

PLANNING COMMISSION REPORT
Regular Agenda

PC Staff Report
9/23/13

ITEM NO. 3: CONDITIONAL USE PERMIT; WATER TREATMENT PLANT; ¼ MILE E OF E 1750 RD & N 1500 RD (MKM)

CUP-13-00281: Conditional Use Permit for a water treatment plant to produce water for Public Wholesale Water Supply District No. 25, located ¼ mile east of the intersection of E 1750 Rd and N 1500 Rd. Submitted by Public Wholesale Water Supply District No. 25, property owner of record. *Joint meeting with Eudora Planning Commission.*

STAFF RECOMMENDATION: Staff recommends approval of the Conditional Use Permit for the water treatment plant for Public Wholesale Water Supply District No. 25 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 CUP shall comply with the terms, conditions, and limitations specified in the Division of Water Resources permit.
- 2) The property shall be platted prior to release of the Conditional Use Permit plan to Zoning and Codes.
- 3) The provision of a revised Conditional Use Site Plan with the following changes:
 - a. Delineation of a wooded area near the east side of Tract 2 that is 20 ft wide and extends 240 ft north of the south property line, and the addition of the following note: *"The trees and other vegetation in this area will be retained to screen the facility from the east. In the event the trees are removed, native conifers will be planted on 30 ft centers to provide screening."*
 - a. Note the revision date on the plan.
 - b. Show one ADA accessible parking space on the plan. This space shall also be marked and signed on site.

Reason for Request: *"This 28 acres will be developed into a water treatment plant site to produce water for Public Wholesale Water Supply District No. 25 which will then wholesale water to currently 2 rural water districts in Douglas and Osage Counties."*

KEY POINT

- The CUP contains 2 tracts; however, one tract is a portion of a larger parcel. The notification area includes both parcels in their entirety and extends slightly into Leavenworth County. Property owner lists have been obtained from both Douglas and Leavenworth Counties.

ATTACHMENTS

- A – CUP Plan
- B – Kansas Department of Agriculture, Division of Water Resource permits
- C – Ground Water Analysis provided by Ground Water Associates, Inc.
- D – Maps showing boundary of Rural Water Districts and proposed Public Wholesale Water Supply District No. 25 water mains.

DESCRIPTION OF USE

The applicant is requesting a Conditional Use Permit to construct a water treatment plant on the property. Wells will be located to the northwest near the Kansas River and easements will be obtained for the lines to the water treatment plant and for the future mains used to distribute the water in Douglas and Osage Counties. Public Wholesale Water Supply District No. 25 (PWWSD No. 25) has been authorized by the Kansas Department of Agriculture, Division of Water Resources to provide water for municipal use within the boundaries of PWWSD No. 25 and immediate vicinity, Rural Water District No. 2 and Rural Water District No. 5 in Douglas County and Rural Water District No 5 in Osage County. A map showing the proposed water mains and the boundaries of the Rural Water Districts is included as Attachment D.

ASSOCIATED CASES/OTHER ACTION REQUIRED

- Approval of Conditional Use by the Board of County Commissioners.
- Issuance of permit for the Conditional Use by the Zoning and Codes Office following application and determination that all conditions have been met.
- Submittal of application and building plans to the Zoning and Codes Office for a building permit prior to construction.
- Floodplain Development Permit may be needed from the Zoning and Codes Office for development on property that contains regulatory floodplain or floodway.

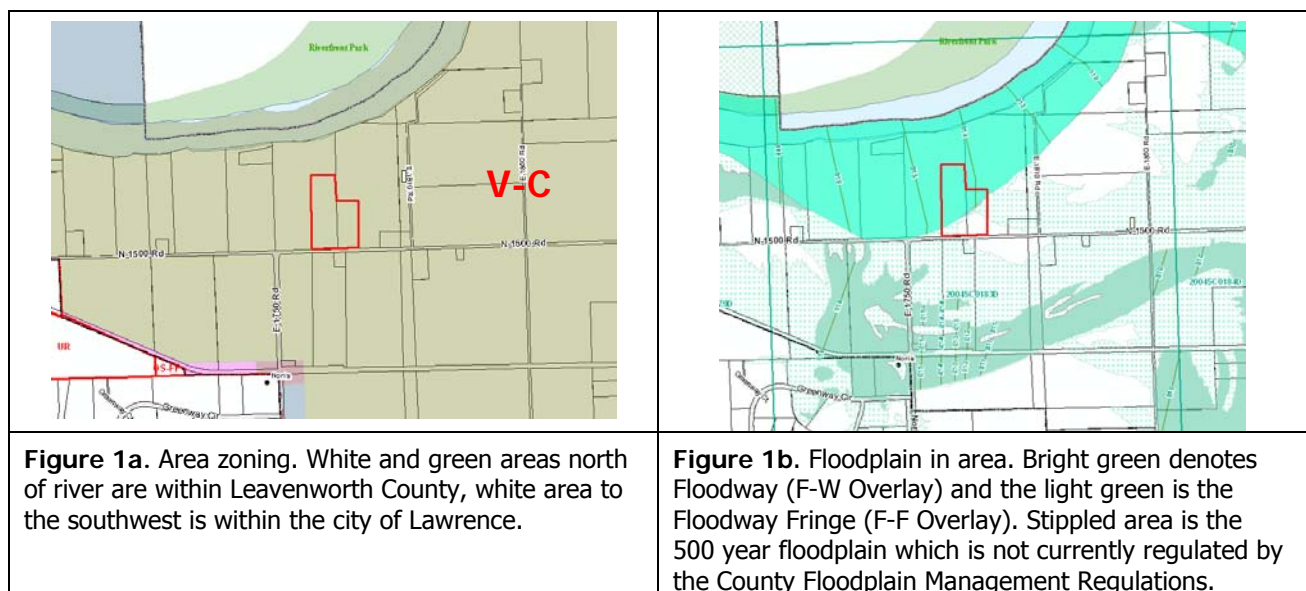
PUBLIC COMMENT RECEIVED PRIOR TO PRINTING

- No public comment has been received.

GENERAL INFORMATION

Current Zoning and Land Use: V-C (Valley Channel) District and F-W (Floodway Overlay) District; Agriculture.

Surrounding Zoning and Land Use: V-C (Valley Channel) District and F-W (Floodway Overlay) District; Agriculture, rural residential, and mining/excavation to the northeast—Penny Sand Dredging on the KS River, a CUP has been approved for an off-river sand pit to the south of the river dredging location.
(Figure 1, a-c)



PROJECT SUMMARY

The proposed project includes the use of wells near the Kansas River to supply water for a Public Wholesale Water Supply District which will supply treated water to various Rural Water Districts and other customers. The subject of this CUP is the water treatment facility which will be installed northeast of the intersection of E 1750 Road and N 1500 Road. Studies have been conducted to evaluate impact of the wells on the groundwater and the Division of Water Resources has approved the location of the wells, with certain restrictions and conditions. The groundwater studies and the Division of Water Resources Approval of Application and Permit to Proceed are attached.



Figure 1c. Land use in area.

The facility will take access from N 1500 Road and will be manned by one employee during normal operation hours (7 am to 6 pm). The applicant indicated that there may be board meetings of approximately 8 to 9 people once a month. As the public may come to these meetings, it is necessary to provide ADA parking per the requirements in Section 12-316-1.01 of the Zoning Regulations. One ADA space must be shown on the plan and the space must also be striped and signed on site.

