a single building that has at least 40,000 gross square feet of commercial space.

H. Proposals in which the commercial gross square footage is less than ten percent of the total square footage of the project do not have to meet the minimum acreage and lot depth.

I. Any commercial development proposal for a single corner in a new CC400 Center shall be a minimum of 20 acres in size.

J. Any commercial development proposal for a single corner in a new CC400 Center shall have a length-to-depth ratio between 1:1 and 3:2.

K. Access points into a new CC400 Center shall be from the two points furthest from the intersection.

L. CC400 Centers shall be designed with feeder and/or reverse frontage streets to collect internal traffic and for easy access from the surrounding community.

M. CC400 Centers shall be designed with pedestrian mobility as a top priority.

1. Centers shall be designed to facilitate the movement of pedestrians from store to store and building to building.

2. Parking lots shall provide pedestrian accessways to reduce the potential of pedestrian/vehicle conflicts.

O. Facades shall have a variety of textures, colors, shapes, etc. such that the buildings in a CC400 Center do not have a single uniform appearance.

P. CC400 Centers should have dedicated open space areas that useable are by the center's employees and shoppers.

Q. Buildings shall not be separated from adjacent street rights-of-way by large expanses of parking.

R. Corners of the node that are not developed with commercial uses should be utilized for office, employment-related, public and semi-public, parks and recreation, and higher-density residential uses with extensive on-site screening. Encourage the development of mixed-use centers (office, employment-related uses, public and semi-public uses) adjacent to community commercial development to provide mutual attraction to employees and retailers and to enhance the visual image of the area.

S. Existing CC400 Centers shall not expand into areas with existing less intensive uses (low-intensity residential, institutional uses, office, multi-family residential, etc.).

T. A nodal plan must be completed before a development proposal for any corner of CC400 Center is forwarded to the Planning Commission.

U. CC400 Centers shall develop in a manner that is consistent with the city's adopted design guidelines.

Policy 3.10: Criteria for Community Commercial Centers (under 600,000 square feet) CC600

A. CC600 Centers shall be located at the intersection of two state or federally designated highways.

B. CC600 Centers shall have a maximum of 600,000 gross square feet of commercial retail space as defined in this chapter. Other uses of a non-retail nature shall not have a space limitation.

C. A maximum of 90 percent of the commercial square footage, as defined in this chapter, in a new CC600 Center shall be located on two corners of the intersection. The remaining commercial square footage, as defined in this chapter, shall be located on one or both of the remaining corners.

D. No more than two commercial buildings over 100,000 gross square feet each may be located on a single corner of the node.

E. Corners of the node that are not developed with commercial uses should be utilized for office, employment-related, public and semi-public, parks and recreation, and higher-density residential uses with extensive on-site screening. Encourage the development of mixed-use centers (office, employment-related uses, public and semi-public uses) adjacent to community commercial development to provide mutual attraction to employees and retailers and to enhance the visual image of the area.

F. A nodal or area plan must be completed before a development proposal for any corner of a CC600 Center is forwarded to the Planning Commission. Expansion of

the CC600 center shall require amendment of the nodal or area plan.

G. CC600 Centers shall develop in a manner that is consistent with the city's adopted design guidelines.

Policy 3.11~~9~~: Nodal Plan Criteria

A. The city should attempt to complete a nodal plan for newly designated Commercial Center before there is pressure to develop the node.

B. A nodal plan shall be completed for any new Commercial Center before a development proposal for the node can go before the Planning Commission.

C. A nodal plan shall include the following information:

1. Existing natural features;
2. Appropriate transitional uses;
3. Appropriate use for each specific corner of the intersection;
4. Access points from each location;
5. Necessary infrastructure improvements;
6. Overall traffic flow in and around the node and the surrounding area;
7. The "ultimate geometric design" for the intersection based on the proposed land uses for the intersection; and
8. Any and all other necessary information needed to create the nodal plan.

Policy 3.12~~0~~: Criteria for the Regional Retail/Commercial/Office/Cultural Center

A. Recognize and emphasize Downtown Lawrence as the Regional Retail/Commercial/Office/Cultural Center -- which is an intensely developed, large-scale, mixed use location that serves as an activity center for the community.

B. Continue to encourage a broad mix of uses in downtown Lawrence, including retail, office, residential, entertainment, lodging, unique visitor attractions, expanded conference facilities. Maintain the core concentration of governmental, cultural/social facilities and services and recreation, leisure and community events in this area.

C. Encourage the continuation of community social activities (Art in the Park, holiday parades, etc.) to occur in Downtown Lawrence.

D. Continue to support the building design criteria set forth in the "Downtown Architectural Design Guidelines".

E. The "Downtown Architectural Design Guidelines" should be amended to include the W. 9th Street area that serves as a gateway into Downtown Lawrence.

F. Maintaining and protecting the vitality of Downtown Lawrence is important to the citizens of Lawrence. Because of its high importance as an asset to the community, any new proposal for a new Regional Commercial Center must demonstrate that it will not have a substantial impact on Downtown Lawrence.

Policy 3.13~~1~~:Criteria for Regional Commercial Centers

A. The Comprehensive Plan does not anticipate the need for a new Regional Commercial Center within the planning period.

B. Designating a new Regional Commercial Center will require an amendment to the Comprehensive Plan.

C. Design Criteria

1. The commercial development plan for a corner shall have a minimum of 40 acres;
2. The development shall have a minimum of 1,400 linear feet of frontage on a public street;
3. A Regional Commercial Center shall not have more than 1.5 million gross square feet of commercial space; and
4. A Regional Commercial Center shall be located at the intersection of two state or federally designated highways or the intersection of an arterial street and a state or federally designated highway.

D. A nodal plan shall be completed before a development proposal for a Regional Commercial Center is forwarded to the Planning Commission.

F. Parking lots shall be designed to minimize conflicts between pedestrians and vehicles.

G. Centers shall be designed to facilitate the movement of pedestrians from store to store and building to building.

H. Buildings shall be placed near adjacent street right-of-way.

I. The majority of parking for the center shall be behind the front building line.

J. A proposal requiring a revised or new site plan for property in an existing Regional Commercial Center shall include a plan for reducing curb cuts, providing cross access easements to adjacent properties, and buffering for adjacent non-commercial uses.

K. New or existing Regional Commercial Centers shall not intrude or expand into the surrounding residential or lower-intensity uses.

L. CC400 Centers shall develop in a manner that is consistent with the city's adopted design guidelines.

Policy 3.14~~2~~:Criteria for Commercial Development in Unincorporated Areas

A. Existing commercial areas that are located at the intersection of a hard surfaced County Route and a state or federally designated highway should be allowed to expand if the necessary infrastructure (water, road, approved wastewater treatment facility, etc.) is available.

B. Encourage new commercial development at key access points on major corridors only if served by adequate infrastructure, community facilities and services.

C. The commercial gross square footage of a development shall be limited to a total of 15,000 gross square feet.

D. The only new commercial area shall be located at the intersection of either US-56 and K-33 or US-56 and County Route 1061.

Policy 3.15~~3~~: Require a Market Impact Analysis

A. Proposals to create any shopping district that, when considering the entire node, will result in greater than 150,000 gross square feet of commercial building space shall include an independent market analysis. Initial development proposals of 50,000 gross square feet or less on any single corner are exempt from this market analysis requirement, but will be limited to one exemption per corner of the intersection. The market analysis shall adhere to all of the following criteria:

1. The entity proposing the commercial project shall provide the funding of the study.

2. The independent consultant that performs the market study shall be chosen by the city and agreed upon by the entity submitting the proposal for the shopping center.

3. The study shall analyze the commercial proposal and provide at least the following information:

   a. The overall viability of the proposal;
   b. The validity of the proposal considering any community retail vacancy, sales/square foot and square footage/capita data as outlined in Policy 1.7;
   c. How the proposal will impact existing commercial development in the community;
   d. How the mix and sizes of proposed uses of the development will impact the viability of Downtown Lawrence;
   e. A building phasing schedule based upon the community's ability to absorb the additional commercial square footage; and

f. Any other additional information required by the Planning Commission.

B. The project shall not be approved if the market study indicates the commercial project or any proposed phase cannot be absorbed into the community within three years from the date of its estimated completion, or that it would result in a community-wide retail vacancy rate of greater than eight percent.

~~**Policy 3.14: Criteria for Mixed-Use Districts**~~

~~A. Encourage preservation of areas that are mixed use in nature, as well as development and redevelopment of areas with vacant land, or where existing structures are underutilized, have experienced a high turnover rate, or have remained vacant for an extended period of time.~~

~~B. Mixed-Use Districts shall be no larger than 20 acres in size.~~

~~C. Mixed-Use Districts shall include a mix of the following uses within the subject area and where possible, in mixed-use structures:~~

~~a. Residential;~~
~~b. Non-residential.~~

~~D. Mixed-Use Districts shall maintain the character of the surrounding neighborhoods by:~~

~~a. Achieving integration with adjacent land uses by providing transitions through alleyways, variation among development intensity, and implementation of landscape buffers;~~
~~b. Incorporating existing structures wherever possible;~~
~~c. Maintaining general structure spacing, massing, scale, and street frontage relationship when incorporating new structures.~~

~~E. Mixed-Use Districts shall provide multi-modal services to include the following options:~~

~~a. Pedestrian-oriented public spaces, which shall include pedestrian-scaled street furnishings, and plantings;~~
~~b. Bicycle, including bicycle parking;~~
~~c. Vehicular; and~~
~~d. Transit.~~

Traffic impacts continue to be a major concern in commercial developments. Ensure safe and efficient access and circulation within and around commercial areas.

GOAL 4: Transportation Considerations

Promote a multi-modal transportation system that provides or improves access and circulation within and adjacent to commercial areas.

Policy 4.1: Levels of Service

The expansion of existing or new commercial development shall not occur until the surrounding street system can provide an acceptable level of service.

Policy 4.2: Evaluate Traffic Impacts

An evaluation of the traffic impacts of a development on the surrounding area shall consider the existing and projected traffic conditions in relation to the existing transportation system. This evaluation should be based on planned improvements identified in the *Capital Improvement Plan (CIP),* the *Comprehensive Plan,* and/or the *Long-Range Transportation Plan.* These plans shall be updated periodically to recognize changes in priorities and to add new projects with designated priorities.

Policy 4.3: Minimize Traffic Diversion

A. Prohibit direct vehicular access from commercial developments to local residential streets.

B. Discourage commercial traffic through residential neighborhoods.

Policy 4.4: Ensure Adequate Ingress and Egress

A. Limit the principal access of commercial development to arterial, collector or access/frontage streets.

B. Develop ways to improve access to downtown and other commercial centers within the community through improved bike and pedestrian paths, bus access (loading/unloading) and parking areas, public transportation, and vehicular access.

Policy 4.5: Limit Access

A. Minimize curb cuts along arterial and collector streets.

B. Encourage shared access between adjacent commercial developments and coordinated traffic circulation within proposed development areas.

C. Lot access and street configurations shall be designed to avoid curb cuts and local street intersections on arterial streets and to coordinate access with adjacent developments.

Policy 4.6: Provide Vehicular Circulation

A. Development proposals shall provide adequate internal circulation within commercial developments that allows access to adjacent commercial buildings and commercial or mixed-use centers.

B. Development proposals shall ensure that vehicular circulation related to a specific proposal does not rely on public streets for internal traffic circulation needs but provides circulation within the development.

Policy 4.7: Provide Pedestrian Access

A. The city should develop a pedestrian/bicycle pathway system that provides access from the University of Kansas campus to Downtown Lawrence.

B. Development proposals should provide safe, convenient pedestrian access to concentrated retail areas from parking areas.

C. Development proposals should include sidewalks on one side of local streets (public and private) and both sides of collector and arterial streets.

D. Development proposals should include pedestrian access linking developments to neighborhoods while ensuring physical separation from vehicles along both public and private streets and within parking areas.

E. Development proposals shall give consideration to providing a safe, reasonable method for pedestrian access across major intersections.

Policy 4.8: Provide Bicycle Access

A. Commercial development proposals should provide for interior bicycle access.

B. The city should develop a plan to provide bicycle links between major activity generators within the community.

Policy 4.9: Encourage Convenient Parking within Commercial Areas

A. Development proposals shall provide convenient parking for retail areas.

B. The city and property owners should work together to develop convenient parking for short-term visitors and long-term parking areas for employees.

Policy 4.10: Utilize Outlying Parking Lots

Identify potential parking areas which can serve mass transit and carpooling.

Policy 4.11: Ensure Adequate Truck Loading and Maneuvering Areas

Development proposals shall provide adequate loading space within a building or a side or rear yard, designed in such a way that all storage, standing and maneuvering of trucks will take place solely on private property.

Map 6-1
Existing and Potential Commercial Land Use Locations

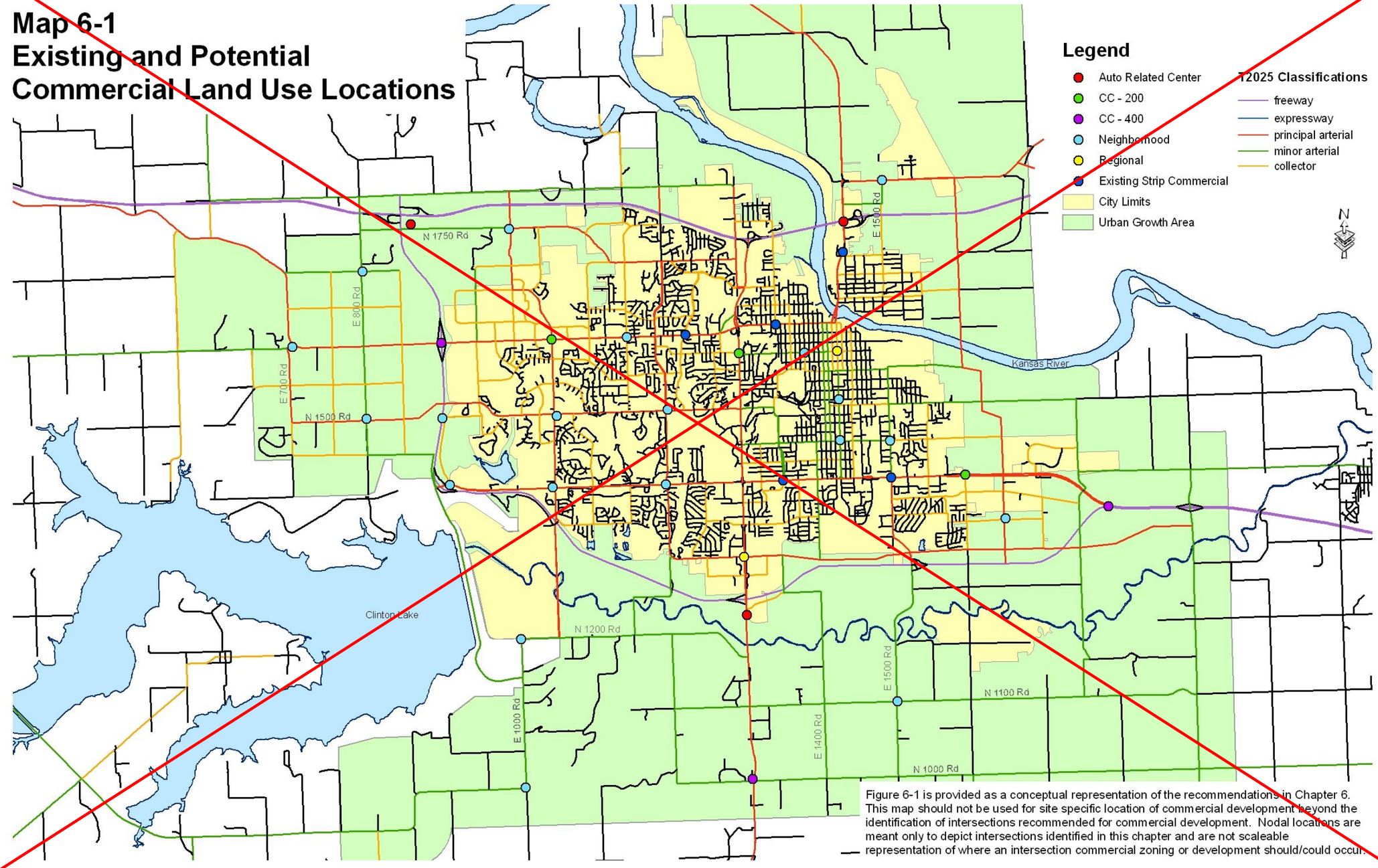


Figure 6-1 is provided as a conceptual representation of the recommendations in Chapter 6. This map should not be used for site specific location of commercial development beyond the identification of intersections recommended for commercial development. Nodal locations are meant only to depict intersections identified in this chapter and are not scaleable representation of where an intersection commercial zoning or development should/could occur.

Revised May 21, 2008

DRAFT Map 6-1
Existing and Potential Commercial Land Use Locations

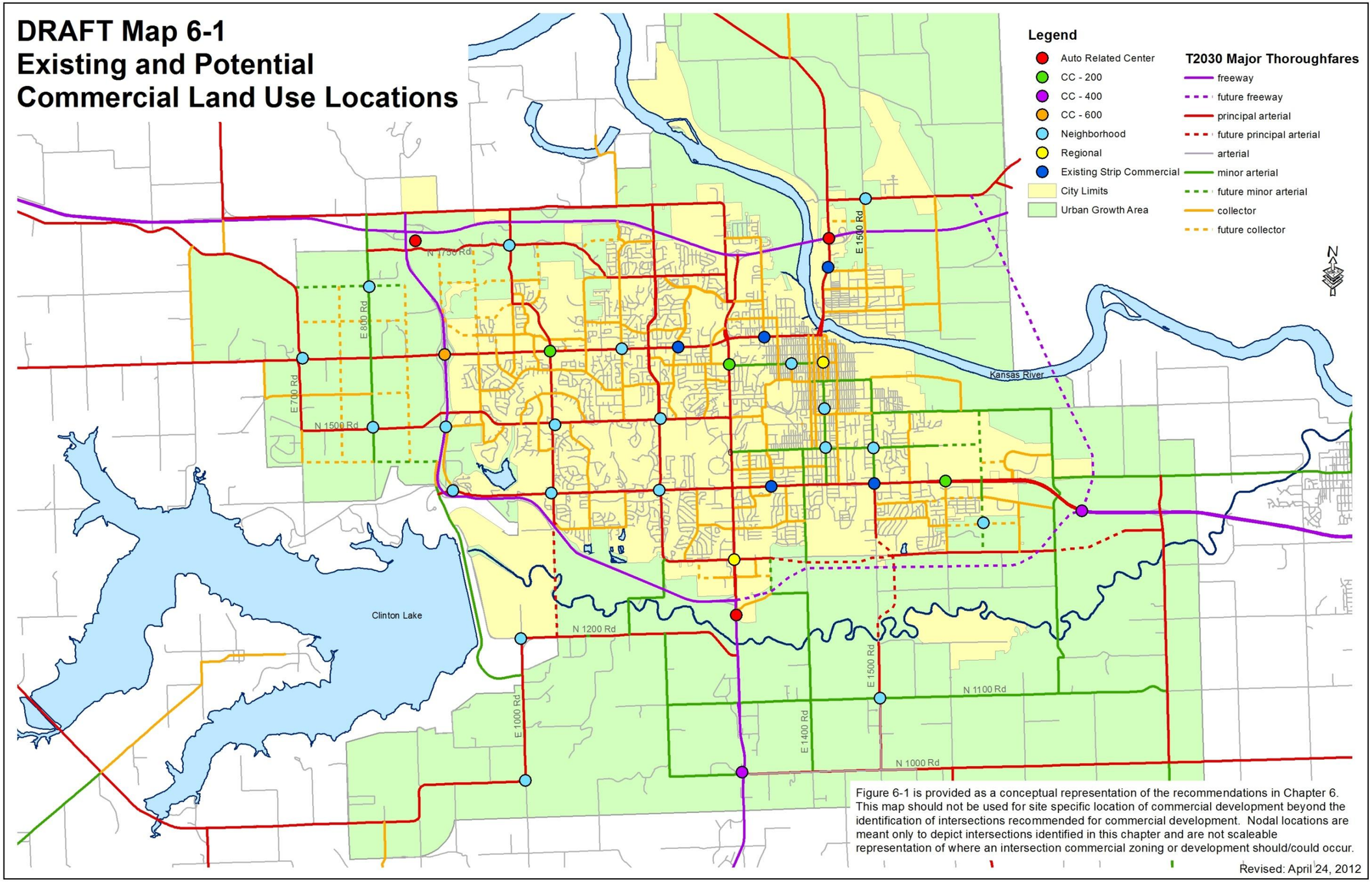


Figure 6-1 is provided as a conceptual representation of the recommendations in Chapter 6. This map should not be used for site specific location of commercial development beyond the identification of intersections recommended for commercial development. Nodal locations are meant only to depict intersections identified in this chapter and are not scaleable representation of where an intersection commercial zoning or development should/could occur.