Truck traffic is expected to consist of one treatment chemical delivery each week. Access to the site will come off of K-10 Highway, north on Noria road and east on N 1500 Road to this site. N 1500 Road is classified as a Minor Collector in the Douglas County Major Thoroughfares Map. A Minor Collector requires 80 ft of right-of-way. The CUP plan notes that 40 ft of right-of-way is available north of the centerline of N 1500 Road.

The front setback for property in the A District that fronts on a county or township road is 50 ft in addition to a base setback of 40 ft from the road centerline for a total setback of 90 ft from the centerline of the road. A minimum side setback of 15 ft and a rear setback of 50 ft are required. The proposed building, water holding tank, and security fence all comply with these setbacks.

The subject property was divided from a larger parcel after the adoption of the 2006 Subdivision Regulations. Per Section 20-801(c)(1), unless expressly addressed as an exemption no lot, tract, or parcel of land shall be divided into 2 or more parts for the purpose of sale, transfer or development whether immediate or future except through the procedures of the Subdivision Regulations. This land division does not meet any of the exceptions provided in Section 20-801(d); therefore, it will be necessary to plat this property prior to final approval of this CUP.

The facility will be fenced with 6' chain link fence with 3 strands of barbed wire for security. The fencing will be located outside of the required setback.

FACTORS TO CONSIDER

I. ZONING AND USES OF PROPERTY NEARBY

The surrounding area is zoned V-C (Valley Channel) District which is a district established to provide protection for flood-prone areas. The area is also located within the F-W (Floodway Overlay) District as identified by FEMA. Principal land uses in the area include agriculture, rural residential, and mining/excavation. A sand dredging operation is located on the Kansas River to the northeast of the subject property and a CUP has recently been approved for an off-river sand pit operation to the south of the river operation.

Staff Finding – Nearby properties are zoned V-C (Valley Channel) and F-W (Floodway Overlay) Districts. Agriculture, rural residences, and mining/excavation are the principal land uses in the area.

II. CHARACTER OF THE AREA

The subject property is located on N 1500 Road, approximately one-half mile east of the Lawrence City Limits and northeast of the East Hills Business Park. This is a rural area with agriculture, rural residences, and mining/excavation being the primary land uses. Natural features in the area include the Kansas River and associated floodplain. The area contains a large area of high quality soils with Class 1 and Class 2 soils being located over the entire subject property. (Figure 2) With the CUP, the majority of the property will remain in agricultural production with the facility being located in the southeast corner of the site.

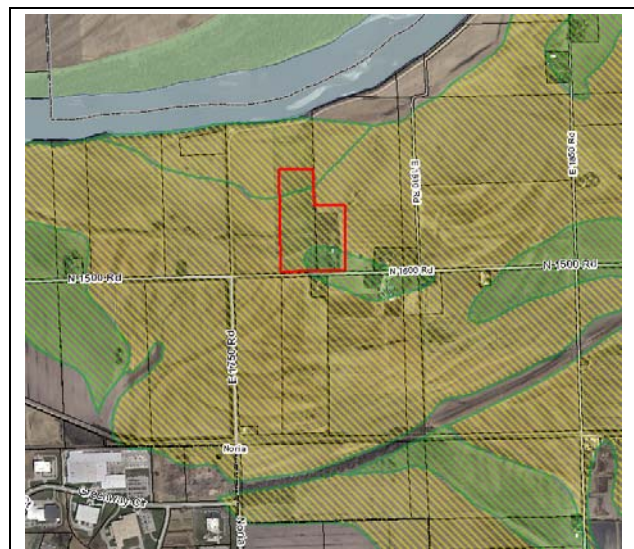


Figure 2. High-quality soils in area. Yellow hatching denotes area with Class 2 Soils and green hatching denotes area with Class 1 Soils.

The subject property takes access from N 1500 Road, a minor collector road, and is located just to the east of the intersection with E 1750 Road, a minor arterial. The area has good access to the transportation network.

Staff Finding – The area is rural in character with primarily agricultural and residential land uses. Sand dredging is located on the Kansas River to the northeast and a CUP has recently been approved for an off-river sand pit to the east of the subject property. A water treatment facility would be compatible with the character of the area with proper site plan and design.

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

Applicant's response:

"The subject property consists of 20 acres of crop ground and 8 acres of brush and timber. The existing 20 acres is suitable for Ag use, the 8 acres is not."

The property is zoned V-C (Valley Channel) and F-W (Floodway Overlay) District. The V-C District is intended to prevent, in those areas subject to periodic or potential flooding, such

development as would result in a hazard to health or safety. To this end the V-C District permits a limited range of uses which include: Farm, truck garden, orchard, plant nurseries, grazing, hunting and fishing, public or private commercial recreational facilities and structures, and preserves, reservations and other similar open uses. *Public Utilities* are allowed in the V-C District with approval of a Conditional Use Permit. The subject property is suited to the uses to which it has been restricted with the V-C Zoning. The proposed request will not revise the underlying zoning district.

The F-W District does not restrict uses, but requires compliance with the Floodplain Management Regulations in Section 12-328 of the Zoning Regulations. These regulations are intended 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. A Floodplain Development Permit will be required for the development to insure compliance with the floodplain regulations.

Given the small area needed for the water treatment plant, the subject property is suited for the proposed use. The plant will be located in the southeast corner, out of the regulatory floodway.

Staff Finding –The property is well suited for uses which are permitted within the V-C District.

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

Staff Finding – The property consists of two tracts. The larger tract will house the treatment facility and this tract is in agricultural production. The tract to the east has a vacant residence and agricultural structure but the residence is not occupied and is in poor condition.

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

Applicant's Response:

"Removal of these restrictions will not detrimentally affect nearby property. The proposed water treatment plan won't create noise issues, traffic issues, or visual issues to this area."

Section 12-319-1.01 of the County Zoning Regulations explains 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 may be permitted when found to be in the interest of the public health, safety, morals, and general welfare of the community.

The proposed use 'water treatment and supply' would fit into the use group "Public Utilities" which is listed as a use which can be approved with a Conditional Use Permit in Section 12-319-4.10.

The water treatment plant will be about 125 ft x 125 ft or 15,625 sq ft and will be approximately 20 ft in height. A 100 ft diameter water storage tank about 25 ft in height will also be located on the property. (Figure 3) There will be a concrete parking area of

approximately 120' x 150'. The facility will be larger than most other structures in the area but should not have a negative impact on nearby properties.

The applicant proposes landscaping of native conifer trees set on 30 ft centers along the west and south sides of the property to screen it from the west and from N 1500 Road. The tract to the east, Tract 2, may be used for future expansion of the facility so no landscaping is proposed along the east side of the building site. Tract 2 is fairly wooded and the existing vegetation should serve to screen the facility from the east. A note should be added to the CUP plan stating that the vegetation on the east side of Tract 2 will be retained to screen the facility from the east.

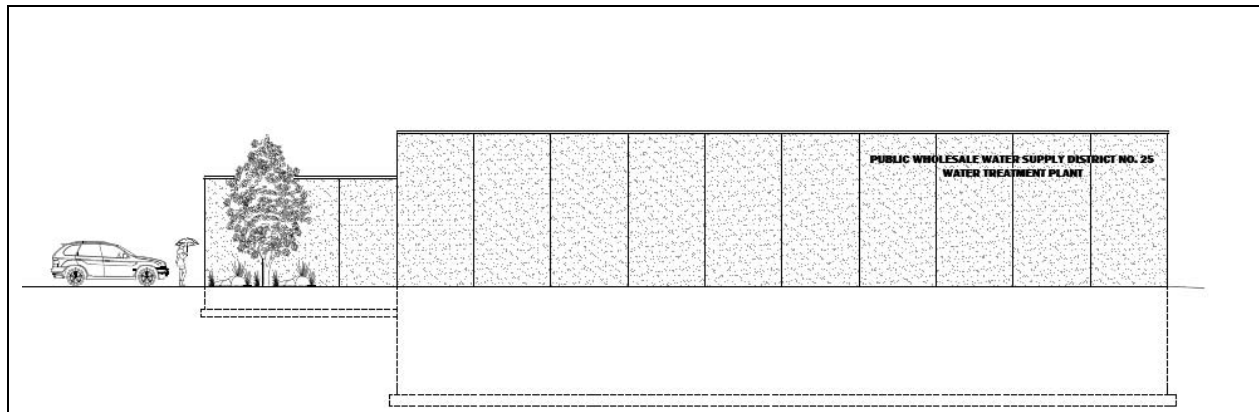


Figure 3. Drawing of proposed facility as viewed from N 1500 Road.

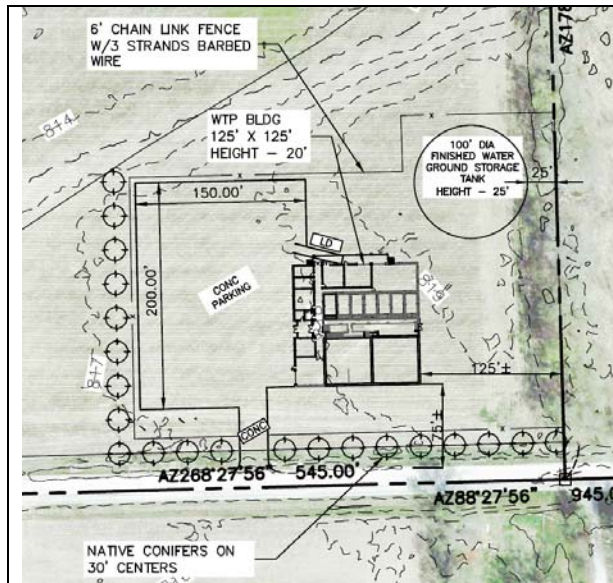


Figure 4a. Landscaping proposed to screen the facility from N 1500 Road.



Figure 4b. Tract 2 extends slightly beyond the wooded area. Approximate east border in red.

With the proposed screening, the facility should not have a negative impact on the visual nature of the area.

Possible detrimental effects of a water treatment plan could be the impact on the ground water in the area. The applicant indicated that the wells are regulated by the Kansas Division of Water Resources and provided the following information:

"We have had test wells drilled at these locations with water quality and pumping tests performed to determine associated draw down, zone of influence, and water qualities associated with pumping these wells at a designated flowrate. Once this testing was completed and associated land owner notifications made, applications were submitted to the Division of Water Resources (DWR) which have since been approved. As far as water quality, a series of monitoring wells in the vicinity of this well field can be used to review water quality. The State of Kansas also has a well head protection program that regulates potential contamination activities. These regulations will be in effect for the region surrounding these well fields that could potentially impact water quality." The quality and quantity tests performed by a hydro-geologist and the approved well applications from DWR are included as an attachment with this report.

The County Engineer reviewed the Water Appropriation permits provided by the Kansas Division of Water Resources and noted that he had been informed by DWR Water Appropriations that they consider well spacing when reviewing water appropriation permits in order to limit drawdown effects on neighboring wells. The DWR required well spacing is ¼-mile to non-domestic wells and 660 feet to domestic wells. The proposed PWWSD No. 25 wells exceed those standards (closest non-domestic well is 4700'). The County Engineer indicated that a condition restricting usage is not necessary, as the Kansas Dept. of Ag., Div. of Water Resources, restricts usage as a condition of their permit. The restrictions are listed on pages 1-3 of the attached DWR permit. Condition No. 4 places the following restriction on the amount of water that can be pumped:

"That the appropriation sought shall be limited to a maximum diversion rate not in excess of 800 gallons per minute (1.78 c.f.s.) and to a quantity not to exceed 420.28 million gallons (1,290.41 acre-feet) of water for any calendar year."

The applicant indicated that the State of Kansas well head protection regulations would be adequate to protect the quality and quantity of water in the supply wells so they will not be instituting a well-head protection zone for their facility.

Staff Finding – The facility should not detrimentally affect nearby properties as it will be landscaped to minimize its visual impact. The studies that the applicant completed and provided to the Division of Water Resources indicate the wells will not have a negative impact on the groundwater in the area. The Division of Water Resources approved the project and issued a permit to proceed. No negative impacts are anticipated from this facility.

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:

"The relative gain to public health, safety, and welfare will be in the ability to produce a high quality potable water supply that will serve the needs of residential customers in both Douglas and Osage Counties. The hardship imposed to individual landowners will be minimal if any."

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 construction of the facility. The applicant provided the following information which indicates that there is a growing demand for water in the unincorporated portion of the county:

"Member entities of Public Wholesale Water Supply District (PWWSO) No. 25 currently serve about 3,100 customers. They have been growing at a rate of 2%-4% during the last 15 years and are projected to grow at a rate of near 1.5% over the next 40 years. This growth has begun to tax member entities' supply systems during peak usage times. This report projects by year 2031, that number will exceed 4,500 customers, and by year 2051, nearly 5,300 customers will be served. All of the member entities currently receive the majority of their water supplies from treatment plants on Clinton Lake. In recent years siltation issues on this reservoir have caused reductions in available water from this reservoir due to 2% yield studies. These reductions in available raw water have caused these member entities to begin seriously reviewing their ability to supply adequate quantities of high quality water to their patrons not only now but for the future. This supply is not only being sought to serve current member entities but also has the potential to provide water for some unserved areas of Douglas County along with other water supply entities that may decide that this supply will be needed in the future."

Approval of the request will allow the District to provide additional water for customers.

As the hydrologic information indicates that the supply wells will have no detrimental effect on ground water levels in the area with the limits established by the Division of Water Resources, the approval of the proposed use would provide no hardship to area landowners or the community as a whole.

Staff Finding – Approval of the request could benefit the community as a whole by providing an additional source of potable water for the growing rural population. As studies have been provided which indicate there will be no negative impacts with water appropriations within the limits established by the Division of Water Resources, there would be no gain to the public health, safety, or welfare from the denial of this request.

VII. CONFORMANCE WITH THE COMPREHENSIVE PLAN

Applicant's Response:

"The property falls within the current UGA with portions of the property falling within the floodplain. However, the building location on this proposed location is outside of the 500 year floodplain. This proposed project falls to the east of Lawrence in an Ag area but is within visual distance of industrial sites."

An evaluation of the conformance of a Conditional Use Permit request with the comprehensive plan is based on the strategies, goals, policies and recommendations contained within *Horizon 2020*. The comprehensive plan does not directly address Conditional Use Permits; however, the following recommendations apply to this specific project:

Chapter 10, Community Facilities, Strategies for Public Utilities: *"The visual appearance of utility improvements will be addressed to ensure compatibility with existing and planned land use areas.* (page 10-11)

Chapter 10, Community Facilities, Douglas County Water Supply and Distribution Facilities: *"Douglas County will continue to be served by private wells and rural water districts. This includes Douglas County RWD's 1,2,3,4,5, & 6; Jefferson County RWD's 5 & 13; and Osage County RWD 5. Because most of these districts rely on raw water resources through contracts with Lawrence, the districts will also be concerned with the continued provision of raw water resources in the future. The rural water districts and Lawrence should collaborate in efforts to maintain adequate accessibility to this important resource."* (Page 10-15)

The proposed project is in compliance with these recommendations as the facility will increase the raw water resources available to the Rural Water Districts and the facility will be landscaped to provide a compatible appearance with existing and planned land use in the area.