Revised: April 24, 2012

SPECIFIC PLANS

CHAPTER FOURTEEN – SPECIFIC PLANS

Purpose

Long-range planning in an area specific manner is an important aspect of the overall community planning process. Specific plans provide the focused guidance necessary for proper decision making regarding an area's future. Chapter 14 references adopted specific plans and provides guidance, through the Hierarchy of Plans, for completing the proper type of plan for an area.

The plans referenced below have been adopted through a Comprehensive Plan process, as described on pages 17-8 and 17-9. As such, these plans are considered Comprehensive Plan policy and are an element of *Horizon 2020*. The plans are separate documents from *Horizon 2020* and can be accessed online at http://www.lawrenceplanning.org or copies can be obtained by contacting the Lawrence-Douglas County Planning Department.

Plans prepared for specific areas, whether they are areas within the City of Lawrence or areas within unincorporated Douglas County contain detailed policy guidance for those areas. The plans, when adopted through a Comprehensive Plan process, and referenced in this chapter, become the official Comprehensive Plan policy for the respective areas. The policy contained in the plans take precedence over other policy found in *Horizon 2020*, unless specifically stated otherwise in the Plans.

Plan Review

Plans can eventually lose their relevance to a specific area. Additionally, some plans will require review to confirm if policies are being followed, goals are being met, and implementation is occurring.

Therefore, it is necessary to ensure plans are reviewed on a regular basis to update them or to rotate them out of the Comprehensive Plan if they have lost their relevance. Each plan listed below has a date which will trigger a review of that plan. Planning Staff will review the plan to determine if it meets one of the following criteria and needs the required action:

1. Plan remains relevant - no action necessary.

2. Plan has been superseded by another plan - remove from Chapter 14.

3. Plan is out of date and no longer relevant – remove from Chapter 14.

4. Plan requires updating – staff will update and forward recommendations for Commission consideration.

Staff will report on the review of a specific plan to the Planning Commission along with a recommendation for action, if necessary. If an update is required, staff will provide the Planning Commission a plan to complete the update. A Comprehensive Plan Amendment will be required to remove a specific plan from Chapter 14 or to update a specific plan.

Specific Plans

- ~~**6th and SLT Nodal Plan**~~
  ~~**Location**: The intersection of 6th Street (US Highway 40) and the SLT (South Lawrence Trafficway)~~
  ~~**Adoption Date**: November 11, 2003 by Lawrence City Commission~~
  ~~**Review Date**: 2009~~

- **6th and Wakarusa Area Plan**
  Location: The intersection of 6th Street and Wakarusa Drive
  Adoption Date: December 2, 2003 by Lawrence City Commission
  Review Date: 2009

- **HOP District Plan**
  Location: Bordered by W. 5th St. on the north, California St. on the west, W. 7th St. on the south and Alabama St. on the east.
  Adoption Date: May 10, 2005 by Lawrence City Commission
  Review Date: 2010

- **Burroughs Creek Corridor Plan**
  Location: Area around the former BNSF railroad corridor between E. 9th St. and E 31st St.
  Adoption Date: February 14, 2006 by Lawrence City Commission
  Review Date: 2011

- **East Lawrence Neighborhood Revitalization Plan**
  Location: Bordered by the Kansas River on the North; Rhode Island Street from the Kansas River to E. 9th Street, New Hampshire Street from E. 9th Street to approximately E. 11th Street, Massachusetts Street from approximately E. 11th Street to E. 15th Street on the west; E. 15th Street on the south; BNSF railroad on the east.
  Adoption Date: November 21, 2000 by Lawrence City Commission
  Review Date: 2010

- **Revised Southern Development Plan**
  Location: Bounded roughly to the north by W. 31st Street and the properties north of W. 31st Street between Ousdahl Road and Louisiana Street; to the west by E. 1150 Road extended(Kasold Drive); to the south by the north side of the Wakarusa River; and to the east by E. 1500 Road (Haskell Avenue).
  Adoption Date: December 18, 2007 by Lawrence City Commission
  January 7, 2008 by Douglas County Board of Commissioners
  Review Date: 2017

- **Southeast Area Plan**

Location: Bounded roughly to the north by E. 23rd Street/K-10 Highway; to the west by O'Connell Road; to the south by the northern boundary of the FEMA designated floodplain for the Wakarusa River; and to the east by E. 1750 Road (Noria Road).

Adoption Date: January 8, 2008 by Lawrence City Commission
January 28, 2008 by the Douglas County Board of Commissioners
REVISED
June 14, 2008 by Lawrence City Commission
July 24, 2008 by Douglas County Board of Commissioners
REVISED
October 7, 2008 by Lawrence City Commission
November 10, 2008 by Douglas County Board of Commissioners
UPDATED
September 27, 2011 by Lawrence City Commission
November 11, 2011 by Douglas County Board of Commissioners

Review Date: 2021

- **Farmland Industries Redevelopment Plan**

  Location: The former Farmland Industries property is located east of Lawrence along K-10 Highway and just west of the East Hills Business Park. It is approximately one half mile south of the Kansas River.

  Adoption Date: March 11, 2008 by Lawrence City Commission
  March 31, 2008 by Douglas County Board of Commissioners

  Review Date: 2013

- **K-10 & Farmer's Turnpike Plan**

  Location: Generally located around the intersection of I-70 and K-10 and to the east approximately four miles.

  Adoption Date: December 9, 2008 by Lawrence City Commission
  January 7, 2009 by Douglas County Board of Commissioners

  Review Date: 2019

- **Lawrence SmartCode Infill Plan**

  Location: General areas are: 19th St. and Haskell Ave., 23rd St. and Louisiana St.

  Adoption Date: January 27, 2009 by Lawrence City Commission
  February 23, 2009 by Douglas County Board of Commissioners

  Review Date: 2019

- **West of K-10 Plan**

  Location: Generally located north and south of Highway 40 and west of K-10 Highway. It does contain some land east of K-10 Highway

  Adoption Date: June 9, 2009 by Lawrence City Commission
  May 6, 2009 by Douglas County Board of Commissioners
  REVISED
  XXXX by Lawrence City Commission
  XXXX by Douglas County Board of Commissioners

Review Date: 2019

- **Oread Neighborhood Plan**
  Location: Generally located between W. 9th Street and W. 17th Street and between the KU campus and Massachusetts Street.
  Adoption Date: September 28, 2010 by Lawrence City Commission
  Review Date: 2020

- **Inverness Park District Plan**
  Location: Generally located south of Clinton Parkway between Inverness and Crossgate Drives, and north of K-10 Highway.
  Adoption Date: September 20, 2011 by Lawrence City Commission
  November 12, 2011 by Douglas County Board of Commissioners
  Review Date: 2021

Hierarchy of Plans

The following Hierarchy of Plans describes the types of plans that can be used for the long-range planning of the community. The Hierarchy also provides guidance as to when it is appropriate to use each type of plan and the typical process used to complete a type of plan. The Hierarchy of Plans was adopted by the Lawrence-Douglas County Planning Commission on June 26, 2006, by the Lawrence City Commission on August 15, 2006, and by the Board of County Commissioners on September 11, 2006. Figure 14-1 provides an abbreviated description of each type of plan.

Comprehensive Plan

A Comprehensive Plan expresses a community's desires about the future image of the community. It provides the foundation and framework for making physical development and policy decisions in the future. The Comprehensive Plan is a policy guide which describes in text and displays in graphics the community's vision for directing future land development. A Plan includes several components:

- It is a policy plan, stating the community's desires for directing land use decisions through the identified goals and policies.
- It provides a physical plan component by mapping generalized land uses and describing in policies the relationships between different land uses.
- It is long-range, considering a community's expected growth in the future. Future land use maps graphically display the potential development of the community.
- It is comprehensive, considering issues such as demographic, economic and transportation factors which have shaped and will continue to influence land development in a community.

How is the comprehensive plan used?

The Comprehensive Plan provides a vision for the community. It is used as a policy guide that identifies the community's goals for directing future land use decisions. The Plan is also used by property owners to identify where and how development should occur; by residents to understand what the city and county anticipates for future land uses within the community; and by the city, county and other public agencies to plan for future improvements to serve the growing population of the community.

Specifically, the city and county use the Comprehensive Plan to evaluate development proposals; to coordinate development at the fringes of the county's cities; to form the foundation for specific area plans; to project future service and facilities needs; and to meet the requirements for federal and state grant programs. The Comprehensive Plan is used most often as a tool to assist the community's decision makers in evaluating the appropriateness of land development proposals. The Comprehensive Plan allows the decision makers to look at the entire community and the effects of land use decisions on the community as a whole to determine whether individual proposals are consistent with the overall goals of the community.

Typical Process

The typical process of a comprehensive plan and the plan itself could include any of the following:

- Identify the study area boundary
- Identify key stakeholders
- Public meetings
- Inventory survey and data analysis
- Goals, visions, policies, and objectives
- Plan drafts
- Adoption process
- Maps of existing and proposed land use

Watershed or Sub-basin Plan

A watershed or sub-basin plan is a document that studies stormwater runoff and the potential for flooding and environmental impact of a particular watershed or sub-basin, before and after potential development, which drains into a river or other body of water. This plan has boundaries defined by the natural watershed basin or sub-basin of the area. It uses multiple layers of information pertaining to the natural and built environment to develop a comprehensive picture of the carrying capacity of the land for urban densities of development.

This is the second largest and most challenging type of plan to develop. A watershed or sub-basin plan is similar to the development of a comprehensive land use plan in its level and intensity of work. This type of plan could take 24 to 36 months to complete.

When is a watershed or sub-basin plan appropriate?
This type of plan is commonly used to study greenfield, undeveloped, natural, or agriculturally used areas on the fringe of urban development. A watershed or sub-basin plan is used to determine the long-term future (potential) for urban densities of development and their impact on the natural environment.

Purpose or reasons to use a watershed or sub-basin plan are to:

1. Provide information regarding the impact of the natural environment on the potential for future development.
2. Determine any environmental constraints and hazards for future development.
3. Provide a shared vision for area's residents/owners and local government entities.
4. Provide information regarding the area's needs, priorities, and proposed projects.
5. Provide guidance on matters of land use, development, and site layout to possible area residents or investors.
6. Determine if development proposals and land use changes are in accordance with the community's long term vision.
7. Provide implementation recommendations for coordination of development with adequate public facility's goals.
8. Provide a framework to guide an area's development efforts and track development trends and progress.
9. Provide maps showing existing information and proposed information.

Typical Process of a Watershed Plan

- Identify the study area boundary
- Identify key stakeholders
- Public meetings
- Inventory survey and data analysis
- Goals, visions, policies, and objectives
- Plan drafts
- Adoption process

Sector Plan

A sector plan covers one or more sections of land and uses geographic and demographic information to develop a detailed land use vision for future development or redevelopment of the study area. Boundaries are generally based on physical features such as arterial thoroughfares, rivers, or other natural geographic elements.

In the hierarchy of plans, a sector or area plan is the third tier. Based on the size of the area being studied, one or more sections of land, it could take between 18 and 24 months to develop.

When is a sector plan appropriate?
This type of plan is used to forecast development trends or future development patterns for building out or redeveloping an area. This planning tool is most useful when an area is largely undeveloped and/or on the edges of current development.

Purpose or reasons to use a sector plan are to:

1. Provide guidance on matters of land use, development and site layout to possible area residents or investors.
2. Provide implementation recommendations for coordination of development with adequate public facility's goals.
3. Provide information regarding the area's needs, priorities, and proposed projects.
4. Determine if development proposals and land use changes are in accordance with the community's long term vision.
5. Provide a shared vision for area's residents/owners and local government entities.
6. Provide a framework to guide an area's development efforts and track development trends and progress.

Typical Process
The typical process of a sector plan and the plan itself could include any of the following:

- Identify the study area boundary
- Identify key stakeholders
- Public meetings
- Inventory survey and data analysis
- Goals, visions, policies, and objectives
- Plan drafts
- Adoption process
- Maps of existing and proposed land use

Neighborhood Plan

A neighborhood plan is a document that studies the issues of a specific, established neighborhood association, or an area that could be covered by a neighborhood association. If a neighborhood association exists, the boundaries of the neighborhood plan shall conform to those of the neighborhood association. If no neighborhood association exists, the boundaries of the neighborhood plan shall be defined using other methods such as natural features and/ or streets. Neighborhood plans use geographic and demographic information to develop a detailed land use vision for the future development or redevelopment of the neighborhood.

A neighborhood plan is the fourth tier in the hierarchy of plans. Depending on the amount of current development, a neighborhood plan could take from 9 to 12 months to develop.

When is a neighborhood plan appropriate?
A neighborhood plan is appropriate when there are traffic issues or significant development, redevelopment, or infill development in a neighborhood.

Purpose or reasons to use a neighborhood plan are to:

1. Provide guidance on matters of land use, development and site layout to possible area residents or investors.
2. Provide implementation recommendations for coordination of development with adequate public facility's goals.
3. Provide information regarding the area's needs, priorities, and proposed projects.
4. Determine if development proposals and land use changes are in accordance with the community's long term vision.
5. Provide a shared vision for area's residents/owners and local government entities.
6. Provide a framework to guide an area's development efforts and track development trends and progress.

Typical Process
The typical process of a neighborhood plan and the plan itself could include any of the following:

- Identify the study area boundary
- Identify key stakeholders
- Public meetings
- Inventory survey and data analysis
- Goals, visions, policies, and objectives
- Plan drafts
- Adoption process
- Maps of existing and proposed land use

Nodal Plan

A nodal plan is a document based on a prescribed radius around the intersection of two or more major thoroughfares. This plan studies specifically defined criteria such as vehicular and pedestrian circulation and connectivity in association with the density and intensity of proposed land uses.

In the hierarchy of plans, a nodal plan is under the category of "special area" plans. This plan's level of study and detail is restricted because the boundaries are restricted. The process could take 6 to 12 months.

When is a nodal plan appropriate?
Examples when this type of plan is useful are:

- The study of major road intersections where large-scale commercial developments are proposed.
- A siting study is requested for a public facility, branch libraries or community building, where the service area radiates outward from the site.

Purpose or reasons to use a nodal plan are to:

1. Provide guidance on matters of land use, development and site layout to possible area residents or investors.
2. Provide implementation recommendations for coordination of development with adequate public facility's goals.
3. Provide information regarding the area's needs, priorities, and proposed projects.
4. Determine if development proposals and land use changes are in accordance with the community's long term vision.
5. Provide a shared vision for area's residents/owners and local government entities.
6. Provide a framework to guide an area's development efforts and track development trends and progress.

Typical Process
The typical process of a nodal plan and the plan itself could include any of the following:

- Identify the study area boundary
- Identify key stakeholders
- Public meetings
- Traffic counts
- Inventory survey and data analysis
- Goals, visions, policies, and objectives
- Plan drafts
- Adoption process
- Maps of existing and proposed land use

Corridor Plan

A corridor plan is a document that studies a linear development, natural or man-made, and the adjacent area bounding this feature. A corridor plan is used to develop an integrated vision that coordinates multiple planning disciplines such as transportation, environmental, and/or land use.

The corridor plan is a type of a "specific issue" plan because it is predominately used to assess transportation and land use planning issues. The timeline of completion of this type of plan varies depending on the length of the corridor and the level of development that have already occurred along the corridor. This process could take 9 to 24 months.

When is a corridor plan appropriate?

Examples when this type of plan is useful are:

- Along major arterial streets
- When studying access management
- When studying riverine, riparian, and wildlife habitat areas
- Along abandoned railroad corridors for rails-to-trails applications

Purpose or reasons to use a corridor plan are to:

1. Provide guidance on matters of land use, development and site layout to possible area residents or investors.
2. Provide implementation recommendations for coordination of development with adequate public facility's goals.
3. Provide information regarding the area's needs, priorities, and proposed projects.
4. Determine if development proposals and land use changes are in accordance with the community's long term vision.
5. Provide a shared vision for area's residents/owners and local government entities.
6. Provide a framework to guide an area's development efforts and track development trends and progress.

Typical Process

The typical process of a corridor plan and the plan itself could include any of the following:

- Identify the study area boundary
- Identify key stakeholders
- Public meetings
- Inventory survey and data analysis
- Goals, visions, policies, and objectives
- Plan drafts
- Adoption process
- Maps of existing and proposed land use

Specific Issue/District Plan

A specific issue or district plan is a document that is developed to address a defined geographic area, development proposal, the coordination of the extension of public services, or infrastructures as part of a unilateral annexation, or land use issue that does not clearly fall in one of the other plan categories.

In the hierarchy of plans, a specific issue/district plan falls under "special area" plans. The level of detail in this plan is concentrated on a specific subject based on the study issues identified. This type of plan could take 6 to 12 months to develop.

When is a specific issue or district plan appropriate? Examples where these types of plan are useful are:

- When the study of a sub-area of a neighborhood is needed to evaluate a rise in housing types [rental housing vs. owner-occupied]
- When there is significant redevelopment in an established neighborhood
- When there is a request for a predominate change in land use
- When a major redevelopment plan is proposed
- When there is a conflict between land use and zoning
- Where there is concern that an area is underserved by parks or other public facilities

Purpose or reasons to use a specific issue or district plan are to:

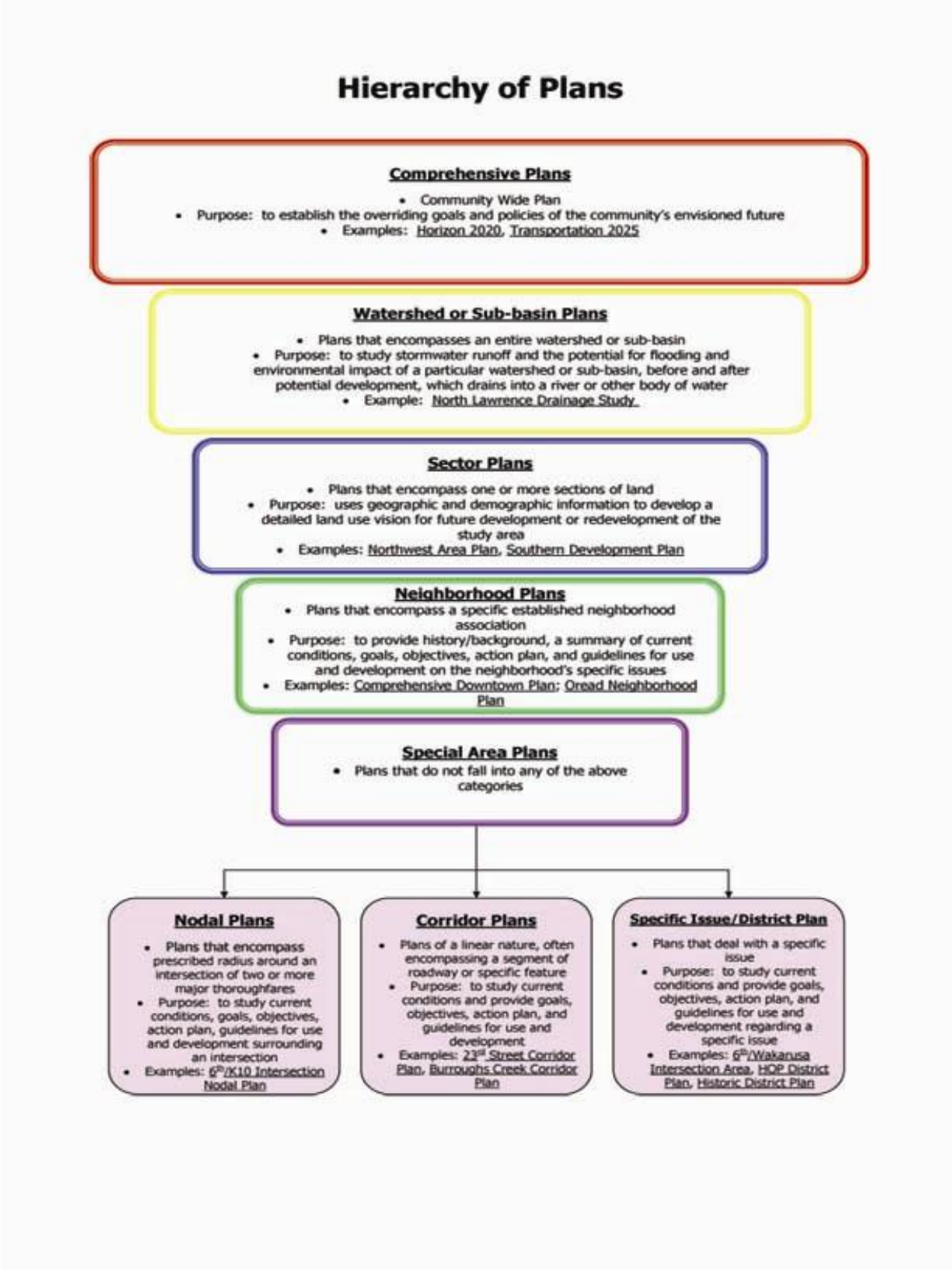
1. Provide guidance on matters of land use, development and site layout to possible area residents or investors.
2. Provide implementation recommendations for coordination of development with adequate public facility's goals.
3. Provide information regarding the area's needs, priorities, and proposed projects.
4. Determine if development proposals and land use changes are in accordance with the community's long term vision.
5. Provide a shared vision for area's residents/owners and local government entities.
6. Provide a framework to guide an area's development efforts and track development trends and progress.

Typical Process

The typical process of a specific issue/district plan and the plan itself could include any of the following:

- Identify the study area boundary
- Identify key stakeholders
- Public meetings
- Inventory survey and data analysis
- Goals, visions, policies, and objectives
- Plan drafts
- Adoption process
- Maps of existing and proposed land use

Figure 14-1


Hierarchy of Plans
Comprehensive Plans
• Community Wide Plan
• Purpose: to establish the overriding goals and policies of the community's envisioned future
• Examples: Horizon 2020, Transportation 2025
Watershed or Sub-basin Plans
• Plans that encompasses an entire watershed or sub-basin
• Purpose: to study stormwater runoff and the potential for flooding and environmental impact of a particular watershed or sub-basin, before and after potential development, which drains into a river or other body of water
• Example: North Lawrence Drainage Study
Sector Plans
• Plans that encompass one or more sections of land
• Purpose: uses geographic and demographic information to develop a detailed land use vision for future development or redevelopment of the study area
• Examples: Northwest Area Plan, Southern Development Plan
Neighborhood Plans
• Plans that encompass a specific established neighborhood association
• Purpose: to provide history/background, a summary of current conditions, goals, objectives, action plan, and guidelines for use and development on the neighborhood's specific issues
• Examples: Comprehensive Downtown Plan; Oread Neighborhood Plan
Special Area Plans
• Plans that do not fall into any of the above categories
Nodal Plans
• Plans that encompass prescribed radius around an intersection of two or more major thoroughfares
• Purpose: to study current conditions, goals, objectives, action plan, guidelines for use and development surrounding an intersection
• Examples: 6th/K10 Intersection Nodal Plan
Corridor Plans
• Plans of a linear nature, often encompassing a segment of roadway or specific feature
• Purpose: to study current conditions and provide goals, objectives, action plan, and guidelines for use and development
• Examples: 23rd Street Corridor Plan, Burroughs Creek Corridor Plan
Specific Issue/District Plan
• Plans that deal with a specific issue
• Purpose: to study current conditions and provide goals, objectives, action plan, and guidelines for use and development regarding a specific issue
• Examples: 6th/Wakarusa Intersection Area, HOP District Plan, Historic District Plan

League of Women Voters Lawrence-Douglas County
P.O. Box 1072 • Lawrence, Kansas 66044-1072

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MAY 21 2012
City County Planning Office
Lawrence, Kansas

May 20, 2012

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www.lwvk.org

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Mr. Richard Hird, Chairman
Members
Lawrence-Douglas County Metropolitan Planning Commission
City Hall
Lawrence, Kansas 66044

RE: Item No. 5: Comprehensive Plan Amendment to H2020 – Chp. 6 And Chp. 14; CC600
Item No. 6: Text Amendment to City Of Lawrence Development Code; Amending Various Sections to Add A CC600 District
Item No. 7: A & B1 To Cc600; 146 Acres; W 6th St & K-10

Dear Chairman Hird and Planning Commissioners:

We urge you to deny all of Items No. 5, 6, and 7.

We are asking this for the following reasons:

1. There are some serious procedural problems occurring here. First, the comprehensive plan (Item 5) needs to be officially amended and approved, not only by the Planning Commission but also by both the City and County Commissions. Only then should zoning text amendments be adopted that are dependent on the comprehensive plan, as is Item No. 6, the new CC600 District. Following the adoption and official incorporation of the new CC600 District into the City Code, only then should the process for a public hearing to amend the zoning district properly proceed (Item No. 7).

2. A major consideration that is driving all of these deliberations is whether the city should actually approve the location for and participate in building a recreational facility of the proposed intensity in the suggested location. *The issue is not whether the facility is needed or appropriate, but whether* ***that particular location for that facility is appropriate****.*

Furthermore, it would be surrounded by 100 or more acres of unplanned commercial land. If the proposed development were to occur in that location the traffic impact on 6th Street, and the potential effect of shifting the "center of activity" from the Downtown to that location, could have a very negative impact on the city as a whole.

3. Horizon 2020 should be followed, and the city should consider hiring a consultant to do an independent market analysis of the impact that this use in this location would have on the city as a whole, especially the Downtown. (Horizon 2020, Chapter 6, **policy 3.13**)

a. City staff analysis is not a proper substitution for an "independent market analysis. […performed by an] **independent consultant** chosen by the city..." The analysis **is supposed to be** unbiased and done by qualified professional consultants. The planning staff has seemingly justified the additional commercial land that would be added to the currently overstocked inventory of available commercial area and vacant buildings.

The thought seems to be, *don't worry, no one will use the land unless there is a demand (which admittedly doesn't exist).* **Wouldn't it be better to preserve the land for an employment-related and manufacturing use that the studies up to now have proposed for the area?**

4. We request that an independent traffic analysis also be undertaken:

a. The Staff Report (Item No. 5) states that "Commercial uses are generally viewed by the Development Code as equal to or lesser uses compared to industrial uses and so the project can feasibly be viewed as compatible with the comprehensive plan designation." The traffic impact analysis that the staff report mentioned indicating that industrial and commercial traffic impacts are interchangeable, or commercial uses are lesser in intensity than industrial uses, may have come from the Lesser Change Table. In this table the three categories of Residential, Commercial and Industrial cannot be compared with each other in intensity. Only within each category is this comparison intended. (**20-1301(k)**). Therefore, based on the source in the Staff Report, it is not a valid comparison to say that the traffic intensity of commercial land use and industrial land use are the same

b. According to a study that was made in 2006 by the consultants, TischlerBise, hired by the City for their study, "The Cost of Land Uses and Fiscal Impact Analysis," the uses of manufacturing and commercial retail are **quite different in their impact** on traffic intensity. The vehicle trip rates per 1000 square feet **are much higher with commercial land use than with industrial land use** (page 11, Figure 4, TischlerBise).

c. Consider that the Transportation Plan for that node, which was recently presented to you by the MPO (Lawrence-Douglas County Metropolitan Planning Organization), must be studied by them before any changes to it are considered. Also, all of the other considerations that need to be made regarding the improvements to that intersection, to 6th Street, and to Highway 40 extended, must take into consideration the increased traffic intensity that will occur with the change in use from manufacturing to recreation and commercial uses.

5. Once the CC600 District is actually incorporated into the zoning text (assuming that it is), it should have some method to actually control the maximum size and use of retail buildings. We suggest that any retail establishment that meets the requirement for a CC600 should also require a Special Use Permit or a Planned Development Overlay District.

Thank you for your patience in reading this material. We hope that you will carefully consider these points.

Sincerely yours,

Carrie Lindsey

Carrie Lindsey
President

Alan Black

Alan Black, Chairman
Land Use Committee

RONALD SCHNEIDER
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TELEPHONE: (785) 841-2040
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RONALD SCHNEIDER

OF COUNSEL:
CURTIS BARNHILL
MARGARET FARLEY

May 18, 2012

Richard Hird
Chairman of Lawrence-
Douglas County Metropolitan
Planning Commission
FAX: 832-3160

RE: CPA -4-2-12
TA -4-3-12
Z-4-5-12

Dear Mr. Rick:

I represent a number of landowners who live near or adjacent to the 146 acres associated with Z-4-5-12, change of zone request.

As you know, the City Commissioners recently voted to annex this property. During the annexation hearing, all City Commissioners expressed their intentions to devote extra-ordinary time and consideration to the zoning issues and contemplated land of the entire project and development due the importance and scope of this proposed project. The City Commissioners confirmed that this project requires time and thoughtful consideration. The Commission expressed its desire **NOT** to rush the zoning and land use components of this project.

It is my opinion that the proposed public hearing on this rezoning and related planning matters is premature. Public opinion will be greatly affected by the information and dialogue at the public forum in June scheduled by the City. The proposed rezoning, changes to the code, and revision to the Nodal Plan should be considered only after this forum and additional information and reliable plans are available to the public.

On behalf of my clients, I respectfully request that the Planning Commission continue the hearing on these matters to enable the City to provide answers to the many unanswered questions on this immense and important project. I am confident that this request is consistent with the consensus and statements made by the Mayor and other Commissioners at their hearing on May 21, 2012.

I await your response.

Sincerely,

Ronald Schneider

RS:cw
cc: Scott McCullough, VIA FAX
Mayor Robert Schumm, VIA FAX
City Commissioners, VIA FAX

May 20, 2012

Scott and Jodi Bouyack
887 N. 1663 Road
Lawrence, KS 66049

Lawrence City Hall
City Planning Office
Attn: Mary Miller
6 East Sixth Street
Lawrence, KS 66044

Ms. Miller,

As a resident and landowner in Northwood Estates with property bordering on the north end of the 146 acre tract of land that is being considered for CC600 zoning, I write today to make a few comments which I hope the Planning Commission will consider as it determines its recommendation on this issue during the May 21, 2012 meeting.

My wife and I purchased our home in early 2010. Prior to making a decision to purchase our home, I conducted a fair amount of research with regard to future development plans in the vicinity of Northwood Estates. Of particular interest to me was the future plans for the acreage now referred to as the Northwest Quadrant of the intersection of W. 6th Street/Highway 40 and Kansas Highway 10 (K-10). My research indicated to me that we should expect that at some point the Northwest Quadrant would become developed. Thus, it has always been my expectation that as much as we enjoy having vacant fields and cows behind us, that at some point that would become developed territory.

Although I could have no way of definitively knowing in 2010 what sort of development might be built behind our house, there were two expectations my research uncovered that I felt I could count on relative to any future development, and thus provided me the assurance I was looking for to proceed with the purchase of our home. The first expectation was that the City of Lawrence desired for the future development of the W. 6th Street/Highway 40 and K-10 intersection to become an attractive "gateway" entrance for the city. This expectation provided me the assurance that whatever development would eventually be built behind our house would be done so in an attractive, well-planned, well-maintained manner, and would most likely not include unattractive business uses that the city would not be proud to display at such a prominent gateway.

The second expectation my research uncovered that gave me comfort was the designation in the Nodal Plan of a green space buffer along the northern edge of the Northwest Quadrant to help preserve the Baldwin Creek drainage basin and to "act as a transitional buffer for the lower-density residential development and agricultural activities for unincorporated Douglas County adjacent to this corner."

As of today, I am reasonably confident that the first expectation above will be adhered to in this future development. It seems clear that the City Commissioners, City Staff, City Planners, and Developers all still strongly desire for the development on this Northwest Quadrant to maintain the attractive characteristics of a prominent city gateway as described in the Nodal Plan and other planning documents. Further to that point, I can envision that the proposed development of a regional recreation center on this property could result in a more desirable development than many alternatives. For example, the fact that the Planning Staff, in its recommendation to the Planning Commission, has restricted several uses from the proposed CC600 zone because such uses would not enhance the site as a regional recreation facility is a positive benefit for adjoining neighbors, as it helps to assure us that we will not have business such as big box retail, vehicle sales, mini-warehouses and several other uses that would be considered undesirable to the neighborhood.

However, at this point in the process, I am not certain that the second expectation, the green space buffer, will be adequately met. Although city officials have stated on several occasions that they recognize the need for such a buffer, and further recognize that the Nodal Plan calls for such a green space buffer, the specifics of such a buffer are lacking. To that point, the City has recently provided an initial rendering of the site plan for the recreation center, and the lack of any green space buffer is highly conspicuous by its absence. In fact, I cannot even consider such a rendering to be a viable first draft, as it does not include this very important component, and look forward to the City and Developers providing a true, viable first draft in the very near future.

Considering the above, I would like to make one simple request of the Planning Commission as it considers its recommendation relative to this zoning question. My request is that should the Planning Commission go forward in recommending this property in question be zoned to CC600, that it do so with the condition that a green space buffer, one which reflects the spirit of such an element as described in the Nodal Plan, be required to be part of the future development.

Once again, we appreciate the City's willingness to engage us in this process and listen to our concerns. I will be attending the meeting on May 21, and any such subsequent relevant meetings, and look forward to being a part of the process. If at any time you would like to talk to me directly, I can be reached via phone at (678) 778-0797 or email at scott.bouyack@gmail.com.

Sincerely,

Scott Bouyack

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MAY 21 2012

City County Planning Office
Lawrence, Kansas

May 21, 2012

City of Lawrence
Attn: Mary Miller - City Planning Office
6 East Sixth Street
Lawrence, KS 66044

Dear Ms. Miller:

As residents of the Estates of Northwood, we are writing to formally express our concerns regarding the proposed development of the land located at 6th street and E. 900 road.

Following the recent City Council meeting, we were provided a concept plan for the proposed development. This proposal raised significant red flags for residents of our neighborhood.

First, the concept plan does not honor the green space originally outlined in the nodal plan. Placing the recreation center, stadium and parking lots directly adjacent to our property provides no buffer between our backyards and the development. The resident of our neighborhood purchased land and built homes based on an understanding of green space outlined in the City's nodal plan.

Second, the concept plan does not appear to preserve the natural drainage system provided by the Baldwin Creek drainage basin. While the city may plan to remove this naturally occurring pathway, several of the properties on the south side of our neighborhood have this creek continuing through their property. This could result in significant drainage issues in the future. Additionally, other properties on the south side currently have flooding concerns during heavy rains and this development could further exacerbate this issue.

Third, the concept plan does not appear to have addressed the traffic issue through our neighborhood sufficiently. Requiring our neighbors to proceed through the new development to reach our homes is not a satisfactory solution. Given times of heavy activity in the area, this could place us in the middle of significant event traffic. As discussed at the meeting held at the Indoor Aquatic Center in April, we would prefer to have access to our neighborhood to the west of the development with proper signage to discourage non-residents from entering N. 1663 Road. This could be accomplished by alternating the dead end on N. 1663 from the west end to the east end.

Finally, without the proper market studies to understand the needs of the community, it is premature to determine the appropriate zoning for this area.

The City has a unique opportunity for this development. Unlike most instances, there is sufficient space to plan the site in a way that can truly accommodate the needs of the city and the surrounding community. We encourage you to take advantage of this opportunity to create a "gateway" for our city in a manner that is acceptable to all parties involved.

Thank you in advance for considering our concerns. We look forward to continued dialogue as the process progresses.

Sincerely,

Steven & Christy Kahle
875 N. 1663 Road

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MAY 21 2012

City County Planning Office
Lawrence, Kansas

Kenneth and Anna Oliver
873 N. 1663 RD
Lawrence, KS 66049

785-550-7746

May 21, 2012

Mary Miller
City/County Planner
Lawrence City Hall
6 East 6th St
Lawrence, KS 66049

Dear Ms. Miller,

Please include this letter regarding the rezoning of the NW corner of K-10/US-40 in the packet to be presented during your May 21 Planning Commission meeting. We will not be able to attend the meeting because of our work schedules, but would appreciate your taking our concerns into consideration.

We appreciate your notifying us of the completed staff report and at first blush, we are generally in agreement with the conditional zoning restrictions you are recommending. We also want to thank you for your time and effort in restricting uses that would not be complimentary to the proposed recreation center and that would be detrimental to our neighborhood.

We are however, frustrated that a new zone designation (CC600) is being proposed for the first time and recommended for this property with conditions, while the City does not know the size, scope and cost of their portion of the project and no sight plans have been submitted. There are many unanswered questions as to whether the rezoning and proposed development complies with the Nodal and Horizon 2020 plans. We received the staff report for the CC600 rezoning on Thursday the 17th, tried to research the hundreds of pages of reports and plans, formulate and draft comments to be delivered prior to 10:00am the following Monday morning. That's hardly enough time for the residents of our neighborhood to cipher through all the information and provide meaningful input, which is what the Mayor, City Commissioners, Planning Commission and City Manager have requested. We are not grasping for stalling tactics, as we firmly believe this project could be very good for the community. We are however very concerned that this project has not been given due diligence and many requirements for development are being overlooked. For example, considering the proposed uses, has the necessary traffic and marketing studies been completed, and has the Nodal and other planning documents been updated?

Along with our neighbors, we purchased our property and built our home after reviewing the Nodal Plan and learning the property in question was planned for low-density industrial/warehouse/office uses with a large green zone buffer between our homes and future development. After seeing examples around town of similar buildings, we found them acceptable, purchased our property and built our homes. Now the uses being proposed would have significantly more traffic, noise and light pollution. For this reason, as the project moves forward we are strongly encouraging the city to exceed the standards for mitigating the negative effects to surrounding neighborhoods per the following plan excerpt:

20-1101
PROTECTION STANDARDS FOR RESIDENTIAL DISTRICTS
(a) Design and Operational Compatibility Standards—Discretionary Approvals
As a condition of approval of any Special Use Permit, Map Amendment, site plan or other discretionary approval of any multi-Family use or nonresidential use located within 500 feet of any less intensive residential district, the City Commission, Planning Director, Planning Commission or other review body may impose conditions that exceed the minimum requirements of this Chapter and that, in the opinion of the review body, are necessary to reduce or minimize any potentially adverse impacts on residential property, including, but not necessarily limited to, the following:

(1) location on a site of activities that generate potential adverse impacts on adjacent uses, such as noises and glare;
(2) placement and buffering of trash receptacles;
(3) location of loading and delivery areas;
(4) lighting location, intensity, and hours of illumination;
(5) placement and illumination of outdoor vending machines, telephones, and similar outdoor services and activities;
(6) additional Landscaping and buffering;
(7) Height restrictions to preserve light and privacy and views of significant features as viewed from public property and rights-of-way;
(8) preservation of natural lighting and solar Access;
(9) ventilation and control of odors and fumes; and
(10) paving or other surface treatment for dust control.
(b) Height Limit on Projects Adjoining Certain Residential Zoning Districts
See Section 20-701(g) for Height limits in the PD district.

Consideration needs to be given to the neighbors for the significant negative effects of the rezoning and subsequent development in the form of a green space buffer, additional large caliper trees, directional and timed exterior lighting, and a large berm. An acceptable berm would be similar to the one immediately behind the Walmart on 6th Street. However, because of the direction and location of the proposed street into the recreation center, stadiums and the proximity to our homes, an even taller berm would be necessary.

There is a significant grade from our property line up to US-40. Because the proposed stadium would be situated on the hill, we think an in-ground stadium would be beneficial for several reasons. An in-ground stadium would reduce the height of the structure and make it more visually appealing. The noise and light pollution would be contained significantly and the dirt removed for the stadium could be used for a berm to further reduce those negative effects. It is also my understanding that track and field events need to be sheltered from excessive wind for the competitor's results to be recognized as records. An in-ground stadium would go a long way in making it an elite track and field venue.