Staff Finding – *Horizon 2020* does not directly address the issuance of CUPs but the project is in compliance with recommendations in Chapter 10, Community Facilities, for public utilities in the unincorporated portions of Douglas County.

Conclusion

Approval of a Conditional Use can be tailored to address specific issues such as intensity or frequency of use. The Division of Water Resource permit provides an adequate limit on the intensity of use as it limits the number of wells and the amount of water that can be appropriated. The CUP, as conditioned, is compliant with the recommendations in the Comprehensive Plan and should result in a facility that is compatible with the area and provides a utility service to the unincorporated portions of Douglas County.

Last edit on: 03/16/2010 Drawing Name: W:\Proj\14000\14366\14366.100\autocad\concept\14366.100.cup.dwg Layout Name: 100scale Plotted By: ALB00077 Plotted on: 8/7/2013 12:58:25 PM



DESCRIPTION:

TRACT 1
A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 20 EAST OF THE SIXTH PRINCIPAL MERIDIAN, IN DOUGLAS COUNTY, KANSAS, DESCRIBED AS FOLLOWS:
COMMENCE AT THE SOUTHWEST CORNER OF SAID SOUTHEAST QUARTER; THENCE ON AN ASSUMED NORTH AZIMUTH OF 88 DEGREES 27 MINUTES 56 SECONDS, 783.12 FEET ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER TO THE POINT OF BEGINNING; THENCE 358 DEGREES 15 MINUTES 38 SECONDS, 1600.00 FEET; THENCE 88 DEGREES 27 MINUTES 56 SECONDS, 545.00 FEET TO THE EAST LINE OF THE WEST HALF OF SAID SOUTHEAST QUARTER; THENCE 178 DEGREES 15 MINUTES 38 SECONDS, 1600.00 FEET ALONG SAID EAST LINE TO THE SOUTH LINE OF SAID SOUTHEAST QUARTER; THENCE 268 DEGREES 27 MINUTES 56 SECONDS, 545.00 FEET ALONG SAID SOUTH LINE TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED TRACT CONTAINS 20.02 ACRES, MORE OR LESS.

TRACT 2
A TRACT OF LAND IN THE SOUTHEAST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 20 EAST OF THE SIXTH PRINCIPAL MERIDIAN, IN DOUGLAS COUNTY, KANSAS, DESCRIBED AS FOLLOWS:
COMMENCE AT THE SOUTHWEST CORNER OF SAID SOUTHEAST QUARTER; THENCE ON AN ASSUMED NORTH AZIMUTH OF 88 DEGREES 27 MINUTES 56 SECONDS, 1328.12 FEET ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER TO THE POINT OF BEGINNING; THENCE 358 DEGREES 15 MINUTES 38 SECONDS, 870.00 FEET; THENCE 88 DEGREES 27 MINUTES 56 SECONDS, 400.00 FEET; THENCE 178 DEGREES 15 MINUTES 38 SECONDS, 870.00 FEET ALONG SAID EAST LINE TO THE SOUTH LINE OF SAID SOUTHEAST QUARTER; THENCE 268 DEGREES 27 MINUTES 56 SECONDS, 400.00 FEET ALONG SAID SOUTH LINE TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED TRACT CONTAINS 7.99 ACRES, MORE OR LESS.

SURVEY NOTES:

1. THIS SURVEY DOES NOT CERTIFY OWNERSHIP.
2. ALL DISTANCES ARE MEASURED UNLESS OTHERWISE NOTED.
3. THERE ARE NO GAPS OVERLAPS OR KNOWN DISCREPANCIES BETWEEN OWNERSHIP OR POSSESSION, UNLESS SHOWN.
4. THE CLIENT DID NOT PROVIDE A TITLE INSURANCE POLICY. THERE MAY BE EASEMENTS OF RECORD OTHER THAN THOSE SHOWN HEREON.

NOTES:

1. CONCRETE ENTRANCE SURFACING SHOULD BEGIN AT LEAST 2' NORTH OF CHIP SEALED N1500 RD TRAVELWAY. THE AREA BETWEEN N1500 RD TRAVELWAY AND THE CONCRETE ENTRANCE SHOULD BE ASPHALT.
2. GRADING SHALL BE SUCH THAT SURFACE WATER DRAINAGE IS TO THE NORTH/NORTHWEST AWAY FROM N1500 RD.

DATE	BY	DESCRIPTION

BARTLETT & WEST

1200 BW EXECUTIVE DR. - TOPEKA, KS 66615
PHONE 781.237.7599
WWW.BARTLETTWEST.COM

CONDITIONAL USE PLAN

PUBLIC WHOLESALE WATER SUPPLY DISTRICT NO. 25
WATER SYSTEM IMPROVEMENTS
DOUGLAS COUNTY, KS

DESIGNED BY:	JAS
DRAWN BY:	DOJ
APPROVED BY:	JAR
DESIGN PROJ:	14366.100
CONST PROJ:	---
SCALE:	AS LISTED
DATE:	JUNE 2013
DRAWING NO:	1
SHEET NO:	1 of 1



14366.100
Item 3,
Attachment B

Mark Parkinson, Governor
Joshua Svaty, Secretary

www.ksda.gov/dwr

May 10, 2010

PUBLIC WHOLESALE WATER SUPPLY DISTRICT NO 25
946 E 650 RD
LAWRENCE KS 66047

Re: Appropriation of Water, File Nos. 47,414;
47,488; and 47,489

Dear Sir or Madam:

There are enclosed permits to appropriate water authorizing you to proceed with construction of the proposed diversion works (except those dams and stream obstructions regulated by K.S.A. 82a-301 through 305a), to divert such unappropriated water as may be available from the source and at the location specified in these permits, and to use it for the purpose and at the location described in the permits.

Your attention is directed to the enclosures and to the terms, conditions, and limitations specified in the permits. Please note that the Chief Engineer has determined that the above referenced appropriations will benefit from assurance water releases and are eligible water rights for inclusion in the Kansas River Water Assurance District. In addition, please note the quantity of water limitation described in Paragraph No. 20 specified in the permit approvals for both Appropriation of Water, File Nos. 47,488 and 47,489.

Water meters are required, and you must install them on the diversion works prior to water being put to beneficial use in order for you to maintain accurate records of water use. The meters should be used to provide the information required on the annual water use report.

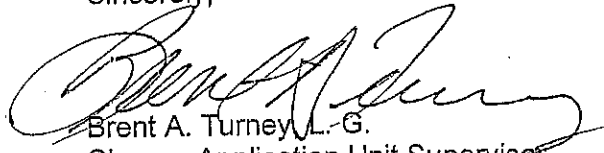
Failure to notify the Chief Engineer of the Division of Water Resources of the completion of the diversion works within the time allowed, or within any authorized extension of time thereof, will result in the dismissal of these permits. Enclosed are forms which may be used to notify the Chief Engineer that the proposed diversion works have been completed.

All requests for extensions of time to complete diversion works, or to perfect appropriations, must be submitted to the Chief Engineer before the expiration of time originally set forth in the permits to complete diversion works or to perfect an appropriation. If for any reason, you require an extension of time, you must request it before the expiration of time set forth in these permits. Failure to comply with this regulation will result in the dismissal of your permits or your water rights. Any request for an extension of time shall be accompanied by the required statutory fee, which is currently \$100.00 for each file.