Our other concerns have not changed since our last correspondence as we are anxious to maintain the dead end access to N.1663 RD. The concept plan that was recently released proposed a convoluted route to our neighborhood. We would rather have a dead end entrance on the west side of 1663 RD to US 40 in lieu of the entrance shown on the concept drawing. In addition, we are very concerned that the manipulation of the Baldwin Drainage basin would potentially flood our property during seasonal heavy rains.

Thank you again for taking our concerns into consideration. We know a lot of questions will come to light when sight plans are eventually submitted, and we are hopeful that this will be a great development for our community, but the City needs to take a step back and complete the processes that are in place to ensure all involved (The City, Taxpayers, Developers, and Neighbors) are on the same page and protected before moving forward. The public forum on June 6th is a great start, and we are hopeful that more information will flow between the city and the public at that time.

Sincerely,

Kenneth and Anna Oliver

PLANNING COMMISSION REPORT
Regular Agenda -- Public Hearing Item

PC Staff Report
05/21/12

ITEM NO. 6 TEXT AMENDMENT TO CITY OF LAWRENCE DEVELOPMENT CODE; AMENDING VARIOUS SECTIONS TO ADD A CC600 DISTRICT (SMS)

TA-4-3-12: Consider a text amendment to the City of Lawrence Land Development Code, Articles 1, 2 and 13, to provide for a CC600 (Community Commercial) District. *Initiated by City Commission on 4/10/12.*

RECOMMENDATION: Staff recommends that the Planning Commission forward a recommendation for approval of the proposed amendment TA-4-3-12 to the Land Development Code to the City Commission based on the analysis in the staff report.

Reason for Request: To create a commercial center that permits an amount of commercial development between the 400,000 square feet allowed in a CC400 District and the 1.5 million square feet allowed in the CR District.

RELEVANT GOLDEN FACTOR:

- This text amendment will implement proposed revisions to the comprehensive plan.

PUBLIC COMMENT RECEIVED PRIOR TO PRINTING

- None

OVERVIEW OF PROPOSED AMENDMENT

The amendment proposes creation of an additional Community Commercial District which would allow up to 600,000 gross square feet of commercial development at a CC600 designated commercial node. Such nodes would be limited to locations at the intersection of two state or federal highways. Uses permitted in the CC200 and CC400 Districts would be allowed in the new district.

Horizon 2020 currently states on page 6-3: *"... the term 'commercial' means retail businesses that sell goods and services on-site for which sales tax is collected. This definition does not include offices or similar uses."* The related Comprehensive Plan Amendment (CPA-4-2-12) proposes to modify this definition and substitute the definition used in Section 20-1107 of the Land Development Code. The proposed CPA includes the following:

> *For the purposes of this section of the Plan, the term "commercial" means retail businesses as defined as one whose primary coding under the North American Industrial Classification System (NAICS) falls into at least one of the following sectors:*
>
> *i. Sector 44-4S: Retail Trade;*
> *ii. Subsector 722: Food Services and Drinking Places;*
> *iii. Subsector 811: Repair and Maintenance; and*
> *iv. Subsector 812: Personal and Laundry Services*

Therefore, a CC600 designation would permit more than 600,000 square feet of overall development, but would set the maximum square footage of retail uses at that designated node.

The proposed Comprehensive Plan Amendment (CPA-4-2-12) includes the criteria that a new CC600 Center must be located at the intersection of two state or federal highways. The CPA proposes the designation of the intersection of US-40/(W 6th Street) and K-10 as a CC600 node. Additional CC600 sites are not identified at this time.

CONFORMANCE WITH THE COMPREHENSIVE PLAN
This request accompanies a related Comprehensive Plan Amendment to provide for CC600 nodes in *Horizon 2020* and to specifically designate the intersection of West 6th Street & K10 as such a node. This Development Code amendment would provide the implementation tool for the proposed revision to *Horizon 2020*.

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

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

Horizon 2020, Chapter 6 anticipates changes and additions to the commercial framework over time. The proposed Comprehensive Plan Amendment is a result of changing circumstances that have occurred. The comprehensive plan provides for two CC centers, CC200 and CC400 which would allow a maximum of 400,000 square feet of commercial space for the node. The Commercial Regional designation is the next larger district, allowing a maximum of 1.5 million square feet of commercial space. Staff has identified that a designation is needed somewhere in the middle, one that would reasonably accommodate roughly 600,000 square feet of commercial space.

This proposed amendment to the Land Development Code would implement the proposed revision to *Horizon 2020*.

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

If the related Comprehensive Plan Amendment (CPA-4-2-12) is approved, the proposed text amendments will implement the policies related to the new Community Commercial Center designation, CC600.

Staff Review
The City Commission has initiated various changes to the *City Code* and the *Land Development Code* to add

The proposed changes are located in Article 1 – Introductory Provisions, Article 2 – Base Districts and in Article 13 – Development Review Procedures. Descriptions of the proposed changes are below.

- Article 1 – Introductory Provisions. The revision adds the CC600 District to the table of Zoning District Names.

20-110 TRANSITIONAL PROVISIONS

(e) Zoning District Names

The Official Zoning District Map designations in effect before the Effective Date are converted as follows:

Previous Map Designation	New Map Designation
RS, Single-Dwelling Residential Districts	
RS-A	RS40
RS-E	RS20
RS-1	RS10
RS-2	RS7
None (New)	RS5
None (New)	RS3
RSO Single-Dwelling Residential-Office Districts	
RO-1B and RO-2	RSO
RM, Multi-Dwelling Residential Districts	
RMD	RM12D
RM-1	RM12
None (New)	RM15
RM-2 and RM-2A	RM24
RM3 and RD	RM32
None (New)	RMG
RMO, Multi-Dwelling Residential-Office Districts	
RO-1 and RO-1A	RMO
C, Commercial Districts	
C-1	CN1
O-1	CO
C-2	CN2
C-3	CD
C-4	CS
C-5	CS
C-4A	CD
None (New)	CC200
None (New)	CC400
None (New)	CC600
None (New)	CR
I, Industrial Districts	
M-1	IBP
M-1A	IL
M-2	IG
M-3	IG
M-4	IG
Special Purpose Base Districts	
None (New)	GPI
None (New)	H
None (New)	OS
None (New)	UR

Previous Map Designation	New Map Designation
None (New)	U/U-KU
Planned Unit Development (All: PUD, PRD, PCD, PID, POD)	PUD[name], PRD[name], PCD[name], POD [name] or PID[name]
Overlay Districts	
Airspace Control Overlay	-ASO
Floodplain Overlay District	-FP
None (New)	-PD
South Lawrence Trafficway Overlay	-TC(SLT)
Downtown Urban Conservation Overlay	-UC(Downtown)

- Article 2 – Base Districts
  The proposed changes to Article 2 are to Section 211. The Community Commercial District description is revised to include the CC600 District. In addition, site and street access requirements reflecting the CC600 policy statements proposed in Horizon 2020 are identified in this section.

20-211 CC, COMMUNITY COMMERCIAL DISTRICT

(a) Purpose

(1) The CC, Community Commercial Centers District, is primarily intended to implement the Comprehensive Plan's Community Commercial Centers policy for commercial development at a community scale to serve multiple neighborhoods. Within the Community Commercial Center classification there are ~~two~~ **three** categories of commercial centers; the CC200 Center**,** ~~and~~ the CC400 Center **and the CC600 Center**. Permitted uses are the same in **all three** categories.~~; Density and dimensional standards are greater in the CC400 Center than in the CC200 Center.~~

(2) The Primary Purpose of the CC200 Center is to provide for the redevelopment of existing Community Commercial Centers and to provide an alternative for the existing highway strip commercial areas.

(3) The Primary Purpose of the CC400 **and CC600** Centers is to provide opportunities for development of new Community Commercial Centers for fringe areas as neighborhoods grow and develop.

(b) Principal Uses
Principal Uses are allowed in CC Districts in accordance with the Use Table of Article 4.

(c) Accessory Uses and Accessory Structures
Accessory Uses and Structures are permitted by right in connection with any lawfully established Principal Use, except as otherwise expressly provided in this Development Code. Additionally, Accessory Uses are subject to the same regulations as the Principal Use. Accessory Uses and Structures, including Home Occupations are subject to the regulations of Section 20-532 et seq.

(d) Density and Dimensional Standards
Unless otherwise expressly stated, all development in CC Districts shall comply with the City's Comprehensive Land Use Plan and Density and Dimensional Standards of Article 6, as modified by the design standards set forth in Section 20-526. The following additional Density and Dimensional Standards shall apply in the CC District:

(1) Site Requirements

(i) Not all corners of a CC200 Commercial Node shall be devoted to commercial uses. For a Center that has Buildings between 40,000 and 100,000 gross square feet in size, the maximum gross square feet of the Center shall not exceed 50% of the allowable commercial square feet for a CC200 Commercial Node.

(ii) A minimum of 95% of the commercial gross square feet of a new CC400 Center shall be located on two (2) or fewer corners of the Commercial Node intersection. If there are remaining allowable square feet at a Node (intersection) after two or fewer corners are developed, one of the remaining corners may have 50% or less of the remaining 400,000 gross square feet of allowable commercial space. Any corner of an intersection where the gross square feet of commercial space is 20,000 or more shall have a minimum site area of 20 acres and a width to depth ratio between 1:1 and 3:2.

(iii) **A maximum of 90% of the commercial gross square feet of a new CC600 Center shall be located on two (2) corners of the Commercial Node intersection.**

(2) Lot Requirements

Lot Area of any development within the CC Centers District shall maintain a width-to-depth ratio between 1:1 and 3:2. ~~A maximum Building coverage of 25% shall apply to all development within the CC Centers District.~~ **Site Area and Lot Area requirements within the CC Districts are provided in 20-601(b).** *(Staff note - this building coverage change is in TA-8-12-11 which is on hold at city commission.)*

(3) Floor Area Requirements

(i) CC200 Centers: CC200 Centers shall contain no more than 200,000 gross square feet of the entire Node's commercial space as provided in Chapter 6 of Horizon 2020. Floor Area of any Structure for a Principal Use within a CC200 Center shall not exceed 100,000 gross square feet. Within a Large Retail Establishment, no more than 15% of the Floor Area may be devoted to ancillary uses separate in management or operation from the principal retail use. Ancillary uses shall take their public Access internally from the larger Retail Establishment. General retail stores (including general merchandise and apparel) shall not exceed 65,000 gross square feet.

(ii) CC400 Centers: CC400 Centers shall contain no more than 400,000 gross square feet of the entire Node's commercial space as provided in Chapter 6 of Horizon 2020. Floor Area of any Structure for a Principal Use within a CC400 Center shall not exceed 175,000 gross square feet. Within a Large Retail Establishment, no more than 15% of the Floor Area may be devoted to ancillary uses separate in management or operation from the principal retail use. Ancillary uses shall take their public Access internally from the larger Retail Establishment.

(iii) **CC600 Centers: CC600 Centers shall contain no more than 600,000 gross square feet of the entire Node's commercial space as provided for and defined in Chapter 6 of Horizon 2020 and Article 11 of this Development Code.**

a. **No more than two commercial buildings containing more than 100,000 gross square feet may be located on a single corner of the node.**

(e) Street Access

Development in the CC Centers District shall take Access from a Collector Street, Arterial Street, or designated highway. CC200 Centers shall be located at Collector/Arterial Street intersections or Arterial/Arterial Street intersections. CC400 Centers shall be located at the intersection of two Arterial Streets that have at least a four-lane cross section or at the intersection of a four-lane Arterial Street with a State or Federally designated highway. **CC600 Centers shall be located at the intersection**

of two State or Federally designated highways. Whenever possible, CC Centers development shall share direct or indirect Access through common curb cuts or private Access roads. When the CC Center site abuts a controlled intersection, Access shall be directed to a side street with adequate distance between the intersection and the site Access point(s).

(f) Other Regulations
There are a number of other Development standards that may apply to development in Base Districts, including but not limited to the following:

(1)	**General Development Standards**	**See Article 11.**
(2)	**Landscaping**	**See Article 10.**
(3)	**Off-Street Parking and Loading**	**See Article 9.**
(4)	**Outdoor Lighting**	**See Section 20-1103.**
(5)	**Overlay Districts**	**See Article 3.**

(g) Occupancy Limits
In non-RS Districts, no more than one Family, as that term is defined in Section 20-1701(1), (2), and (3)(b), shall occupy a Dwelling Unit.

- Article 13 – Development Review Procedures. The Lesser Change Table is modified to include the CC600 District option.

20-111 ZONING MAP AMENDMENTS (REZONINGS)

(c) Public Hearing Notice
Newspaper, posted and mailed notice of the Planning Commission's public hearing shall be provided in accordance with Section 20-1301(p)(3). For purposes of K.S.A. §12-757, any Zoning District listed in the right-hand column of the Lesser Change Table that follows shall be considered a "lesser change" than a change to the Zoning District listed in the left-hand column of the same row of the table; in accordance with the cited section, a recommendation or action to amend the zoning map to assign the "lesser change" Zoning District to the land, rather than the Zoning District advertised in the notice, shall not require further notice. A recommendation or action to amend the Zoning Map to assign any Zoning District other than the one advertised in the notice or one included in the corresponding right-hand column of the Lesser Change Table will be inconsistent with the advertised hearing and shall require re-advertising and the holding of a new hearing, after proper notice. Such recommendation or action by the Planning Commission or the City Commission shall be construed as an instruction to the Planning Director to set a new hearing and to give notice of the proposed hearing, including the new Zoning District in the notice.

Table of Lesser Changes	
Advertised/Proposed Zoning District	Districts to be Considered a "Lesser Change"
RS40	None
RS20	RS40
RS10	RS20 or RS40
RS7	RS10, RS-20 or RS40
RS5	Any other RS except RS3 or RSO
RS3	Any other RS except RSO
RSO	Any other RS except RS-3
RM12, RM12D	Any RS except RSO
RM15	RM12 or any RS except RSO

Table of Lesser Changes	
Advertised/Proposed Zoning District	Districts to be Considered a "Lesser Change"
RM24	RM15, RM12 or any RS except RSO
RM32	Any RM or any RS
RMG	Any RM or any RS
RMO	RM15, RM12 or any RS
CN1	None
CN2	CN1, RSO or RMO
CD	CN1, CN2 or CC200
CC200	CN1 or CN2
CC400	CC200 or CN2
CC600	CC400, CC200, CN2
CR	CC600, CC400 or CC200
CS	CN1, CN2 or CO
IBP	None
IL	IBP or CN2
IG	IL, IBP, or CN2
Other Zoning Districts	Not Applicable

Memorandum
City of Lawrence
Douglas County
Planning Department

TO: **Planning Commission**

FROM: **Amy Miller, Long Range Planner**

CC: **Scott McCullough, Director; Sheila Stogsdill, Assistant Director**
Date: **May 21, 2012**

RE: **Agenda Items No. 5 and 6:**
Clarification of Retail vs. Non-Retail Uses

The following North American Industry Classification System (NAICS) codes are included in the definition of "**retail**":

Code	***2002 NAICS Title***
44-45	**Retail Trade**
441	Motor Vehicle and Parts Dealers
442	Furniture and Home Furnishings Stores
443	Electronics and Appliance Stores
444	Building Material and Garden Equipment and Supplies Dealers
445	Food and Beverage Stores
446	Health and Personal Care Stores
447	Gasoline Stations
448	Clothing and Clothing Accessories Stores
451	Sporting Goods, Hobby, Book, and Music Stores
452	General Merchandise Stores
453	Miscellaneous Store Retailers
454	Nonstore Retailers
722	**Food Services and Drinking Places**
811	**Repair and Maintenance**
812	**Personal and Laundry Services**
	* Two-digit codes are *Sectors* ** Three-digit codes are *Sub-sectors*

The following NAICS codes are examples of uses that are **not considered retail in nature**, but that are frequently located in and around retail centers:

Code	***2002 NAICS Title***
42	Wholesale Trade
52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
561	Administrative and Support Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
721	Accommodation (including hotels)

League of Women Voters Lawrence-Douglas County
P.O. Box 1072 • Lawrence, Kansas 66044-1072

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City County Planning Office
Lawrence, Kansas

May 20, 2012

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Web sites
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www.lawrenceleague.com

STATE:
www.lwvk.org

NATIONAL:
www.lwv.org

Email:
league@sunflower.com

Mr. Richard Hird, Chairman
Members
Lawrence-Douglas County Metropolitan Planning Commission
City Hall
Lawrence, Kansas 66044

RE: Item No. 5: Comprehensive Plan Amendment to H2020 – Chp. 6 And Chp. 14; CC600
Item No. 6: Text Amendment to City Of Lawrence Development Code; Amending Various Sections to Add A CC600 District
Item No. 7: A & B1 To Cc600; 146 Acres; W 6th St & K-10

Dear Chairman Hird and Planning Commissioners:

We urge you to deny all of Items No. 5, 6, and 7.

We are asking this for the following reasons:

1. There are some serious procedural problems occurring here. First, the comprehensive plan (Item 5) needs to be officially amended and approved, not only by the Planning Commission but also by both the City and County Commissions. Only then should zoning text amendments be adopted that are dependent on the comprehensive plan, as is Item No. 6, the new CC600 District. Following the adoption and official incorporation of the new CC600 District into the City Code, only then should the process for a public hearing to amend the zoning district properly proceed (Item No. 7).

2. A major consideration that is driving all of these deliberations is whether the city should actually approve the location for and participate in building a recreational facility of the proposed intensity in the suggested location. *The issue is not whether the facility is needed or appropriate, but whether* ***that particular location for that facility is appropriate****.*

Furthermore, it would be surrounded by 100 or more acres of unplanned commercial land. If the proposed development were to occur in that location the traffic impact on 6th Street, and the potential effect of shifting the "center of activity" from the Downtown to that location, could have a very negative impact on the city as a whole.

3. Horizon 2020 should be followed, and the city should consider hiring a consultant to do an independent market analysis of the impact that this use in this location would have on the city as a whole, especially the Downtown. (Horizon 2020, Chapter 6, **policy 3.13**)

a. City staff analysis is not a proper substitution for an "independent market analysis. […performed by an] **independent consultant** chosen by the city..." The analysis **is supposed to be** unbiased and done by qualified professional consultants. The planning staff has seemingly justified the additional commercial land that would be added to the currently overstocked inventory of available commercial area and vacant buildings.

The thought seems to be, *don't worry, no one will use the land unless there is a demand (which admittedly doesn't exist).* **Wouldn't it be better to preserve the land for an employment-related and manufacturing use that the studies up to now have proposed for the area?**

4. We request that an independent traffic analysis also be undertaken:

a. The Staff Report (Item No. 5) states that "Commercial uses are generally viewed by the Development Code as equal to or lesser uses compared to industrial uses and so the project can feasibly be viewed as compatible with the comprehensive plan designation." The traffic impact analysis that the staff report mentioned indicating that industrial and commercial traffic impacts are interchangeable, or commercial uses are lesser in intensity than industrial uses, may have come from the Lesser Change Table. In this table the three categories of Residential, Commercial and Industrial cannot be compared with each other in intensity. Only within each category is this comparison intended. (**20-1301(k)**). Therefore, based on the source in the Staff Report, it is not a valid comparison to say that the traffic intensity of commercial land use and industrial land use are the same

b. According to a study that was made in 2006 by the consultants, TischlerBise, hired by the City for their study, "The Cost of Land Uses and Fiscal Impact Analysis," the uses of manufacturing and commercial retail are **quite different in their impact** on traffic intensity. The vehicle trip rates per 1000 square feet **are much higher with commercial land use than with industrial land use** (page 11, Figure 4, TischlerBise).

c. Consider that the Transportation Plan for that node, which was recently presented to you by the MPO (Lawrence-Douglas County Metropolitan Planning Organization), must be studied by them before any changes to it are considered. Also, all of the other considerations that need to be made regarding the improvements to that intersection, to 6th Street, and to Highway 40 extended, must take into consideration the increased traffic intensity that will occur with the change in use from manufacturing to recreation and commercial uses.