Public Wholesale Water Supply District No. 25
File Nos. 47,414; 47,488; and 47,489
Page 2 of 2

There is also enclosed an information sheet setting forth the procedure to obtain a Certificate of Appropriation which will establish the extent of your water rights. If you have any questions, please contact our office. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,



Brent A. Turney, L.G.
Change Application Unit Supervisor
Water Appropriation Program

BAT:dws
Enclosures

pc: Topeka Field Office
Kansas River Water Assurance District No. 1
Jeff Shamburg, EI - Bartlett & West Engineers



KANSAS DEPARTMENT OF AGRICULTURE
Joshua Svaty, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David W. Barfield, Chief Engineer

**APPROVAL OF APPLICATION
and
PERMIT TO PROCEED**
(This Is Not a Certificate of Appropriation)

This is to certify that I have examined Application, File No. 47,488 of the applicant

**Public Wholesale Water Supply District No. 25
946 E 650 Road
Lawrence, Kansas 66047**

for a permit to appropriate water for beneficial use, together with the maps, plans and other submitted data, and that the application is hereby approved and the applicant is hereby authorized, subject to vested rights and prior appropriations, to proceed with the construction of the proposed diversion works (except those dams and stream obstructions regulated by K.S.A. 82a-301 through 305a, as amended), and to proceed with all steps necessary for the application of the water to the approved and proposed beneficial use and otherwise perfect the proposed appropriation subject to the following terms, conditions and limitations:

1. That the priority date assigned to such application is **March 3, 2010**.
2. That the water sought to be appropriated shall be used for municipal use within the boundaries of Public Wholesale Water Supply District No. 25 and immediate vicinity; within the boundaries of Rural Water District No. 2 and No. 5, Douglas County, Kansas; and within the boundaries of Rural Water District No. 5, Osage County, Kansas.
3. That the authorized source from which the appropriation shall be made is groundwater from main stem alluvium, to be withdrawn by means of a battery of two (2) wells with a geographic center located in the Southeast Quarter of the Northwest Quarter of the Southeast Quarter (SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$) of Section 34, more particularly described as being near a point 1,590 feet North and 1,640 feet West of the Southeast corner of said section, in Township 12 South, Range 20 East in Douglas County, Kansas, located substantially as shown on the topographic map accompanying the application.
4. That the appropriation sought shall be limited to a maximum diversion rate not in excess of **800 gallons per minute (1.78 c.f.s.)** and to a quantity not to exceed **420.48 million gallons (1,290.41 acre-feet)** of water for any calendar year.
5. That installation of works for diversion of water shall be completed on or before **December 31, 2011** or within any authorized extension thereof. The applicant shall notify the Chief Engineer and pay the statutorily required field inspection fee of \$400.00 when construction of the works has been completed. Failure to timely submit the notice and the fee will result in revocation of the permit. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.
6. That the proposed appropriation shall be perfected by the actual application of water to the proposed beneficial use on or before **December 31, 2030** or any authorized extension thereof. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.

COPY

7. That the applicant shall not be deemed to have acquired a water appropriation for a quantity in excess of the amount approved herein nor in excess of the amount found by the Chief Engineer to have been actually used for the approved purpose during one calendar year subsequent to approval of the application and within the time specified for perfection or any authorized extension thereof.

8. That the use of water herein authorized shall not be made so as to impair any use under existing water rights nor prejudicially and unreasonably affect the public interest.

9. That the right of the appropriator shall relate to a specific quantity of water and such right must allow for a reasonable raising or lowering of the static water level and for the reasonable increase or decrease of the streamflow at the appropriator's point of diversion.

10. That this permit does not constitute authority under K.S.A. 82a-301 through 305a to construct any dam or other obstruction; nor does it grant any right-of-way, or authorize entry upon or injury to, public or private property.

11. That all diversion works constructed under the authority of this permit into which any type of chemical or other foreign substance will be injected into the water pumped from the diversion works shall be equipped with an in-line, automatic quick-closing, check valve capable of preventing pollution of the source of the water supply. The type of valve installed shall meet specifications adopted by the Chief Engineer and shall be maintained in an operating condition satisfactory to the Chief Engineer.

12. That all wells with a diversion rate of 100 gallons per minute or more drilled under the authority of this permit shall have a tube or other device installed in a manner acceptable to, and in accordance with specifications adopted by, the Chief Engineer. This tube or device shall be suitable for making water level measurements and shall be maintained in a condition satisfactory to the Chief Engineer.

13. That an acceptable water flow meter shall be installed and maintained on the diversion works authorized by this permit in accordance with Kansas Administrative Regulations 5-1-4 through 5-1-12 adopted by the Chief Engineer. This water flow meter shall be used to provide an accurate quantity of water diverted as required for the annual water use report (including the meter reading at the beginning and end of the report year).

14. That the applicant shall maintain accurate and complete records from which the quantity of water diverted during each calendar year may be readily determined and the applicant shall file an annual water use report with the Chief Engineer by March 1 following the end of each calendar year. Failure to file the annual water use report by the due date shall cause the applicant to be subject to a civil penalty.

15. That no water user shall engage in nor allow the waste of any water diverted under the authority of this permit.

16. That failure without cause to comply with provisions of the permit and its terms, conditions and limitations will result in the forfeiture of the priority date, revocation of the permit and dismissal of the application.

17. That the right to appropriate water under authority of this permit is subject to any minimum desirable streamflow requirements identified and established pursuant to K.S.A. 82a-703c for the source of supply to which this water right applies.

18. That the permit holder shall submit a progress report to the office of the Chief Engineer by March 1, following the tenth full calendar year after the permit was issued. The progress report must be submitted on a form prescribed by the Chief Engineer, and shall compare annual water use projected in the original application with the actual annual water use for the prior 10 years. The progress report must document compliance with the approved conservation plan, contain sufficient details to determine the extent of perfection of the water right during the previous ten years, and demonstrate how the water right, in association with other water rights, meets the municipal use need.

19. That this permit is further limited such that both wells shall be located within a three hundred (300) foot radius circle, in the same local source of supply, and shall supply water to a common distribution system.

20. That the quantity of water approved under this permit is further limited to the quantity which combined with Appropriation of Water, File No. 47,414, will provide a total **not to exceed 676 million gallons (2,074 acre-feet)** of water per calendar year, for municipal use as described herein.

21. That the Chief Engineer specifically retains jurisdiction in this matter with authority to make such reasonable reductions in the approved rate of diversion and quantity authorized to be perfected, and such changes in other terms, conditions, and limitations set forth in this approval and permit to proceed as may be deemed to be in the public interest.

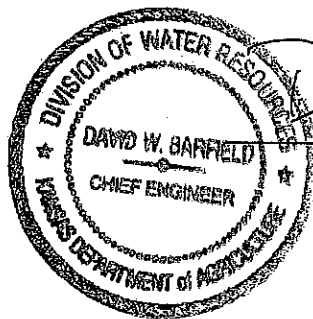
This Order shall become a final agency action, as defined by K.S.A. 77-607(b), without further notice to the parties, if a request for hearing or a petition for administrative review is not filed as set forth below.

Request for Hearing. According to K.A.R. 5-14-3(c), any party who desires a hearing must submit a request within 15 days after the date shown on the Certificate of Service attached to this Order. Filing a request for a hearing will give you the opportunity to submit additional facts for consideration, contest any findings made by the Chief Engineer, or present any other information you believe should be considered in this matter. A timely-filed request for hearing will stay the deadline for requesting administrative review of this Order pending the outcome of the hearing.

Petition for Review. The applicant, if aggrieved by this Order, may petition for administrative review, pursuant to K.S.A. 82a-711(c) and K.S.A. 82a-1901(a). The petition must be filed within 30 days after the date shown on the Certificate of Service attached to this Order and must set forth the basis for the review, unless stayed by the timely filing of a request for hearing.

Any request for hearing or petition for administrative review shall be in writing and shall be submitted to the attention of: Chief Legal Counsel, Kansas Department of Agriculture, 109 SW 9th Street, 4th Floor, Topeka, Kansas 66612, Fax: (785) 368-6668.

Dated at Topeka, Kansas, this *3rd* day of *May*, 2010.

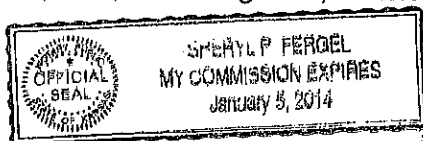


David W. Barfield

David W. Barfield, P.E.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture

State of Kansas)
) SS
County of Shawnee)

The foregoing instrument was acknowledged before me this *3rd* day of *May*, 2010, by David W. Barfield, P.E., Chief Engineer, Division of Water Resources, Kansas Department of Agriculture.



Sheryl P. Fergel

Notary Public

WATER METER REQUIRED

COPY

CERTIFICATE OF SERVICE

On this 10th day of May, 2010, I hereby certify that the foregoing Approval of Application and Permit to Proceed, File No. 47,488, dated May 3, 2010 was mailed postage prepaid, first class, US mail to the following:

PUBLIC WHOLESALE WATER SUPPLY DISTRICT NO 25
946 E 650 RD
LAWRENCE KS 66047

With photocopies to:

KANSAS RIVER WATER ASSURANCE DISTRICT NO 1
% GALEN BIERY
212 SW 7TH STREET
TOPEKA KS 66603-3717

BARTLETT & WEST ENGINEERS
% JEFF SHAMBURG EI
1200 SW EXECUTIVE DRIVE
TOPEKA KS 66615-3850

Topeka Field Office

Amanda Hunsaker
Division of Water Resources

CENTRAL WATER BOARD



KANSAS DEPARTMENT OF AGRICULTURE
Joshua Svaty, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David W. Barfield, Chief Engineer

**APPROVAL OF APPLICATION
and
PERMIT TO PROCEED**

(This Is Not a Certificate of Appropriation)

This is to certify that I have examined Application, File No. **47,414** of the applicant

**Public Wholesale Water Supply District No. 25
946 E 650 Road
Lawrence, Kansas 66047**

for a permit to appropriate water for beneficial use, together with the maps, plans and other submitted data, and that the application is hereby approved and the applicant is hereby authorized, subject to vested rights and prior appropriations, to proceed with the construction of the proposed diversion works (except those dams and stream obstructions regulated by K.S.A. 82a-301 through 305a, as amended), and to proceed with all steps necessary for the application of the water to the approved and proposed beneficial use and otherwise perfect the proposed appropriation subject to the following terms, conditions and limitations:

1. That the priority date assigned to such application is **October 13, 2009**.
2. That the water sought to be appropriated shall be used for municipal use within the boundaries of Public Wholesale Water Supply District No. 25 and immediate vicinity; within the boundaries of Rural Water District No. 2 and No. 5, Douglas County, Kansas; and within the boundaries of Rural Water District No. 5, Osage County, Kansas.
3. That the authorized source from which the appropriation shall be made is groundwater from main stem alluvium, to be withdrawn by means of a battery of two (2) wells with a geographic center located in Lot 2, in Section 33, more particularly described as being near a point 1,846 feet North and 2,360 feet West of the Southeast corner of said section, in Township 12 South, Range 20 East in Douglas County, Kansas, located substantially as shown on the topographic map accompanying the application.
4. That the appropriation sought shall be limited to a maximum diversion rate not in excess of **800 gallons per minute (1.78 c.f.s.)** and to a quantity not to exceed **420.48 million gallons (1,290.41 acre-feet)** of water for any calendar year.
5. That installation of works for diversion of water shall be completed on or before **December 31, 2011** or within any authorized extension thereof. The applicant shall notify the Chief Engineer and pay the statutorily required field inspection fee of \$400.00 when construction of the works has been completed. Failure to timely submit the notice and the fee will result in revocation of the permit. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.
6. That the proposed appropriation shall be perfected by the actual application of water to the proposed beneficial use on or before **December 31, 2030** or any authorized extension thereof. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.

COPY

7. That the applicant shall not be deemed to have acquired a water appropriation for a quantity in excess of the amount approved herein nor in excess of the amount found by the Chief Engineer to have been actually used for the approved purpose during one calendar year subsequent to approval of the application and within the time specified for perfection or any authorized extension thereof.

8. That the use of water herein authorized shall not be made so as to impair any use under existing water rights nor prejudicially and unreasonably affect the public interest.

9. That the right of the appropriator shall relate to a specific quantity of water and such right must allow for a reasonable raising or lowering of the static water level and for the reasonable increase or decrease of the streamflow at the appropriator's point of diversion.

10. That this permit does not constitute authority under K.S.A. 82a-301 through 305a to construct any dam or other obstruction; nor does it grant any right-of-way, or authorize entry upon or injury to, public or private property.

11. That all diversion works constructed under the authority of this permit into which any type of chemical or other foreign substance will be injected into the water pumped from the diversion works shall be equipped with an in-line, automatic quick-closing, check valve capable of preventing pollution of the source of the water supply. The type of valve installed shall meet specifications adopted by the Chief Engineer and shall be maintained in an operating condition satisfactory to the Chief Engineer.

12. That all wells with a diversion rate of 100 gallons per minute or more drilled under the authority of this permit shall have a tube or other device installed in a manner acceptable to, and in accordance with specifications adopted by, the Chief Engineer. This tube or device shall be suitable for making water level measurements and shall be maintained in a condition satisfactory to the Chief Engineer.

13. That an acceptable water flow meter shall be installed and maintained on the diversion works authorized by this permit in accordance with Kansas Administrative Regulations 5-1-4 through 5-1-12 adopted by the Chief Engineer. This water flow meter shall be used to provide an accurate quantity of water diverted as required for the annual water use report (including the meter reading at the beginning and end of the report year).

14. That the applicant shall maintain accurate and complete records from which the quantity of water diverted during each calendar year may be readily determined and the applicant shall file an annual water use report with the Chief Engineer by March 1 following the end of each calendar year. Failure to file the annual water use report by the due date shall cause the applicant to be subject to a civil penalty.

15. That no water user shall engage in nor allow the waste of any water diverted under the authority of this permit.

16. That failure without cause to comply with provisions of the permit and its terms, conditions and limitations will result in the forfeiture of the priority date, revocation of the permit and dismissal of the application.

17. That the right to appropriate water under authority of this permit is subject to any minimum desirable streamflow requirements identified and established pursuant to K.S.A. 82a-703c for the source of supply to which this water right applies.

18. That the permit holder shall submit a progress report to the office of the Chief Engineer by March 1, following the tenth full calendar year after the permit was issued. The progress report must be submitted on a form prescribed by the Chief Engineer, and shall compare annual water use projected in the original application with the actual annual water use for the prior 10 years. The progress report must document compliance with the approved conservation plan, contain sufficient details to determine the extent of perfection of the water right during the previous ten years, and demonstrate how the water right, in association with other water rights, meets the municipal use need.

19. That this permit is further limited such that both wells shall be located within a three hundred (300) foot radius circle, in the same local source of supply, and shall supply water to a common distribution system.