5. Once the CC600 District is actually incorporated into the zoning text (assuming that it is), it should have some method to actually control the maximum size and use of retail buildings. We suggest that any retail establishment that meets the requirement for a CC600 should also require a Special Use Permit or a Planned Development Overlay District.

Thank you for your patience in reading this material. We hope that you will carefully consider these points.

Sincerely yours,

Carrie Lindsey

Carrie Lindsey
President

Alan Black

Alan Black, Chairman
Land Use Committee

RONALD SCHNEIDER
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RONALD SCHNEIDER

OF COUNSEL:
CURTIS BARNHILL
MARGARET FARLEY

May 18, 2012

Richard Hird
Chairman of Lawrence-
Douglas County Metropolitan
Planning Commission
FAX: 832-3160

RE: CPA -4-2-12
TA -4-3-12
Z-4-5-12

Dear Mr. Rick:

I represent a number of landowners who live near or adjacent to the 146 acres associated with Z-4-5-12, change of zone request.

As you know, the City Commissioners recently voted to annex this property. During the annexation hearing, all City Commissioners expressed their intentions to devote extra-ordinary time and consideration to the zoning issues and contemplated land of the entire project and development due the importance and scope of this proposed project. The City Commissioners confirmed that this project requires time and thoughtful consideration. The Commission expressed its desire **NOT** to rush the zoning and land use components of this project.

It is my opinion that the proposed public hearing on this rezoning and related planning matters is premature. Public opinion will be greatly affected by the information and dialogue at the public forum in June scheduled by the City. The proposed rezoning, changes to the code, and revision to the Nodal Plan should be considered only after this forum and additional information and reliable plans are available to the public.

On behalf of my clients, I respectfully request that the Planning Commission continue the hearing on these matters to enable the City to provide answers to the many unanswered questions on this immense and important project. I am confident that this request is consistent with the consensus and statements made by the Mayor and other Commissioners at their hearing on May 21, 2012.

I await your response.

Sincerely,

Ronald Schneider

RS:cw
cc: Scott McCullough, VIA FAX
Mayor Robert Schumm, VIA FAX
City Commissioners, VIA FAX

May 20, 2012

Scott and Jodi Bouyack
887 N. 1663 Road
Lawrence, KS 66049

Lawrence City Hall
City Planning Office
Attn: Mary Miller
6 East Sixth Street
Lawrence, KS 66044

Ms. Miller,

As a resident and landowner in Northwood Estates with property bordering on the north end of the 146 acre tract of land that is being considered for CC600 zoning, I write today to make a few comments which I hope the Planning Commission will consider as it determines its recommendation on this issue during the May 21, 2012 meeting.

My wife and I purchased our home in early 2010. Prior to making a decision to purchase our home, I conducted a fair amount of research with regard to future development plans in the vicinity of Northwood Estates. Of particular interest to me was the future plans for the acreage now referred to as the Northwest Quadrant of the intersection of W. 6th Street/Highway 40 and Kansas Highway 10 (K-10). My research indicated to me that we should expect that at some point the Northwest Quadrant would become developed. Thus, it has always been my expectation that as much as we enjoy having vacant fields and cows behind us, that at some point that would become developed territory.

Although I could have no way of definitively knowing in 2010 what sort of development might be built behind our house, there were two expectations my research uncovered that I felt I could count on relative to any future development, and thus provided me the assurance I was looking for to proceed with the purchase of our home. The first expectation was that the City of Lawrence desired for the future development of the W. 6th Street/Highway 40 and K-10 intersection to become an attractive "gateway" entrance for the city. This expectation provided me the assurance that whatever development would eventually be built behind our house would be done so in an attractive, well-planned, well-maintained manner, and would most likely not include unattractive business uses that the city would not be proud to display at such a prominent gateway.

The second expectation my research uncovered that gave me comfort was the designation in the Nodal Plan of a green space buffer along the northern edge of the Northwest Quadrant to help preserve the Baldwin Creek drainage basin and to "act as a transitional buffer for the lower-density residential development and agricultural activities for unincorporated Douglas County adjacent to this corner."

As of today, I am reasonably confident that the first expectation above will be adhered to in this future development. It seems clear that the City Commissioners, City Staff, City Planners, and Developers all still strongly desire for the development on this Northwest Quadrant to maintain the attractive characteristics of a prominent city gateway as described in the Nodal Plan and other planning documents. Further to that point, I can envision that the proposed development of a regional recreation center on this property could result in a more desirable development than many alternatives. For example, the fact that the Planning Staff, in its recommendation to the Planning Commission, has restricted several uses from the proposed CC600 zone because such uses would not enhance the site as a regional recreation facility is a positive benefit for adjoining neighbors, as it helps to assure us that we will not have business such as big box retail, vehicle sales, mini-warehouses and several other uses that would be considered undesirable to the neighborhood.

However, at this point in the process, I am not certain that the second expectation, the green space buffer, will be adequately met. Although city officials have stated on several occasions that they recognize the need for such a buffer, and further recognize that the Nodal Plan calls for such a green space buffer, the specifics of such a buffer are lacking. To that point, the City has recently provided an initial rendering of the site plan for the recreation center, and the lack of any green space buffer is highly conspicuous by its absence. In fact, I cannot even consider such a rendering to be a viable first draft, as it does not include this very important component, and look forward to the City and Developers providing a true, viable first draft in the very near future.

Considering the above, I would like to make one simple request of the Planning Commission as it considers its recommendation relative to this zoning question. My request is that should the Planning Commission go forward in recommending this property in question be zoned to CC600, that it do so with the condition that a green space buffer, one which reflects the spirit of such an element as described in the Nodal Plan, be required to be part of the future development.

Once again, we appreciate the City's willingness to engage us in this process and listen to our concerns. I will be attending the meeting on May 21, and any such subsequent relevant meetings, and look forward to being a part of the process. If at any time you would like to talk to me directly, I can be reached via phone at (678) 778-0797 or email at scott.bouyack@gmail.com.

Sincerely,

Scott Bouyack

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MAY 21 2012

City County Planning Office
Lawrence, Kansas

May 21, 2012

City of Lawrence
Attn: Mary Miller - City Planning Office
6 East Sixth Street
Lawrence, KS 66044

Dear Ms. Miller:

As residents of the Estates of Northwood, we are writing to formally express our concerns regarding the proposed development of the land located at 6th street and E. 900 road.

Following the recent City Council meeting, we were provided a concept plan for the proposed development. This proposal raised significant red flags for residents of our neighborhood.

First, the concept plan does not honor the green space originally outlined in the nodal plan. Placing the recreation center, stadium and parking lots directly adjacent to our property provides no buffer between our backyards and the development. The resident of our neighborhood purchased land and built homes based on an understanding of green space outlined in the City's nodal plan.

Second, the concept plan does not appear to preserve the natural drainage system provided by the Baldwin Creek drainage basin. While the city may plan to remove this naturally occurring pathway, several of the properties on the south side of our neighborhood have this creek continuing through their property. This could result in significant drainage issues in the future. Additionally, other properties on the south side currently have flooding concerns during heavy rains and this development could further exacerbate this issue.

Third, the concept plan does not appear to have addressed the traffic issue through our neighborhood sufficiently. Requiring our neighbors to proceed through the new development to reach our homes is not a satisfactory solution. Given times of heavy activity in the area, this could place us in the middle of significant event traffic. As discussed at the meeting held at the Indoor Aquatic Center in April, we would prefer to have access to our neighborhood to the west of the development with proper signage to discourage non-residents from entering N. 1663 Road. This could be accomplished by alternating the dead end on N. 1663 from the west end to the east end.

Finally, without the proper market studies to understand the needs of the community, it is premature to determine the appropriate zoning for this area.

The City has a unique opportunity for this development. Unlike most instances, there is sufficient space to plan the site in a way that can truly accommodate the needs of the city and the surrounding community. We encourage you to take advantage of this opportunity to create a "gateway" for our city in a manner that is acceptable to all parties involved.

Thank you in advance for considering our concerns. We look forward to continued dialogue as the process progresses.

Sincerely,

Steven & Christy Kahle
875 N. 1663 Road

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MAY 21 2012

City County Planning Office
Lawrence, Kansas

Kenneth and Anna Oliver
873 N. 1663 RD
Lawrence, KS 66049

785-550-7746

May 21, 2012

Mary Miller
City/County Planner
Lawrence City Hall
6 East 6th St
Lawrence, KS 66049

Dear Ms. Miller,

Please include this letter regarding the rezoning of the NW corner of K-10/US-40 in the packet to be presented during your May 21 Planning Commission meeting. We will not be able to attend the meeting because of our work schedules, but would appreciate your taking our concerns into consideration.

We appreciate your notifying us of the completed staff report and at first blush, we are generally in agreement with the conditional zoning restrictions you are recommending. We also want to thank you for your time and effort in restricting uses that would not be complimentary to the proposed recreation center and that would be detrimental to our neighborhood.

We are however, frustrated that a new zone designation (CC600) is being proposed for the first time and recommended for this property with conditions, while the City does not know the size, scope and cost of their portion of the project and no sight plans have been submitted. There are many unanswered questions as to whether the rezoning and proposed development complies with the Nodal and Horizon 2020 plans. We received the staff report for the CC600 rezoning on Thursday the 17th, tried to research the hundreds of pages of reports and plans, formulate and draft comments to be delivered prior to 10:00am the following Monday morning. That's hardly enough time for the residents of our neighborhood to cipher through all the information and provide meaningful input, which is what the Mayor, City Commissioners, Planning Commission and City Manager have requested. We are not grasping for stalling tactics, as we firmly believe this project could be very good for the community. We are however very concerned that this project has not been given due diligence and many requirements for development are being overlooked. For example, considering the proposed uses, has the necessary traffic and marketing studies been completed, and has the Nodal and other planning documents been updated?

Along with our neighbors, we purchased our property and built our home after reviewing the Nodal Plan and learning the property in question was planned for low-density industrial/warehouse/office uses with a large green zone buffer between our homes and future development. After seeing examples around town of similar buildings, we found them acceptable, purchased our property and built our homes. Now the uses being proposed would have significantly more traffic, noise and light pollution. For this reason, as the project moves forward we are strongly encouraging the city to exceed the standards for mitigating the negative effects to surrounding neighborhoods per the following plan excerpt:

20-1101
PROTECTION STANDARDS FOR RESIDENTIAL DISTRICTS
(a) Design and Operational Compatibility Standards—Discretionary Approvals
As a condition of approval of any Special Use Permit, Map Amendment, site plan or other discretionary approval of any multi-Family use or nonresidential use located within 500 feet of any less intensive residential district, the City Commission, Planning Director, Planning Commission or other review body may impose conditions that exceed the minimum requirements of this Chapter and that, in the opinion of the review body, are necessary to reduce or minimize any potentially adverse impacts on residential property, including, but not necessarily limited to, the following:

(1) location on a site of activities that generate potential adverse impacts on adjacent uses, such as noises and glare;
(2) placement and buffering of trash receptacles;
(3) location of loading and delivery areas;
(4) lighting location, intensity, and hours of illumination;
(5) placement and illumination of outdoor vending machines, telephones, and similar outdoor services and activities;
(6) additional Landscaping and buffering;
(7) Height restrictions to preserve light and privacy and views of significant features as viewed from public property and rights-of-way;
(8) preservation of natural lighting and solar Access;
(9) ventilation and control of odors and fumes; and
(10) paving or other surface treatment for dust control.
(b) Height Limit on Projects Adjoining Certain Residential Zoning Districts
See Section 20-701(g) for Height limits in the PD district.

Consideration needs to be given to the neighbors for the significant negative effects of the rezoning and subsequent development in the form of a green space buffer, additional large caliper trees, directional and timed exterior lighting, and a large berm. An acceptable berm would be similar to the one immediately behind the Walmart on 6th Street. However, because of the direction and location of the proposed street into the recreation center, stadiums and the proximity to our homes, an even taller berm would be necessary.

There is a significant grade from our property line up to US-40. Because the proposed stadium would be situated on the hill, we think an in-ground stadium would be beneficial for several reasons. An in-ground stadium would reduce the height of the structure and make it more visually appealing. The noise and light pollution would be contained significantly and the dirt removed for the stadium could be used for a berm to further reduce those negative effects. It is also my understanding that track and field events need to be sheltered from excessive wind for the competitor's results to be recognized as records. An in-ground stadium would go a long way in making it an elite track and field venue.

Our other concerns have not changed since our last correspondence as we are anxious to maintain the dead end access to N.1663 RD. The concept plan that was recently released proposed a convoluted route to our neighborhood. We would rather have a dead end entrance on the west side of 1663 RD to US 40 in lieu of the entrance shown on the concept drawing. In addition, we are very concerned that the manipulation of the Baldwin Drainage basin would potentially flood our property during seasonal heavy rains.

Thank you again for taking our concerns into consideration. We know a lot of questions will come to light when sight plans are eventually submitted, and we are hopeful that this will be a great development for our community, but the City needs to take a step back and complete the processes that are in place to ensure all involved (The City, Taxpayers, Developers, and Neighbors) are on the same page and protected before moving forward. The public forum on June 6th is a great start, and we are hopeful that more information will flow between the city and the public at that time.

Sincerely,

Kenneth and Anna Oliver

PLANNING COMMISSION REPORT
Regular Agenda – Public Hearing Item

ITEM NO. 7: A & B1 TO CC600; 146 ACRES; W 6TH ST & K-10 (MKM)

Z-4-5-12: Consider a request to rezone approximately 146 acres located in the NW quadrant of the intersection of West 6th Street/Hwy 40 and Kansas Hwy 10 (K-10) from County A (Agriculture) District and County B1 (Neighborhood Business) District to the pending City of Lawrence District CC600 (Community Commercial) District to accommodate a regional recreation facility. *Initiated by City Commission on 4/10/12 with property owner's consent.*

STAFF RECOMMENDATION: Staff recommends approval of the rezoning request for approximately 146 acres from A (County-Agriculture) District and B-1 (County-Neighborhood Business) District to CC600 (Community Commercial) District and forwarding it to the City Commission with a recommendation for approval based on the findings of fact found in the body of the staff report and subject to the following condition:

The permitted uses in this District shall be limited to those listed in Table 1 of this staff report.

ATTACHMENTS
- **A:** Comparison table of uses permitted in the CC District and those recommended for this district through conditional zoning.
- **B:** Statement from City regarding the recreation center/wellness center.
- **C:** Communications regarding the development proposal which were submitted by neighboring property owners with the annexation request.
- **D:** Preliminary concept plan – the property owner submitted a concept plan on May 15th to aid in reflecting and discussing the possibilities for the recreation center site. This concept plan serves for illustrative purposes only and is a starting point for discussing the potential development of the site as a regional recreation center with surrounding neighbors and stakeholders of the recreation facility.

PROPERTY OWNER'S REASON FOR REQUEST
"To permit the strategic alliance of private and public entities who wish to join for the purpose of developing a first class regional recreation center for multiple sports and activities, a health and wellness center, fitness facilities, amenities including concessions, lodgings, trails, and parking."

KEY POINTS
- The subject property complies with locational criteria for the CC600 District included in a Comprehensive Plan Amendment which is scheduled for consideration at the May Planning Commission.
- The property is currently located outside the city limits. An annexation request for the subject property was initiated by the City Commission on March 27, 2012 and recommended for approval by the Planning Commission at their April 23, 2012 meeting. The annexation request and ordinance was approved by City Commission on May 15, 2012.

GOLDEN FACTORS TO CONSIDER

CHARACTER OF THE AREA

- This is currently a rural area in the City of Lawrence Urban Growth Area with predominately agricultural and rural residential uses. A church with an accessory day care center is located to the south across Highway 40. The area has good access to the transportation network, with the intersection of KS Hwy 10 Bypass and US Hwy 40 located at the east of the area and Hwy 40 travelling through the area from east to west.

CONFORMANCE WITH *HORIZON 2020*

- The proposed rezoning request from A (Agriculture) District and B-1 (Neighborhood Business) District to CC600 (Community Commercial) District is consistent with land use recommendations found in *Horizon 2020*, with revisions being proposed.

ASSOCIATED CASES/OTHER ACTION REQUIRED

Associated items being considered at the May Planning Commission meeting:

- CPA-4-2-12: Amendment to Chapter 6 of Horizon 2020 to create CC600 District policies and to Chapter 14 Specific Plans, to revise the West of K-10 Plan and A Nodal Plan for the Intersection of West 6th Street & Kansas Highway 10 (K-10) designating the node of 6th Street and K-10 as a CC600. *Initiated by City Commission on 4/10/12.*
- TA-4-3-12: Text Amendment to the City of Lawrence Land Development Code to create a CC600 Zoning District. *Initiated by 4/10/12.*

Other action required:

- Publication of annexation ordinance.
- City Commission approval of rezoning and adoption of ordinance.
- Publication of rezoning ordinance.

OTHER ACTIONS REQUIRED PRIOR TO DEVELOPMENT

- Platting of the property through the Major Subdivision process.
- Site plan approved prior to release of building permits.

PUBLIC COMMENT

- No public comments were received prior to the printing of this staff report; however, several public communications were received in regards to this development with the annexation request. These public communications were provided with the annexation request, but will also be included as communications in Attachment C since they speak to the rezoning of the property as well as the annexation.

GENERAL INFORMATION

Current Zoning and Land Use:	A (County-Agriculture) and B-1 (County-Neighborhood Business) District; undeveloped land with a communications tower.
Surrounding Zoning and Land Use:	To the north: A-1 (County-Suburban Home); 13-lot platted rural subdivision partially developed with detached homes.
	To the west:

A (County-Agriculture) District; rural residences.

To the east:

CC 400 (Community Commercial) District and UR (Urban Reserve) District with rezonings to the RS7, RM12D, RM24, RMO, and PCD-Mercato pending publication of ordinances; undeveloped property in the process of being platted. Preliminary Development Plan approved for the PCD-Mercato property.

To the south:

A (County-Agriculture); Hwy 40 and a church with accessory day care center.

Project Summary

The subject property is owned by Tanglewood LC and Hanover Place LC. The project will be a public /private partnership including the donation of 50 acres to the city to construct a regional recreational center. While many details need to be finalized, the recreation center project may include basketball courts, indoor recreation track, cardio facilities, recreation areas, an arena capable of holding sporting or entertainment events, potential uses for the University of Kansas, and other ancillary uses typical of such a facility – retail merchandise, food/drink, etc.

In addition to the 50-acre recreation facility, the remaining acreage is planned to support the facility with expansion opportunities, additional recreation uses, and commercial uses – restaurant, retail, hotel, office etc.

The property owner had originally requested rezoning to the IL, IG, and CN2 District; however, not all the uses being proposed with this project are permitted within these districts; therefore, commercial zoning was necessary to accommodate this project. The City initiated a rezoning to the CC600 District at their April 10, 2012 meeting with the property owner's consent.

With the uses being proposed for the regional recreational center, the use would fit the definition of *Active Recreation, Participant Sports and Recreation,* and *Entertainment and Spectator Sports.* These uses are permitted in the CC (Community Commercial Center), the CR (Regional Commercial) and the CS (Commercial Strip) Districts. The other complementary/associated uses being suggested would also be permitted within these Commercial Districts.

The Development Code prohibits the zoning of any new undeveloped parcel to the CS District except in the case where an undeveloped parcel is adjacent to an existing CS District to allow the expansion of an existing use. The CR District is intended to accommodate up to 1.5 million gross square feet of commercial space. The scale and intensity of the development associated with a Regional Commercial Center may not be appropriate for this location. An amendment to the Comprehensive Plan to create the CC600 Zoning District was initiated by the City Commission and will be considered by the Planning Commission at their May 2012 meeting.

While the property may be appropriate for the CC600 District based on its proximity to the intersection of a State and Federal Highway, not all uses permitted in the CC600 District may be appropriate and complementary to the project being proposed. In order to insure the development of a regional recreational facility with complementary or associated uses, staff recommends that the CC600 Zoning be conditioned to prohibit uses which may not be compatible with the project. The list of permitted uses being recommended for this District is included in Table 1.