20. That the Chief Engineer specifically retains jurisdiction in this matter with authority to make such reasonable reductions in the approved rate of diversion and quantity authorized to be perfected, and such changes in other terms, conditions, and limitations set forth in this approval and permit to proceed as may be deemed to be in the public interest.

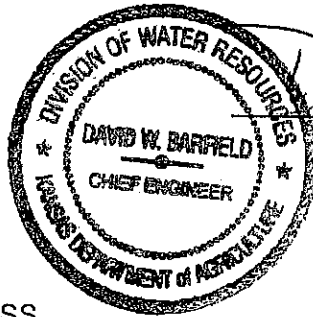
This Order shall become a final agency action, as defined by K.S.A. 77-607(b), without further notice to the parties, if a request for hearing or a petition for administrative review is not filed as set forth below.

Request for Hearing. According to K.A.R. 5-14-3(c), any party who desires a hearing must submit a request within 15 days after the date shown on the Certificate of Service attached to this Order. Filing a request for a hearing will give you the opportunity to submit additional facts for consideration, contest any findings made by the Chief Engineer, or present any other information you believe should be considered in this matter. A timely-filed request for hearing will stay the deadline for requesting administrative review of this Order pending the outcome of the hearing.

Petition for Review. The applicant, if aggrieved by this Order, may petition for administrative review, pursuant to K.S.A. 82a-711(c) and K.S.A. 82a-1901(a). The petition must be filed within 30 days after the date shown on the Certificate of Service attached to this Order and must set forth the basis for the review, unless stayed by the timely filing of a request for hearing.

Any request for hearing or petition for administrative review shall be in writing and shall be submitted to the attention of: Chief Legal Counsel, Kansas Department of Agriculture, 109 SW 9th Street, 4th Floor, Topeka, Kansas 66612, Fax: (785) 368-6668.

Dated at Topeka, Kansas, this *3rd* day of *May*, 2010.

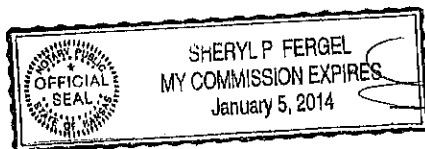


David W. Barfield

David W. Barfield, P.E.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture

State of Kansas)
) SS
County of Shawnee)

The foregoing instrument was acknowledged before me this *3rd* day of *May*, 2010, by David W. Barfield, P.E., Chief Engineer, Division of Water Resources, Kansas Department of Agriculture.



Sheryl P. Fergel

Notary Public

WATER METER REQUIRED COPY

CERTIFICATE OF SERVICE

On this *10th* day of *May*, 2010, I hereby certify that the foregoing Approval of Application and Permit to Proceed, File No. 47,414, dated *May 3, 2010* was mailed postage prepaid, first class, US mail to the following:

PUBLIC WHOLESALE WATER SUPPLY DISTRICT NO 25
946 E 650 RD
LAWRENCE KS 66047

With photocopies to:

KANSAS RIVER WATER ASSURANCE DISTRICT NO 1
% GALEN BIERY
212 SW 7TH STREET
TOPEKA KS 66603-3717

BARTLETT & WEST ENGINEERS
% JEFF SHAMBURG EI
1200 SW EXECUTIVE DRIVE
TOPEKA KS 66615-3850

Topeka Field Office

Amanda Hunsaker
Division of Water Resources

WATER PERMIT RECORD



KANSAS DEPARTMENT OF AGRICULTURE
Joshua Svaty, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David W. Barfield, Chief Engineer

**APPROVAL OF APPLICATION
and
PERMIT TO PROCEED**
(This Is Not a Certificate of Appropriation)

This is to certify that I have examined Application, File No. 47,489 of the applicant

**Public Wholesale Water Supply District No. 25
946 E 650 Road
Lawrence, Kansas 66047**

for a permit to appropriate water for beneficial use, together with the maps, plans and other submitted data, and that the application is hereby approved and the applicant is hereby authorized, subject to vested rights and prior appropriations, to proceed with the construction of the proposed diversion works (except those dams and stream obstructions regulated by K.S.A. 82a-301 through 305a, as amended), and to proceed with all steps necessary for the application of the water to the approved and proposed beneficial use and otherwise perfect the proposed appropriation subject to the following terms, conditions and limitations:

1. That the priority date assigned to such application is **March 3, 2010**.
2. That the water sought to be appropriated shall be used for municipal use within the boundaries of Public Wholesale Water Supply District No. 25, within the boundaries of Rural Water District No. 2 and No. 5, Douglas County, Kansas; and within the boundaries of Rural Water District No. 5, Osage County, Kansas.
3. That the authorized source from which the appropriation shall be made is groundwater from main stem alluvium, to be withdrawn by means of a battery of two (2) wells with a geographic center located in the Southeast Quarter of the Northeast Quarter of the Southwest Quarter (SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$) of Section 34, more particularly described as being near a point 1,953 feet North and 3,046 feet West of the Southeast corner of said section, in Township 12 South, Range 20 East in Douglas County, Kansas, located substantially as shown on the topographic map accompanying the application.
4. That the appropriation sought shall be limited to a maximum diversion rate not in excess of **800 gallons per minute (1.78 c.f.s.)** and to a quantity not to exceed **420.48 million gallons (1,290.41 acre-feet)** of water for any calendar year.
5. That installation of works for diversion of water shall be completed on or before **December 31, 2011** or within any authorized extension thereof. The applicant shall notify the Chief Engineer and pay the statutorily required field inspection fee of \$400.00 when construction of the works has been completed. Failure to timely submit the notice and the fee will result in revocation of the permit. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.
6. That the proposed appropriation shall be perfected by the actual application of water to the proposed beneficial use on or before **December 31, 2030** or any authorized extension thereof. Any request for an extension of time shall be submitted prior to the expiration of the deadline and shall be accompanied by the required statutory fee of \$100.00.

COPY

7. That the applicant shall not be deemed to have acquired a water appropriation for a quantity in excess of the amount approved herein nor in excess of the amount found by the Chief Engineer to have been actually used for the approved purpose during one calendar year subsequent to approval of the application and within the time specified for perfection or any authorized extension thereof.

8. That the use of water herein authorized shall not be made so as to impair any use under existing water rights nor prejudicially and unreasonably affect the public interest.

9. That the right of the appropriator shall relate to a specific quantity of water and such right must allow for a reasonable raising or lowering of the static water level and for the reasonable increase or decrease of the streamflow at the appropriator's point of diversion.

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11. That all diversion works constructed under the authority of this permit into which any type of chemical or other foreign substance will be injected into the water pumped from the diversion works shall be equipped with an in-line, automatic quick-closing, check valve capable of preventing pollution of the source of the water supply. The type of valve installed shall meet specifications adopted by the Chief Engineer and shall be maintained in an operating condition satisfactory to the Chief Engineer.

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18. That the permit holder shall submit a progress report to the office of the Chief Engineer by March 1, following the tenth full calendar year after the permit was issued. The progress report must be submitted on a form prescribed by the Chief Engineer, and shall compare annual water use projected in the original application with the actual annual water use for the prior 10 years. The progress report must document compliance with the approved conservation plan, contain sufficient details to determine the extent of perfection of the water right during the previous ten years, and demonstrate how the water right, in association with other water rights, meets the municipal use need.

19. That this permit is further limited such that both wells shall be located within a three hundred (300) foot radius circle, in the same local source of supply, and shall supply water to a common distribution system.

20. That the quantity of water approved under this permit is further limited to the quantity which combined with Appropriation of Water, File Nos. 47,414 and 47,488, will provide a total **not to exceed 676 million gallons (2,074 acre-feet)** of water per calendar year, for municipal use as described herein.