REVIEW & DECISION-MAKING CRITERIA

CONFORMANCE WITH THE COMPREHENSIVE PLAN

Property Owner's Response:

"A. The announced opportunity to create a first class regional recreation center with the support of private and public entities meets the Horizon 2020 General Goal, "to provide within the range of democratic and constitutional processes, for the optimum in public health, safety, convenience, general social and physical environment and individual opportunities for all the residents of the community, regardless of racial, ethnic, social or economic origin." Horizon 2020, p 1-3

B. The regional recreation center and its amenities will epitomize the goal of "Pursuit of Quality…with and emphasis on increased efficiency, improved service and stronger interrelationships among public and private organizations." Horizon 2020, p 1-3

C. It is consistent with the visionary goals of the Parks and Recreation chapter of Horizon 2020, which emphasizes the need for coordinated and cooperative planning and development (Goal 1, p. 9-11); the need to expand the existing park and recreation opportunities to stay ahead of growth and meet anticipated community demand (Goad 3, p. 9-16) and the area is identified as a future park and recreation area (Map 9-1).

The Lawrence Future Land Use Map in *Horizon 2020* (page 3-4) shows this property in the Urban Growth Area. This area is included in both the Nodal Plan for the Intersection of West 6th Street and Kansas Highway 10 (K-10) adopted 2003, and the West of K-10 Plan Area Plan, adopted 2009.

Specific recommendations regarding land uses in this area are contained within these nodal and area plans found in Chapter 14, *Horizon 2020*.

Nodal Plan for Intersection of W 6th Street and Kansas Highway 10 (K-10)

This nodal plan looked at properties surrounding the intersection of W 6th Street and K-10 Highway and recommended specific land uses and policies for the development of the node. This plan recommended that 95% of the commercial rezoning be provided on the eastern corners of the intersection due to the following: *"As part of the recommendations in this plan, it should be noted that the eastern half of the nodal study area is currently within the city limits of Lawrence. Both the northeast and southeast corners of the West 6th Street/k-10 intersection area are under pressure to develop. The majority of commercial uses have been allocated on the eastern edges of the nodal study area in recognition of this development pressure. Also, as indicated in the inventory and analysis portion of this plan, city services, including substantial infrastructure improvements, are more readily available to serve the*

eastern portion of the nodal study area in the immediate future compared to the western portion." (Page 23)

As city services are now available, or can be made available, to serve the property west of the K-10 Highway development to the west of K-10 is appropriate. A Comprehensive Plan Amendment to revise the long-range plans in Chapter 14 to accurately reflect the status of the western corners of this intersection and to deal with the increasing development pressures at this area was initiated and is part of the Comprehensive Plan Amendment being considered at the May Planning Commission meeting.

Chapter 6 of *Horizon 2020* is being revised to include recommendations for the CC600 District. The following is a review of the proposed rezoning with the recommendations for the CC600 District:

1. The purpose of the CC600 Center is listed as "*to provide opportunities for development of new Community Commercial Centers for fringe areas as neighborhoods grow and develop."*
2. The center is limited to no more than 600,000 sq ft of commercial retail space.
3. The center shall be located at the intersection of 2 state or federally designated highways.
4. Chapter 6 specifically recommends the intersection of K-10 and W 6th Street (Highway 40) as a location for a CC600 District.

The rezoning request is in conformance with these recommendations in the comprehensive plan.

Staff Finding – The proposed rezoning request conforms with *Horizon 2020* policies in the West of K-10 Plan and in Chapter 6, as amended. The area has been planned for urbanization and city sewer and water are available to be extended to serve the property.

ZONING AND LAND USES OF NEARBY PROPERTY, INCLUDING OVERLAY ZONING

The predominate use of nearby property is agriculture and rural residential, a platted rural residential subdivision in the A-1 (County-Suburban Home) Zoning District to the north which is developed with residences and rural residences to the west of the subject property in the A (Agricultural) Zoning District. A church and accessory day care center are south of Hwy 40 in the A District. The land to the east of the K-10 is within the city limits of Lawrence and has commercial zoning (CC400 published, and

Figure 2. Land use of nearby properties. Subject property is outlined.

PCD pending adoption of ordinance), multi- and single-dwelling residential zoning and multi-dwelling residential-office zoning approved pending adoption of ordinance.

Staff Finding – Zoning in the area consists of A (County Agriculture), A-1 (County Suburban Home) and B-1 (County-Neighborhood Business) Districts and CC400 (Community Commercial Center) District. Zonings to the RM24, RS7, RM12D, PCD-Mercato, and RMO Districts have been approved for property east of the K-10 and are pending adoption and publication of ordinances. Land uses in the area consist primarily of rural residences, agriculture, and a church. With appropriate site design, the proposed use would be compatible with the surrounding land uses.

CHARACTER OF THE AREA

Property Owner's Response:

"It is predominately rural that is urbanizing. There is one residence to the west, a few to the north, a church to the south, and the rest is vacant agricultural land with broadcast tower. The subject property is at the intersection K-10 and US 40."

The subject property abuts the Lawrence city limits on the east and is being annexed into the City. The area consists of agricultural land with rural residences with a church to the south of Highway 40. The area has good access to the transportation network with the K-10 and Highway 40 intersection. The character will change as urbanization occurs. Beyond the commercial note, office and multi-dwelling uses are planned. Hwy 40 will be improved and city sewer and water will be extended.

Staff Finding – The area contains a mix of agriculture and rural residences as well as a major transportation network in the form of the intersection of K-10 and US Hwy 40. The character of the area will change with more urbanized development over time given its location in the UGA.

PLANS FOR THE AREA OR NEIGHBORHOOD, AS REFLECTED IN ADOPTED AREA AND/OR SECTOR PLANS INCLUDING THE PROPERTY OR ADJOINING PROPERTY

The subject property is included in the West of K-10 Plan. An amendment to the West of K-10 Plan is before the Planning Commission at their May 2012 meeting. The plan, as amended, recommends a mix of retail, office and recreation center uses, with up to 600,000 sq ft of retail space to be located at this intersection. The intensity of these uses is anticipated to be 'medium'. The total allocated retail space for the northwest corner of the intersection is approximately 180,000 sq ft; though other non-retail commercial, office, and recreation uses can be developed without this area restriction.

Staff Finding – The proposed rezoning is in conformance with plans for the area as reflected in the revised West of K-10 Plan.

SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED UNDER THE EXISTING ZONING REGULATIONS

Property Owner's Response:

> *"The property has been suitable for its current restrictions, but it is the only large size tract on the edge of or within Lawrence that is suitable for a major regional recreation center for multiple sports and activities and other amenities that can also provide for expansion and support of those activities to create a regional destination as well as a community recreation facility."*

The property is currently zoned A (Agricultural). The Agricultural District is intended to provide for a full range of agricultural activities. Uses permitted within the A District include agricultural uses, animal hospitals, commercial dog kennels, commercial riding stables, detached dwellings, schools, and churches. The property is suited for uses permitted within the A District; but is also suited for more urban uses given the proximity to the transportation network, the pending annexation into the City, and the availability of City services.

Staff reviewed the uses which are permitted in the CC600 District based on the following criteria:

- uses which could complement or enhance a regional recreation center
- uses which would have intensity of activity which would be compatible with the surrounding area.

Given the type of development that is being proposed and the development that currently exists in the area, staff recommends restricting the uses permitted in the CC600 District for this property as noted in the table below.

Several uses may not meet the criteria noted above, in staff's opinion. For example, Large Retail Establishments ("big box"), certain Vehicle Sales and Services uses, Animal Services uses, and the Mini-warehouse use, to name just a few, would not enhance the site as a regional recreation facility. The property owner is in agreement with this list of uses. A comparison of the uses permitted in the CC600 District and the recommended uses is provided in Attachment A.

TABLE 1. Recommended Uses

Residential	**Offices**
Multi-Dwelling Structure (mixed use, 50% non-residential)	Administrative and Professional
Non-Ground Floor Structure (mixed use, 50% non-residential)	Financial, Insurance and Real Estate
Work-Live Unit (mixed use, 50% non-residential)	Other
Community Facilities	**Parking**
College/University	Accessory
Cultural Center/Library	**Retail Sales and Services**
Day Care Center	Business Support
Lodge, Fraternal and Civic Assembly	Food and Beverage
Postal and Parcel Service	Personal Convenience
Public Safety	Personal Improvement
Social Service Agency	Retail Sales, General (65,000 sq ft limit)
Utility Minor (P or SUP)	**Transient Accommodations**
Utility Major (SUP)	Hotel Motel, Extended Stay
Medical Facilities	**Vehicle Sales & Service**
Health Care Office/Clinic	Cleaning (car wash)
Outpatient Care Facility	Gas and Fuel Sales
Recreational Facilities	**Industrial Facilities**
Active Recreation	Manufacturing and Production Ltd (SUP)

Entertainment and Spectator Sports (General and Limited)	Manufacturing and Production Tech
Participant Sports and Recreation (Indoor and Outdoor)	Research Service
Passive Recreation	Wholesale Storage and Distribution
Nature Preserve / Undeveloped	Light
Private Recreation	Agriculture
Religious Assembly	Crop Agriculture
Religious Institution (Community or Neighborhood)	Communications Facilities
Eating and Drinking Establishments	Amateur and Receive Only (accessory)
Accessory Bar	Communications Service Establishment
Bar or Lounge	Telecommunication Antennae (accessory)
Brewpub	Telecommunication Tower (SUP)
Fast Order Food	Satellite Dish (accessory)
Fast Order Food with Drive-In	Recycling
Private Dining Establishments	Large Collection
Quality Restaurant	Small Collection

Staff Finding – The property is suitable for the uses to which it is restricted with the current A Zoning. However, given the proximity of 2 major highways, the pending annexation of the property into the City of Lawrence, the adopted plans for urbanizing this area, and the availability of City utilities to serve this property, the property is also suited to the uses permitted within the CC600 District. The permitted uses are recommended to be restricted as shown in Table 1, to maintain the character of the project as proposed as a Regional Recreational Facility with associated or complementary uses.

LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED

Property Owner's Response:

"It has been farmed and been the site of a rural residence since it was zoned."

Staff Finding – The subject property is undeveloped with the exception of a communications tower and a storage building.

EXTENT TO WHICH REMOVAL OF RESTRICTIONS WILL DETRIMENTALLY AFFECT NEARBY PROPERTIES

Property Owner's response:

"There may be some activity that could affect the rural residences that are north and west of the subject area."

The property, as currently zoned, would permit uses that are allowed in the Agricultural District. The commercial uses being recommended are those which are considered to be associated with or complementary to a regional recreational facility. Outdoor activity, lighting, and parking could have impacts on nearby properties. These impacts should be addressed during the site planning stage with sensitive site design and appropriate screening and buffering from adjacent residential properties.

Staff Finding –Impacts to nearby properties may be possible from the proposed commercial and recreational development. These should be addressed through appropriate site design and layout, buffering, and screening.

THE GAIN, IF ANY, TO THE PUBLIC HEALTH, SAFETY AND WELFARE DUE TO THE DENIAL OF THE APPLICATION, AS COMPARED TO THE HARDSHIP IMPOSED UPON THE LANDOWNER, IF ANY, AS A RESULT OF DENIAL OF THE APPLICATION

Property Owner's Response:

*"See statement from City of Lawrence on March 8, 2012." (*Attachment B)

Evaluation of these criteria includes weighing the benefits to the public versus the benefits of the owner of the subject property. Benefits are measured based on the anticipated impacts of the rezoning request on the public health, safety and welfare.

If the rezoning request were denied, the property could remain in agricultural uses or other uses which are permitted in the A District. This may help alleviate the negative impacts which could occur from urbanization of the area; however, the list of permitted uses were restricted to permit only uses which would enhance the recreational facility and would be of an intensity that would be compatible with the area. It the rezoning were approved, the limited uses would serve to create a more compatible development. Communities are striving to provide more opportunities for their citizens to exercise and participate in recreation. These activities provide health benefits which would benefit the community as a whole.

Staff Finding – Uses which are considered incompatible, or may be of too great an intensity for the area are restricted with the conditional zoning. The denial of the rezoning request, as conditioned, would have no beneficial impact for the public. Approval of the rezoning request could result in a high-quality, recreational/wellness center that could be a major amenity to the community and will make health benefits available to the community.

PROFESSIONAL STAFF RECOMMENDATION

Staff recommends the approval of the rezoning request from A and B-1 to the CC600 District based on the recommendations in Chapter 6 and 14 of *Horizon 2020* and the findings of fact listed in this staff report subject to the condition that the uses be restricted to those included in Table 1 of this report.

USE COMPARISON CHART	
Permitted Uses-- CC District	Uses Recommended For this District
Residential	Residential
Multi-Dwelling Structure (mixed use,50% non-residential)	Multi-Dwelling Structure (mixed use,50% non-residential)
Non-Ground Floor Structure(mixed use,50% non-residential)	Non-Ground Floor Structure (mixed use,50% non-residential)
Work-Live Unit (mixed use,50% non-residential)	Work-Live Unit (mixed use,50% non-residential)
~~Group Home (SUP)~~	
Community Facilities	Community Facilities
~~Cemetery~~	
College/University	College/University
Cultural Center/Library	Cultural Center/Library
Day Care Center	Day Care Center
~~Day Care Home~~	
Lodge, Fraternal and Civic Assembly	Lodge, Fraternal and Civic Assembly
Postal and Parcel Service	Postal and Parcel Service
Public Safety	Public Safety
~~Funeral and Internment~~	
~~Temporary Shelter (accessory or SUP)~~	
Social Service Agency	Social Service Agency
~~Community Meal Program (accessory or SUP)~~	
Utility Minor	Utility Minor
Utility Major	Utility Major
Medical Facilities	Medical Facilities
Health Care Office/Clinic	Health Care Office/Clinic
Outpatient Care Facility	Outpatient Care Facility
Recreational Facilities	Recreational Facilities
Active Recreation	Active Recreation
Entertainment and Spectator Sports (General and Limited)	Entertainment and Spectator Sports (General and Limited)
Participant Sports and Recreation (Indoor and Outdoor)	Participant Sports and Recreation (Indoor and Outdoor)
Passive Recreation	Passive Recreation
Nature Preserve / Undeveloped	Nature Preserve / Undeveloped
Private Recreation	Private Recreation
Religious Assembly	Religious Assembly
Religious Institution (Community or Neighborhood)	Religious Institution (Community or Neighborhood)
Animal Services	
~~Kennel~~	
~~Livestock Sales~~	
~~Animal Sales and Grooming~~	
~~Veterinary~~	
Eating and Drinking Establishments	Eating and Drinking Establishments
Accessory Bar	Accessory Bar

Bar or Lounge	Bar or Lounge
Brewpub	Brewpub
Fast Order Food	Fast Order Food
Fast Order Food with Drive-In	Fast Order Food with Drive-In
Private Dining Establishments	Private Dining Establishments
Quality Restaurant	Quality Restaurant
Offices	Offices
Administrative and Professional	Administrative and Professional
Financial, Insurance and Real Estate	Financial, Insurance and Real Estate
Other	Other
Parking	Parking
Accessory	Accessory
~~Commercial Parking Facilities~~	
Retail Sales and Services	Retail Sales and Services
~~Building Maintenance~~	
~~Business Equipment~~	
Business Support	Business Support
~~Construction Sales and Service~~	
Food and Beverage	Food and Beverage
~~Mixed Media Store~~	
Personal Convenience	Personal Convenience
Personal Improvement	Personal Improvement
~~Repair Service, Consumer~~	
Retail Sales, General (65,000 sq ft limit)	Retail Sales, General (65,000 sq ft limit)
~~Retail Establishment , Large (100,000 sq ft or more)~~	
~~Retail Establishment, Medium (less than 100,000 sq ft)~~	
~~Retail Establishment, Specialty~~	
~~Sex Shop~~	
~~Sexually Oriented Theater~~	
Transient Accommodations	Transient Accommodations
~~Campground~~	
Hotel Motel, Extended Stay	Hotel Motel, Extended Stay
Vehicle Sales & Service	Vehicle Sales & Service
Cleaning (car wash)	Cleaning (car wash)
~~Fleet Storage~~	
Gas and Fuel Sales	Gas and Fuel Sales
~~Heavy Equipment Repair~~	
~~Heavy Equipment Sales/ Rental~~	
~~Inoperable Vehicles Storage~~	

~~Light Equipment Repair~~	
~~Light Equipment Sales/Rental~~	
~~RV and Boats Storage~~	
Industrial Facilities	Industrial Facilities
~~Laundry Service~~	
Manufacturing and Production Ltd (SUP)	Manufacturing and Production Ltd (SUP)
Manufacturing and Production Tech	Manufacturing and Production Tech
Research Service	Research Service
Wholesale Storage and Distribution	Wholesale Storage and Distribution
~~Exterior Storage (when accessory)~~	
~~Heavy (SUP)~~	
Light	Light
~~Mini-warehouse~~	
Adaptive Reuse	
~~Designated Historic Property~~	
Agriculture	Agriculture
~~Agricultural Sales~~	
Crop Agriculture	Crop Agriculture
Communications Facilities	Communications Facilities
Amateur and Receive Only (accessory)	Amateur and Receive Only (accessory)
Communications Service Establishment	Communications Service Establishment
Telecommunication Antennae (accessory)	Telecommunication Antennae (accessory)
Telecommunication Tower (SUP)	Telecommunication Tower (SUP)
Satellite Dish (accessory)	Satellite Dish (accessory)
Recycling	Recycling
Large Collection	Large Collection
Small Collection	Small Collection

EXHIBIT D

-----Original Message-----
From: City of Lawrence KS [mailto:mailinglist@ci.lawrence.ks.us]
Sent: Thursday, March 08, 2012 1:29 PM
To: Jane M. Eldredge
Subject: A statement from the City of Lawrence concerning recreation center discussions

NEWS RELEASE

FOR IMMEDIATE RELEASE

Thursday, March 8, 2012

Contact: David L. Corliss, city manager, (785) 832-3400 OR Erin Zimney, Assists Foundation, (785) 218-2310

/The following is a statement from the City of Lawrence concerning recreation center discussions:/

The Lawrence City Commission has recently been presented with a wonderful opportunity to significantly advance our community, particularly in the area of recreation facilities for our citizens, sports event hosting, and economic development. This proposal envisions a public-private partnership that, if approved, would create facilities far beyond the city's ability by itself.

The public-private partnership would involve the possible donation of real estate at the northwest corner of West 6th Street (Highway 40) and K-10 Highway. The proposal would make the site a regional recreation center - established through a public-private partnership - providing opportunities for multiple sports and activities. The public-private partnership includes Bill and Cindy Self's Assists Foundation. The Assists Foundation provided the following quote from Bill Self:

"Cindy and I founded Assists out of the desire to help our community meet a need for recreational and wellness space. It has been our goal to be a part of a project that benefits our community and that is accessible and beneficial to everybody, especially our youth.
This particular project has the potential to be even more impactful than anything we've been working towards to date.

Through the generosity of partners, we believe we've been given an avenue to help make Lawrence not only a great place to live for our citizens but also a destination. In terms of recreational space, public accessibility and economic impact for our community, this project is very, very exciting and far exceeds our original goals."

As proposed, the facility would include multiple basketball courts which could be converted into half courts or used for volleyball providing the opportunity to host large tournaments and allow open-play for community members, a large arena, indoor elevated track, indoor turf area, health and wellness center, fitness facility and amenities including concessions, trails and walking areas, and parking.

The University of Kansas and Kansas Athletics are currently exploring the opportunity to also locate certain KU facilities at this site as well. The city views the possible location of KU facilities and events at this location as an exciting opportunity and greatly welcomes their participation.

This is a truly exciting opportunity for the Lawrence community. If the proposed facility proceeds, Lawrence could be the host of national and regional sports tournaments and events for all ages and abilities.
Such events would provide outstanding economic benefits to Lawrence.
We would have a first-class recreation and event facility providing substantially more opportunities than our current facilities allow.

In the coming weeks and months, the city will consider several matters related to the proposed project, including agreements governing the design and city financial participation in the facility, management of the facility, donation of the property, city infrastructure installation and receiving necessary land use approvals for the project.

RECEIVED
APR 18 2012
City County Planning Office
Lawrence, Kansas

April 16, 2012

Scott and Jodi Bouyack
887 N. 1663 Road
Lawrence, KS 66049

Lawrence City Hall
City Planning Office
Attn: Mary Miller
6 East Sixth Street
Lawrence, KS 66044

Ms. Miller,

As our address above would indicate, my wife and I are residents of Northwood Estates, the development just north of the land where the proposed recreation center and ancillary developments are being discussed. I am writing you today to express some areas of concern that we have, as directly adjacent residents, with this proposed annexation, rezoning, and development.

Prior to purchasing our home in Northwood Estates in 2010 I researched future development plans, and the Nodal Plan, closely. The following excerpt from the Nodal Plan resonated very strongly with me, as it spoke most directly to address potential impact of development on my property:

> "Such uses are encouraged at the gateways to the City and it's anticipated the West 6th Street/K-10 intersection will evolve into one of the community's most prominent and attractive entryways. This nodal plan also designates a green space buffer along the northern edge of the corner to help preserve the southwestern portion of the Baldwin Creek drainage basin and will likely function in a stormwater management capacity. The green space also acts as a transitional buffer for the lower-density residential development and agricultural activities for unincorporated Douglas County adjacent to this corner.

Specifically, as our southern property line is a direct border the land that is proposed to be annexed and developed, we are expecting that the city will adhere to its own recommendations of a "green zone" or "buffer" to provide a natural transition. The drainage basin that runs through the land is not only directly behind my lot, but also cuts through the southeast corner of my lot, thus future plans for the drainage basin could have very direct impact on my lot.

We have some concerns about the recreation center itself. As this is being described as a fairly large building, designed to attract significant crowds, I would like to express our expectation that the city will be addressing such concerns as security, pollution, and traffic control for the adjacent neighborhood, all of which can become problems when frequent crowds are involved. Additionally, as the recreation center project, as has been described, will include some outdoor elements, we have concerns over what sort of lighting may be used, the positioning of the lighting, and the amount of time the lighting might be used in the nighttime hours.

Another considerable area of concern for us is the street plan. As you know, E. 900 Road is currently the only access to our neighborhood, and because N. 1663 Road is a dead end, we have very little traffic other than resident traffic. It would certainly be our hope to maintain that as much as possible, but do have concerns that if we share a road or access point with the recreation center and ancillary developments, it could result in significantly increased traffic on our street, as well as upon entering or exiting our development.

We appreciate the City's willingness to engage us in this process and listen to our concerns. My wife and I will be attending the meeting on April 19, and any such subsequent relevant meetings, and look forward to being a part of the process. If at any time you would like to talk to me directly, I can be reached via phone at (678) 778-0797 or email at scott.bouyack@gmail.com.

We look forward to being a cooperative part of this process, as long as the city returns the favor.

Sincerely,

Scott Bouyack

RECEIVED
APR 20 2012
City County Planning Office
Lawrence, Kansas

Kenneth and Anna Oliver
873 N. 1663 RD
Lawrence, KS 66049

785-550-7746

April 18, 2012

Mary Miller
City/County Planner
Lawrence City Hall
6 East 6th St
Lawrence, KS 66049

Dear Ms. Miller,

I recently visited with you twice over the phone regarding the proposed annexation, rezoning and development of the parcel of land on the NW corner of the intersection of HWY 40 and K-10. As I mentioned during our conversations, as adjacent property owners, our family is very concerned about the development and its effect on our quality of life and the value to our property. Our hope is that the planning commission and developers actively engage with the residents in our neighborhood, exchange ideas, and address our concerns. We agree that this intersection could potentially be a wonderful gateway to our city, and being long time Lawrence residents, we fully understand the need for thoughtful and meaningful development. We are writing this letter to formally express some of our concerns.

When we purchased our lot, we reviewed the Lawrence City Commission approved Nodal Plan. It recommended an office and research park facility, and the plan designated a green space buffer between our property and any development to preserve storm water drainage and provide a transitional buffer from the commercial/industrial/public use areas and our neighborhood. The necessity for the green space is no different today than it was a few years ago and we trust that you will maintain the green space for these reasons.

The 'Horizon 2020' plan included a goal of: "Neighborhood Conservation. The character and appearance of existing low-density residential neighborhoods should be protected and improvements made where necessary to maintain the values of properties and enhance the quality of life." As you know, the entire north side of the land being considered for annexation would fall under this stated goal. We hope the City Commission, planners and developers hold to their stated goals and the intent of 'Horizon 2020' and the approved Nodal Plans that were in effect when we purchased our property.

We are concerned about the Baldwin Creek drainage basin which is located immediately behind our property. Although we have yet to have serious water drainage issues, the pond and culvert on our property overflow several times a year, usually after seasonal storms pass through the area. With the significant development of the acreage behind us, it's an obvious concern that the runoff is not impeded and can freely flow downstream. Although our neighborhood is not located in a FEMA designated floodplain, there is a floodplain only 1/8 of a mile downstream from our subdivision, therefore, water drainage must be addressed in the zoning, planning and development.

Another concern is access to our property. The current access to our neighborhood is only from E. 900 RD. The KDOT long range plan calls for the improvement of E. 900 RD and for adding another road on the west side of our neighborhood to join 1663 RD with HWY 40. We are very concerned about the increased traffic and safety issues with the added thru traffic caused by two entrances to our subdivision. We would very much like to maintain a single entrance into our subdivision to lessen traffic and noise and to keep the country feel of the property we purchased. I would imagine this would also save the city a considerable sum of money in not having to build additional access roads and associated infrastructure.

It is my understanding that the planning commission is considering conditional zoning for the property. We would like to be involved in this process to limit the future commercial use and make it more compatible with our existing residential neighborhood. The proposed CC600 zone is already a significant increase in the scope and size of the proposed commercial use for this area. Our hope is that responsible conditional zoning would make that significant increase adequate for commercial use while mitigating the negative effects of noise and traffic on the surrounding property owners.

We purchased our property and built our home here because of the quiet, country feel and proximity to the city's amenities. We were aware the property under your consideration was going to eventually be developed, but on a smaller scale than what is currently being proposed. We ask that through this process the planning commission act on our requests and lessen the negative impacts of the rezoning and subsequent development by:

1. Insuring adequate flow of storm water run off through the Baldwin drainage basin.

2. Insuring the mitigation of light and noise pollution that would negatively effect our quality of life and property value through the thoughtful placement of buildings and berms, landscaping, etc. Although we have some trees on the back of our property, from September to April, there are no leaves on the trees and we have a very clear view of the sloped property all the way up to and including US 40.

3. Reclaiming the green zone that was initially addressed in the Lawrence City Commission approved Nodal plan in 2003.

4. Easing the negative view of large buildings and structures with landscaping, berms and building placement to maintain the country feel. This 'country feel' is why we built our homes here.

5. Maintaining the one way street access to our neighborhood to minimize traffic.

6. Being partners with area residents to create meaningful conditional zoning to limit the commercial uses of the property being developed, therefore maintaining our property values and quality of life.

Thank you in advance for addressing our concerns and we look forward to being a partner in making this development a true asset to or city.

Sincerely,

Kenneth and Anna Oliver

Scott and Sharolyn Robinson

850 N 1663 Road, Lawrence, KS 6649

RECEIVED
APR 19 2012
City County Planning Office
Lawrence, Kansas

April 16, 2012

Lawrence City Hall
City Planning Office
Attn: Mary Miller
6 East Sixth Street
Lawrence, KS 66044

R.E.: Land use proceedings for the northwest corner of Hwy 40 and K-10

Mary Miller,

We are in receipt of your letters regarding the land use proceedings. As residents of Northwood Estates directly north of that land, we have some major concerns about how that it might be utilized, accessed, and developed.

When making a decision to build in this area we were provided a nodal plan for the area and from what we have been able to gather at this point, it seems that the current discussions for development are a long stretch from that plan.

We have major concerns that would affect our current lifestyle here in Northwood Estates that could have a significant negative impact on our property values.

We are particularly concerned about plans for ingress and egress into our subdivision so as to keep it as private as it is today, lighting issues for the commercial activity as well as the proposed outdoor track, visual "pollution" that would destroy our current views, drainage issues, and privacy with the extra potential traffic just to mention a few.

Our point is that we were here FIRST - Douglas County approved this sub-division to create the environment that we currently have and we have MAJOR investment in it. If the City of Lawrence is to annex the adjoining land and change its zoning, they have a responsibility to maintain and preserve, as much as possible, the living environment we invested in to create.

Adverse use (or poor implementation of approved use) of the adjacent land could cause serious financial loss to a whole sub-division of residents. I'm sure the developers have great plans for personal and business profits, but they should not come at our expense.

Very concerned,

Scott Robinson Sharolyn Robinson

Scott and Sharolyn Robinson

Mary Miller

From: Carolyn Crawford [ccjava2cups@yahoo.com]
Sent: Monday, April 23, 2012 8:39 AM
To: Mary Miller
Cc: Carolyn Crawford
Subject: Annexation of Northwest Corner of W. 6th Street (US-40) and K-10

Mary,

My wife and I have owned the property adjacent to the northwest corner of US 40 Highway and K-10 for 32 years. Over those we have watched Lawrence grow west from 6th and Kasold, sometimes gracefully and sometimes not, over taking farms and rolling hills. We have watched as sometimes the city controlled the development and sometimes the developers did. Still we have believed in Lawrence and its people, joining them in developing Lawrence into the best it can be.

We share the concerns of the neighbors regarding traffic, light pollution, noise, trash, and property security related to this annexation. Additionally, as owners of expensive purebred cattle and horses, we are further concerned for their safety.

Here are the points that we have regarding the annexation that we would like you to address:

- We are concerned about losing the open, quite, beautiful nature of the neighborhood. This has always been an agricultural area that was held in large land blocks lending a beautiful entry into the city.
- High traffic most hours of the day and night will change the quite peaceful nature of the neighborhood.
- We are concerned about new structures fitting into the beautiful landscape.
- We are concerned that the development of commercial real-estate as a result of this may not be done with quality.
- Light and noise pollution can be very disruptive to the neighborhood
- Trash associated with a new development can have an impact on the area, soil and run off water.
- Our purebred Limousin cattle and quarter horses are accustomed to a quick secure area. People coming up to pet them, feed them or throw things at them can be dangerous to them and the animals.
- We do not favor forced annexation.
- We are concerned about what impacts the annexation will have on current and future zoning.
- We should not be included in a benefit tax district for sewer, water, signalization, and streets.

Over the years raising our five children on this farm, we have tried to be good citizens and neighbors to Lawrence by being a founding family of Kaw Valley Soccer Association in 1980, St. Margaret's Church in 1989, Raintree Lower Elementary in 1994 and Bishop Seabury

Academy in 2001 as well as being leaders in Douglas County 4H, Boy Scouts, serving in LINK and Family Promise, and being in the Chamber of Commerce. It is our hope that the city can be as good of a neighbor to us as we have been to them.

Sincerely,
Ron and Carolyn Crawford

From: Mary Miller <mmiller@lawrenceks.org>
To: "'ccjava2cups@yahoo.com'" <ccjava2cups@yahoo.com>
Sent: Friday, April 20, 2012 3:51 PM
Subject: permitted use table

Carolyn,
It was very nice talking to you today. I've attached the permitted use table which lists the uses which are permitted in the CC Districts. As I mentioned, we are considering recommending 'conditional zoning', which means only uses which are seen as being associated or compatible with a regional recreational facility would be permitted on this property. You could look the permitted use table over and see if there are any uses that you feel should not be permitted on this property.

The Planning Commission is considering the annexation this Monday, but will be considering the rezoning at their May meeting. You can provide your comments regarding the permitted uses directly to Planning and you can also provide written comments to the Planning Commission on the proposed rezoning as well as the proposed plan and development code amendments. You will receive a notification letter of the amendments and the rezoning about 20 days before the Planning Commission meeting.

The next step will be to plat the property. With platting, street right-of-way is dedicated and decisions on street improvements are made. The preliminary plat will be considered by the Planning Commission and you will be notified of this meeting as well.

The site plan can be submitted in conjunction with the plat. The applicant will provide property owners within 1000 ft notification of the site plan, and you can contact the Planning Office for copies of the plans that have been submitted. Once again, your comments on the layout and design of the site plan will be very helpful.

I just wanted to outline the development process, since there are several steps. Please feel free to contact me if you have any questions.

Thanks,
Mary

Mary K Miller, AICP, *City/County Planner*- mmiller@lawrenceks.org
Planning Division | www.lawrenceks.org/pds
P.O. Box 708, Lawrence,KS 66044
Office (785) 832-3147 | Fax (785) 832-3160

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APR 17 2012
City County Planning Office
Lawrence, Kansas

April 16, 2012

City of Lawrence
Attn: Mary Miller - City Planning Office
6 East Sixth Street
Lawrence, KS 66044

Dear Ms. Miller:

As residents of the Estates of Northwood, we are writing to formally express our concerns regarding the proposed development of the land located at 6th street and E. 900 road.

Two years ago we built our home at 875 N. 1663 road. This represented years of planning and saving to be able to secure the perfect location for our "forever" home. The Estates of Northwood combines an amazing country setting with the convenience of being located close to town. We clearly researched this location before purchasing the lot and discovered that the land to the south of the neighborhood was zoned for agriculture only and included a green space adjacent to our property. Additionally, the long-term nodal plan indicated only plans for light research type facilities in the future. Over the past two years we have developed such an appreciation for our setting, neighbors and new way of life. As a result, we were clearly concerned to hear of the proposed recreation center and other sports facilities being discussed for the land directly behind our neighborhood.

We will be attending the public meeting on April 19th to learn more about the land use proposal and to share our concerns, but we wanted to provide them in writing as well.

<u>Drainage & Visual Concerns</u>
The Estates of Northwood is located at a grade significantly below Sixth Street. In fact, despite 35 ft+ trees that span the back of our property, we can clearly see the traffic on Sixth Street. This is even more evident during the winter when the leaves have fallen. Given this, any construction on the land between Sixth Street and our neighborhood will be easily seen from our home. Light and noise pollution control as well as proper landscaping will be very important to those who live adjacent to the property. Additionally, the slope creates significant drainage issues for several of our neighbors when it rains heavily. There is great concern about the impact construction may have on the drainage down to our neighborhood.

Traffic & Safety

Currently, N. 1663 is a no outlet road. The amount of traffic in our neighborhood is minimal and almost solely from residents. Adding facilities such as those proposed could generate significant traffic to the corner of West 6th Street and K-10. It is extremely important to us that N. 1663 remains a no outlet road. We understand from attending a recent KDOT meeting that there are future plans to open the west end of N. 1663 for an access road that would run from Sixth Street north, but it was shared that the east end of N. 1663 would then become the dead end. Regardless of the location of the cul-de-sac, it is imperative that N. 1663 does not become a thru street. If this would occur, the traffic generated would create noise and safety concerns for the families in our neighborhood.

Green Space

Providing a buffer between the south lots of Northwood and the adjacent property may only provide a small level of separation, but will be important given the high traffic volume these types of proposed facilities could generate.

Admittedly, at this point we can only react to the land use proposals we have heard discussed in the local media. We understand the significance these types of facilities could have for our community, as this intersection could truly become a critical "gateway" to Lawrence. As Lawrencians we want to support development that will be meaningful for our city, but we also ask to have a voice in the planning that could greatly impact our way of life.

Thank you in advance for considering our concerns. We look forward to continued dialogue as the process progresses.

Sincerely,

Steven Kahle

Christy Kahle

Steven & Christy Kahle
875 N. 1663 Road

April 17, 2012

Lawrence Planning Office
Attn: Mary Miller
6 East Sixth Street
Lawrence, KS 66044

RE: Development of the area South of Northwood Estates

Dear Ms Miller,

We appreciate your willingness to consider our concerns regarding future development to the area that is behind our neighborhood..

We have worked very hard for 40 years to save money to "retire" in Lawrence. A couple of years ago, that dream came true when we built our wonderful home in Northwood Estates. We were aware of the future plans for along 40 highway (behind our property) which were similar in nature to Wakarusa and was described as a wonderful entrance from the West to the City of Lawrence. Those plans were acceptable to us.

We are now receiving information that due some negotiating, things are on the fast track to change these plans. We have been advised that 50 acres have been "donated" to the city for a recreation center. At first this sounded great as we "assumed" it would be similar to the East Side recreation center. Now we are hearing of the magnitude of the plan which includes Kansas relays, concerts, etc. We are very concerned about not only the recreation center, but future development that may affect our way of life as we know it.

Our concerns that we have at this time are::

- Green space needs to be left between our properties
- Lighting interfering with our outdoor evening enjoyment needs to be addressed
- Noise affecting our outside enjoyment needs to be addressed
- Excessive traffic through our quiet dead end street now and in the future if the street is opened up as a thru street. Major signage needs to be added on 900 Rd. to keep traffic out of our neighborhood. KDOT has plans in the future to exit our neighborhood to the West. This will also need to be addressed in the planning.
- Security effecting our safe neighborhood needs to be addressed
- The effect of the development on wildlife (owls, deer, opossums, frogs, coyotes)
- Storm drainage needs to be addressed
- What method of sewage disposal will be used needs to be addressed
- A clear boundary needs to be established with a wrought iron fence with signage along the property line to help eliminate trespassing.

We want very much to work toward a mutually agreeable plan that will allow our neighborhood keep its "country" feel while allowing a reasonable expansion of the land to our South.

We will look forward to meeting with you and the other parties who are involved in the future plans.

Respectfully,

Mike and Debby Kelso
891 N 1663 Rd
Lawrence, KS 66049
kukelso@gmail.com

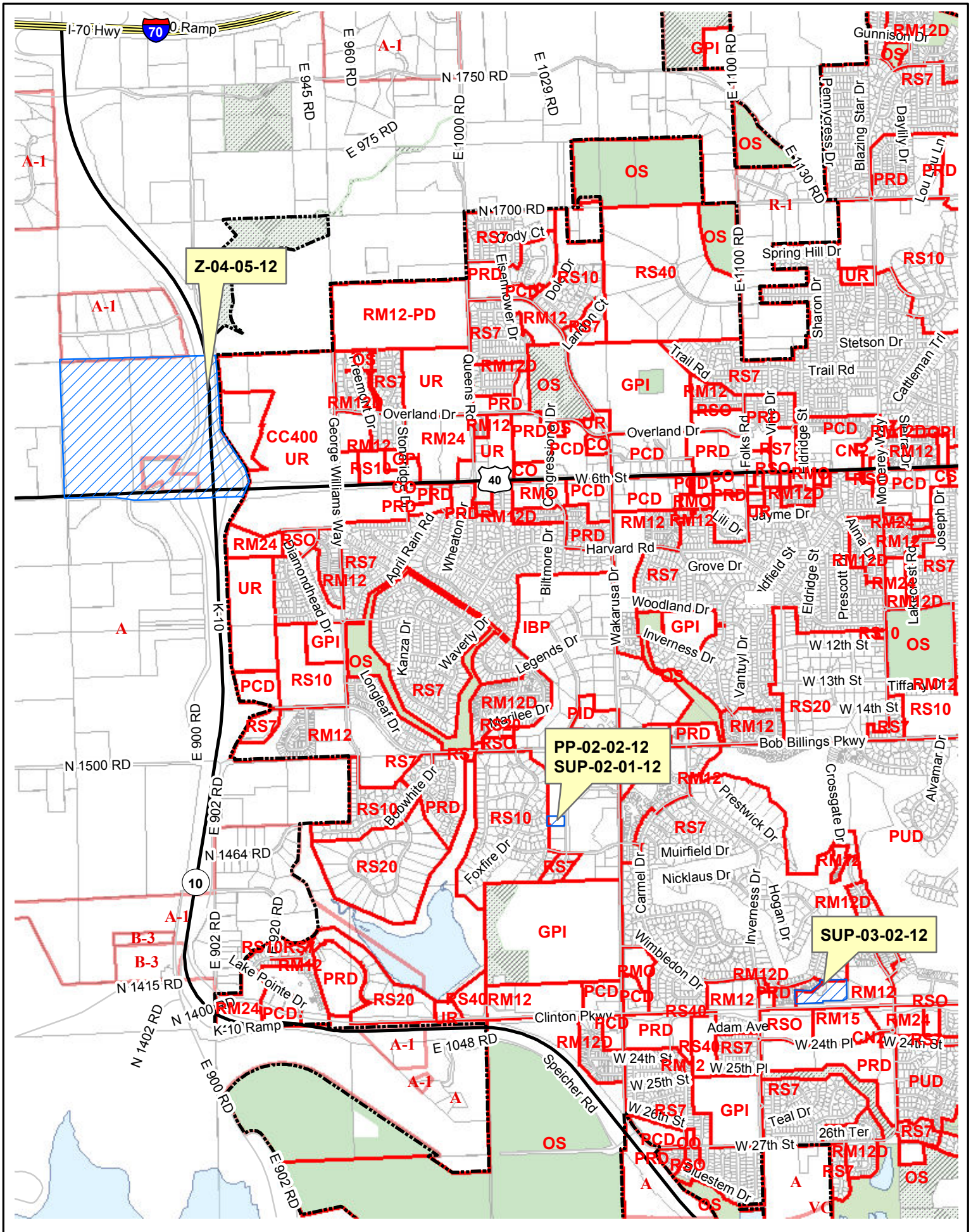
Landplan Engineering, P.A.

Venture Properties

City of Lawrence KANSAS

GATEWAY VILLAGE
CONCEPT PLAN

FILE NAME: G:\2012\078\CAD\Model\1210780-SPLAY0.dwg LAST SAVED BY: Brian Sturm SAVED DATE: 5/15/2012 2:16 PM PLOTTED: 5/15/2012 2:18 PM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SUP-02-01-12
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K-10 Ramp
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N 1750 RD
N 1700 RD
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Overland Dr
Trail Rd
Harvard Rd
Grove Dr
Woodland Dr
Bob Billings Pkwy
Clinton Pkwy
Adam Ave
Spring Hill Dr
Stetson Dr
Gunnison Dr
Jayme Dr
Lili Dr
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Muirfield Dr
Nicklaus Dr
Wimbledon Dr
Prestwick Dr
Crossgate Dr
Legends Dr
Waverly Dr
Kanza Dr
Longleaf Dr
Foxfire Dr
Bowhite Dr
Lake Pointe Dr
Speicher Rd
Teal Dr
26th Ter
Bluestem Dr
Tiffany Dr
Alvamar Dr
Joseph Dr
Cattleman Trl
Sharon Dr
Eisenhower Dr
Dodd Dr
Landon Ct
Cody Ct
Queens Rd
Congressional Dr
Stonegate Dr
Freeman Dr
George Williams Way
Diamondhead Dr
April Rain Rd
Wheaton Dr
Biltmore Dr
Wakarusa Dr
Eldridge St
Folks Rd
Vine Dr
Monterey Way
Prescott Rd
Lakecrest Rd
Alma Dr
Vantuyl Dr
Marilee Dr
Carmel Dr
Hogan Dr
Pennycress Dr
Blazing Star Dr
Daylily Dr
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League of Women Voters Lawrence-Douglas County
P.O. Box 1072 • Lawrence, Kansas 66044-1072

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City County Planning Office
Lawrence, Kansas

May 20, 2012

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LOCAL:
www.lawrenceleague.com

STATE:
www.lwvk.org

NATIONAL:
www.lwv.org

Email:
league@sunflower.com

Mr. Richard Hird, Chairman
Members
Lawrence-Douglas County Metropolitan Planning Commission
City Hall
Lawrence, Kansas 66044

RE: Item No. 5: Comprehensive Plan Amendment to H2020 – Chp. 6 And Chp. 14; CC600
Item No. 6: Text Amendment to City Of Lawrence Development Code; Amending Various Sections to Add A CC600 District
Item No. 7: A & B1 To Cc600; 146 Acres; W 6th St & K-10

Dear Chairman Hird and Planning Commissioners:

We urge you to deny all of Items No. 5, 6, and 7.

We are asking this for the following reasons:

1. There are some serious procedural problems occurring here. First, the comprehensive plan (Item 5) needs to be officially amended and approved, not only by the Planning Commission but also by both the City and County Commissions. Only then should zoning text amendments be adopted that are dependent on the comprehensive plan, as is Item No. 6, the new CC600 District. Following the adoption and official incorporation of the new CC600 District into the City Code, only then should the process for a public hearing to amend the zoning district properly proceed (Item No. 7).

2. A major consideration that is driving all of these deliberations is whether the city should actually approve the location for and participate in building a recreational facility of the proposed intensity in the suggested location. *The issue is not whether the facility is needed or appropriate, but whether* ***that particular location for that facility is appropriate****.*

Furthermore, it would be surrounded by 100 or more acres of unplanned commercial land. If the proposed development were to occur in that location the traffic impact on 6th Street, and the potential effect of shifting the "center of activity" from the Downtown to that location, could have a very negative impact on the city as a whole.

3. Horizon 2020 should be followed, and the city should consider hiring a consultant to do an independent market analysis of the impact that this use in this location would have on the city as a whole, especially the Downtown. (Horizon 2020, Chapter 6, **policy 3.13**)

a. City staff analysis is not a proper substitution for an "independent market analysis. […performed by an] **independent consultant** chosen by the city..." The analysis **is supposed to be** unbiased and done by qualified professional consultants. The planning staff has seemingly justified the additional commercial land that would be added to the currently overstocked inventory of available commercial area and vacant buildings.

The thought seems to be, *don't worry, no one will use the land unless there is a demand (which admittedly doesn't exist).* **Wouldn't it be better to preserve the land for an employment-related and manufacturing use that the studies up to now have proposed for the area?**

4. We request that an independent traffic analysis also be undertaken:

a. The Staff Report (Item No. 5) states that "Commercial uses are generally viewed by the Development Code as equal to or lesser uses compared to industrial uses and so the project can feasibly be viewed as compatible with the comprehensive plan designation." The traffic impact analysis that the staff report mentioned indicating that industrial and commercial traffic impacts are interchangeable, or commercial uses are lesser in intensity than industrial uses, may have come from the Lesser Change Table. In this table the three categories of Residential, Commercial and Industrial cannot be compared with each other in intensity. Only within each category is this comparison intended. (**20-1301(k)**). Therefore, based on the source in the Staff Report, it is not a valid comparison to say that the traffic intensity of commercial land use and industrial land use are the same

b. According to a study that was made in 2006 by the consultants, TischlerBise, hired by the City for their study, "The Cost of Land Uses and Fiscal Impact Analysis," the uses of manufacturing and commercial retail are **quite different in their impact** on traffic intensity. The vehicle trip rates per 1000 square feet **are much higher with commercial land use than with industrial land use** (page 11, Figure 4, TischlerBise).

c. Consider that the Transportation Plan for that node, which was recently presented to you by the MPO (Lawrence-Douglas County Metropolitan Planning Organization), must be studied by them before any changes to it are considered. Also, all of the other considerations that need to be made regarding the improvements to that intersection, to 6th Street, and to Highway 40 extended, must take into consideration the increased traffic intensity that will occur with the change in use from manufacturing to recreation and commercial uses.

5. Once the CC600 District is actually incorporated into the zoning text (assuming that it is), it should have some method to actually control the maximum size and use of retail buildings. We suggest that any retail establishment that meets the requirement for a CC600 should also require a Special Use Permit or a Planned Development Overlay District.

Thank you for your patience in reading this material. We hope that you will carefully consider these points.

Sincerely yours,

Carrie Lindsey

Carrie Lindsey
President

Alan Black

Alan Black, Chairman
Land Use Committee

RONALD SCHNEIDER
ATTORNEY AT LAW, P.A.
900 MASSACHUSETTS ST., SUITE 600
LAWRENCE, KANSAS 66044
TELEPHONE: (785) 841-2040
FACSIMILE: (785) 856-0243

RONALD SCHNEIDER

OF COUNSEL:
CURTIS BARNHILL
MARGARET FARLEY

May 18, 2012

Richard Hird
Chairman of Lawrence-
Douglas County Metropolitan
Planning Commission
FAX: 832-3160

RE: CPA -4-2-12
TA -4-3-12
Z-4-5-12

Dear Mr. Rick:

I represent a number of landowners who live near or adjacent to the 146 acres associated with Z-4-5-12, change of zone request.

As you know, the City Commissioners recently voted to annex this property. During the annexation hearing, all City Commissioners expressed their intentions to devote extra-ordinary time and consideration to the zoning issues and contemplated land of the entire project and development due the importance and scope of this proposed project. The City Commissioners confirmed that this project requires time and thoughtful consideration. The Commission expressed its desire **NOT** to rush the zoning and land use components of this project.

It is my opinion that the proposed public hearing on this rezoning and related planning matters is premature. Public opinion will be greatly affected by the information and dialogue at the public forum in June scheduled by the City. The proposed rezoning, changes to the code, and revision to the Nodal Plan should be considered only after this forum and additional information and reliable plans are available to the public.

On behalf of my clients, I respectfully request that the Planning Commission continue the hearing on these matters to enable the City to provide answers to the many unanswered questions on this immense and important project. I am confident that this request is consistent with the consensus and statements made by the Mayor and other Commissioners at their hearing on May 21, 2012.

I await your response.

Sincerely,

Ronald Schneider

RS:cw
cc: Scott McCullough, VIA FAX
Mayor Robert Schumm, VIA FAX
City Commissioners, VIA FAX

May 20, 2012

Scott and Jodi Bouyack
887 N. 1663 Road
Lawrence, KS 66049

Lawrence City Hall
City Planning Office
Attn: Mary Miller
6 East Sixth Street
Lawrence, KS 66044

Ms. Miller,

As a resident and landowner in Northwood Estates with property bordering on the north end of the 146 acre tract of land that is being considered for CC600 zoning, I write today to make a few comments which I hope the Planning Commission will consider as it determines its recommendation on this issue during the May 21, 2012 meeting.

My wife and I purchased our home in early 2010. Prior to making a decision to purchase our home, I conducted a fair amount of research with regard to future development plans in the vicinity of Northwood Estates. Of particular interest to me was the future plans for the acreage now referred to as the Northwest Quadrant of the intersection of W. 6th Street/Highway 40 and Kansas Highway 10 (K-10). My research indicated to me that we should expect that at some point the Northwest Quadrant would become developed. Thus, it has always been my expectation that as much as we enjoy having vacant fields and cows behind us, that at some point that would become developed territory.

Although I could have no way of definitively knowing in 2010 what sort of development might be built behind our house, there were two expectations my research uncovered that I felt I could count on relative to any future development, and thus provided me the assurance I was looking for to proceed with the purchase of our home. The first expectation was that the City of Lawrence desired for the future development of the W. 6th Street/Highway 40 and K-10 intersection to become an attractive "gateway" entrance for the city. This expectation provided me the assurance that whatever development would eventually be built behind our house would be done so in an attractive, well-planned, well-maintained manner, and would most likely not include unattractive business uses that the city would not be proud to display at such a prominent gateway.

The second expectation my research uncovered that gave me comfort was the designation in the Nodal Plan of a green space buffer along the northern edge of the Northwest Quadrant to help preserve the Baldwin Creek drainage basin and to "act as a transitional buffer for the lower-density residential development and agricultural activities for unincorporated Douglas County adjacent to this corner."

As of today, I am reasonably confident that the first expectation above will be adhered to in this future development. It seems clear that the City Commissioners, City Staff, City Planners, and Developers all still strongly desire for the development on this Northwest Quadrant to maintain the attractive characteristics of a prominent city gateway as described in the Nodal Plan and other planning documents. Further to that point, I can envision that the proposed development of a regional recreation center on this property could result in a more desirable development than many alternatives. For example, the fact that the Planning Staff, in its recommendation to the Planning Commission, has restricted several uses from the proposed CC600 zone because such uses would not enhance the site as a regional recreation facility is a positive benefit for adjoining neighbors, as it helps to assure us that we will not have business such as big box retail, vehicle sales, mini-warehouses and several other uses that would be considered undesirable to the neighborhood.

However, at this point in the process, I am not certain that the second expectation, the green space buffer, will be adequately met. Although city officials have stated on several occasions that they recognize the need for such a buffer, and further recognize that the Nodal Plan calls for such a green space buffer, the specifics of such a buffer are lacking. To that point, the City has recently provided an initial rendering of the site plan for the recreation center, and the lack of any green space buffer is highly conspicuous by its absence. In fact, I cannot even consider such a rendering to be a viable first draft, as it does not include this very important component, and look forward to the City and Developers providing a true, viable first draft in the very near future.

Considering the above, I would like to make one simple request of the Planning Commission as it considers its recommendation relative to this zoning question. My request is that should the Planning Commission go forward in recommending this property in question be zoned to CC600, that it do so with the condition that a green space buffer, one which reflects the spirit of such an element as described in the Nodal Plan, be required to be part of the future development.

Once again, we appreciate the City's willingness to engage us in this process and listen to our concerns. I will be attending the meeting on May 21, and any such subsequent relevant meetings, and look forward to being a part of the process. If at any time you would like to talk to me directly, I can be reached via phone at (678) 778-0797 or email at scott.bouyack@gmail.com.

Sincerely,

Scott Bouyack

RECEIVED

MAY 21 2012

City County Planning Office
Lawrence, Kansas

May 21, 2012

City of Lawrence
Attn: Mary Miller - City Planning Office
6 East Sixth Street
Lawrence, KS 66044

Dear Ms. Miller:

As residents of the Estates of Northwood, we are writing to formally express our concerns regarding the proposed development of the land located at 6th street and E. 900 road.

Following the recent City Council meeting, we were provided a concept plan for the proposed development. This proposal raised significant red flags for residents of our neighborhood.

First, the concept plan does not honor the green space originally outlined in the nodal plan. Placing the recreation center, stadium and parking lots directly adjacent to our property provides no buffer between our backyards and the development. The resident of our neighborhood purchased land and built homes based on an understanding of green space outlined in the City's nodal plan.

Second, the concept plan does not appear to preserve the natural drainage system provided by the Baldwin Creek drainage basin. While the city may plan to remove this naturally occurring pathway, several of the properties on the south side of our neighborhood have this creek continuing through their property. This could result in significant drainage issues in the future. Additionally, other properties on the south side currently have flooding concerns during heavy rains and this development could further exacerbate this issue.

Third, the concept plan does not appear to have addressed the traffic issue through our neighborhood sufficiently. Requiring our neighbors to proceed through the new development to reach our homes is not a satisfactory solution. Given times of heavy activity in the area, this could place us in the middle of significant event traffic. As discussed at the meeting held at the Indoor Aquatic Center in April, we would prefer to have access to our neighborhood to the west of the development with proper signage to discourage non-residents from entering N. 1663 Road. This could be accomplished by alternating the dead end on N. 1663 from the west end to the east end.

Finally, without the proper market studies to understand the needs of the community, it is premature to determine the appropriate zoning for this area.

The City has a unique opportunity for this development. Unlike most instances, there is sufficient space to plan the site in a way that can truly accommodate the needs of the city and the surrounding community. We encourage you to take advantage of this opportunity to create a "gateway" for our city in a manner that is acceptable to all parties involved.

Thank you in advance for considering our concerns. We look forward to continued dialogue as the process progresses.

Sincerely,

Steven & Christy Kahle
875 N. 1663 Road

RECEIVED

MAY 21 2012

City County Planning Office
Lawrence, Kansas

Kenneth and Anna Oliver
873 N. 1663 RD
Lawrence, KS 66049

785-550-7746

May 21, 2012

Mary Miller
City/County Planner
Lawrence City Hall
6 East 6th St
Lawrence, KS 66049

Dear Ms. Miller,

Please include this letter regarding the rezoning of the NW corner of K-10/US-40 in the packet to be presented during your May 21 Planning Commission meeting. We will not be able to attend the meeting because of our work schedules, but would appreciate your taking our concerns into consideration.

We appreciate your notifying us of the completed staff report and at first blush, we are generally in agreement with the conditional zoning restrictions you are recommending. We also want to thank you for your time and effort in restricting uses that would not be complimentary to the proposed recreation center and that would be detrimental to our neighborhood.

We are however, frustrated that a new zone designation (CC600) is being proposed for the first time and recommended for this property with conditions, while the City does not know the size, scope and cost of their portion of the project and no sight plans have been submitted. There are many unanswered questions as to whether the rezoning and proposed development complies with the Nodal and Horizon 2020 plans. We received the staff report for the CC600 rezoning on Thursday the 17th, tried to research the hundreds of pages of reports and plans, formulate and draft comments to be delivered prior to 10:00am the following Monday morning. That's hardly enough time for the residents of our neighborhood to cipher through all the information and provide meaningful input, which is what the Mayor, City Commissioners, Planning Commission and City Manager have requested. We are not grasping for stalling tactics, as we firmly believe this project could be very good for the community. We are however very concerned that this project has not been given due diligence and many requirements for development are being overlooked. For example, considering the proposed uses, has the necessary traffic and marketing studies been completed, and has the Nodal and other planning documents been updated?

Along with our neighbors, we purchased our property and built our home after reviewing the Nodal Plan and learning the property in question was planned for low-density industrial/warehouse/office uses with a large green zone buffer between our homes and future development. After seeing examples around town of similar buildings, we found them acceptable, purchased our property and built our homes. Now the uses being proposed would have significantly more traffic, noise and light pollution. For this reason, as the project moves forward we are strongly encouraging the city to exceed the standards for mitigating the negative effects to surrounding neighborhoods per the following plan excerpt:

20-1101
PROTECTION STANDARDS FOR RESIDENTIAL DISTRICTS
(a) Design and Operational Compatibility Standards—Discretionary Approvals
As a condition of approval of any Special Use Permit, Map Amendment, site plan or other discretionary approval of any multi-Family use or nonresidential use located within 500 feet of any less intensive residential district, the City Commission, Planning Director, Planning Commission or other review body may impose conditions that exceed the minimum requirements of this Chapter and that, in the opinion of the review body, are necessary to reduce or minimize any potentially adverse impacts on residential property, including, but not necessarily limited to, the following:

(1) location on a site of activities that generate potential adverse impacts on adjacent uses, such as noises and glare;
(2) placement and buffering of trash receptacles;
(3) location of loading and delivery areas;
(4) lighting location, intensity, and hours of illumination;
(5) placement and illumination of outdoor vending machines, telephones, and similar outdoor services and activities;
(6) additional Landscaping and buffering;
(7) Height restrictions to preserve light and privacy and views of significant features as viewed from public property and rights-of-way;
(8) preservation of natural lighting and solar Access;
(9) ventilation and control of odors and fumes; and
(10) paving or other surface treatment for dust control.
(b) Height Limit on Projects Adjoining Certain Residential Zoning Districts
See Section 20-701(g) for Height limits in the PD district.

Consideration needs to be given to the neighbors for the significant negative effects of the rezoning and subsequent development in the form of a green space buffer, additional large caliper trees, directional and timed exterior lighting, and a large berm. An acceptable berm would be similar to the one immediately behind the Walmart on 6th Street. However, because of the direction and location of the proposed street into the recreation center, stadiums and the proximity to our homes, an even taller berm would be necessary.

There is a significant grade from our property line up to US-40. Because the proposed stadium would be situated on the hill, we think an in-ground stadium would be beneficial for several reasons. An in-ground stadium would reduce the height of the structure and make it more visually appealing. The noise and light pollution would be contained significantly and the dirt removed for the stadium could be used for a berm to further reduce those negative effects. It is also my understanding that track and field events need to be sheltered from excessive wind for the competitor's results to be recognized as records. An in-ground stadium would go a long way in making it an elite track and field venue.

Our other concerns have not changed since our last correspondence as we are anxious to maintain the dead end access to N.1663 RD. The concept plan that was recently released proposed a convoluted route to our neighborhood. We would rather have a dead end entrance on the west side of 1663 RD to US 40 in lieu of the entrance shown on the concept drawing. In addition, we are very concerned that the manipulation of the Baldwin Drainage basin would potentially flood our property during seasonal heavy rains.

Thank you again for taking our concerns into consideration. We know a lot of questions will come to light when sight plans are eventually submitted, and we are hopeful that this will be a great development for our community, but the City needs to take a step back and complete the processes that are in place to ensure all involved (The City, Taxpayers, Developers, and Neighbors) are on the same page and protected before moving forward. The public forum on June 6th is a great start, and we are hopeful that more information will flow between the city and the public at that time.

Sincerely,

Kenneth and Anna Oliver