21. That the Chief Engineer specifically retains jurisdiction in this matter with authority to make such reasonable reductions in the approved rate of diversion and quantity authorized to be perfected, and such changes in other terms, conditions, and limitations set forth in this approval and permit to proceed as may be deemed to be in the public interest.

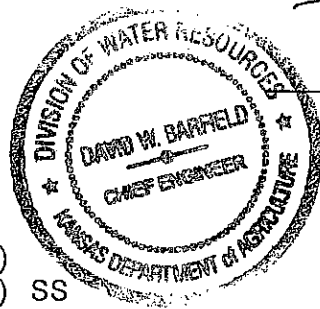
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Petition for Review. The applicant, if aggrieved by this Order, may petition for administrative review, pursuant to K.S.A. 82a-711(c) and K.S.A. 82a-1901(a). The petition must be filed within 30 days after the date shown on the Certificate of Service attached to this Order and must set forth the basis for the review, unless stayed by the timely filing of a request for hearing.

Any request for hearing or petition for administrative review shall be in writing and shall be submitted to the attention of: Chief Legal Counsel, Kansas Department of Agriculture, 109 SW 9th Street, 4th Floor, Topeka, Kansas 66612, Fax: (785) 368-6668.

Dated at Topeka, Kansas, this 3rd day of May, 2010.



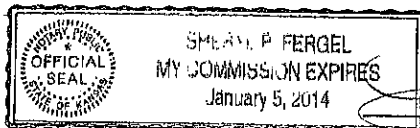
David W. Barfield

David W. Barfield, P.E.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture

State of Kansas)
County of Shawnee)

SS

The foregoing instrument was acknowledged before me this 3rd day of May, 2010, by David W. Barfield, P.E., Chief Engineer, Division of Water Resources, Kansas Department of Agriculture.



Sheryl P. Fergel
Notary Public

WATER METER REQUIRED COPY

CERTIFICATE OF SERVICE

On this 10th day of May, 2010, I hereby certify that the foregoing Approval of Application and Permit to Proceed, File No. 47,489, dated May 3, 2010 was mailed postage prepaid, first class, US mail to the following:

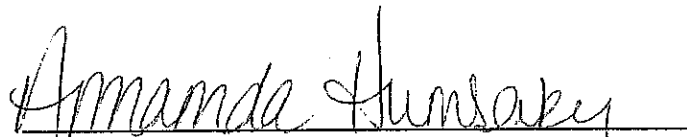
PUBLIC WHOLESALE WATER SUPPLY DISTRICT NO 25
946 E 650 RD
LAWRENCE KS 66047

With photocopies to:

KANSAS RIVER WATER ASSURANCE DISTRICT NO 1
% GALEN BIERY
212 SW 7TH STREET
TOPEKA KS 66603-3717

BARTLETT & WEST ENGINEERS
% JEFF SHAMBURG EI
1200 SW EXECUTIVE DRIVE
TOPEKA KS 66615-3850

Topeka Field Office



Division of Water Resources

WATER METER RECORDED

14366.100

Kansas
Department of Agriculture
Division of Water Resources

109 SW 9th Street, 2nd Floor
Topeka, Kansas 66612-1283

phone: (785) 296-3717
fax: (785) 296-1176
www.ksda.gov/dwr

Dale A. Rodman, Secretary
David W. Barfield, Chief Engineer

Sam Brownback, Governor

April 8, 2013

PUBLIC WHOLESALE WATER SUPPLY DIST #25
946 E 650TH RD
LAWRENCE KS 66047-9538

RE: Appropriation of Water
File Nos. 47,414, 47,488 and 47,489


Dear Sir or Madam:

In response to your written request(s), received in this office on December 31, 2012, the Chief Engineer has extended until **December 31, 2013**, the time in which to complete the diversion works under the above referenced file numbers.

The Kansas Water Appropriation Act and associated regulations require the Chief Engineer to limit the amount of time to complete the diversion works and perfect a water right. Any future request(s) should demonstrate that progress has been made toward completing the diversion works and elaborate how circumstances beyond your control prevented completion of the authorized project. While we will consider any information you submit, there is no guarantee that future request(s) can be granted.

The law requires that the Chief Engineer, Division of Water Resources, Kansas Department of Agriculture, be notified in writing, when construction of the diversion works has been completed. According to the law, failure to complete construction of the diversion works, within the time allowed, shall result in the dismissal of the above referenced permits.

If you have any questions, please contact our office.

Sincerely,

Kenneth A. Kopp, L.G.
Water Appropriation Program

pc: Topeka Field Office
Jeffrey Shamburg - Bartlett and West

Ground Water Associates, Inc.

610 N. MAIN, P.O. BOX 3834 • WICHITA, KANSAS 67201 • 316-262-3322

December 17, 2009

Larry Wray, Chairman
PWWSD # 25
946 E. 650 Rd
Lawrence, Kansas 66047

Subject: Ground Water Investigation

Dear Mr. Wray,

This letter is written to serve as a report concerning the investigation made to locate and evaluate well sites just south of the Kansas River in the SE ¼ and SW ¼ Section 34, T12S, R20E Douglas County. We have attached a map showing the drilling sites, drill logs and summary of the partial water analysis.

The Investigation

Two test holes were drilled September 23, 2009 in the SE ¼ of Section 34 (east site). From these two test holes we selected the best site and completed a 5" test well.

Test hole 4-09 was drilled in the SE ¼ Sec 34 on the northeast corner of the property. Sand and gravel were present from 13' to 54' and one foot of cemented sand was just above the shale at 55'. Two inch PVC was set at this location with screen from 35' to 55'. A sample was air lifted and due to the very fine sand present was filtered before being sent to Servi-Tech. Water quality indicated a 380 ppm (parts per million) hardness and a high reading of 0.47 ppm of manganese. Nitrate, chloride and iron were acceptable at this site. Static water level was 24.09' and 29.91' of saturated thickness is available at this site.

Test hole 5-09 was drilled in the SE ¼ Sec 34 on the northwest corner of the property with sand and gravel from 16' to 53'. A cemented sand layer was present from 53 to 54 feet, then shale at 55'. Two Inch PVC was set with screen from 33' to 53'. The water sample was air lifted and filtered. Water analysis indicated total hardness of 320 ppm, manganese of 0.50 ppm, and nitrate, iron and chloride all in an acceptable range. The aquifer has 28.30' of saturated thickness at this site with a static water level of 24.70'.

Test well 9-09 (east site) was completed 20' from test hole 4-09. Five inch PVC pipe was set with screen located from 54' to 34'. A 4 hour pumping test was run at 94.3 gpm on October 8, 2009.



On the SW ¼ of Section 34, T12S, R20E two test holes were completed with 2" PVC and a water sample was airlifted and filtered.

Test hole 6-09 was drilled on the southwest corner of the property to 25'. Water circulation was lost at this depth due to a fracture or a tree root and we moved 40' south to complete Test Hole 6-09A. Test hole 6-09A was completed to a depth of 56' into shale. Sand and gravel with small streaks of gray clay were present from 16' to 54'. Cemented sand ran from 54' to 55.5'. Twenty foot of screen was set from 54' to 34'. Static water level was 27.64' and 26.36' of saturated thickness is present at this site. Water quality showed a high manganese reading of 0.47 ppm and total hardness of 380. The rest of the water analyses was acceptable and is shown on the water quality summary sheet.

Test Hole 7-09 was drilled on September 25, 2009. Sand and gravel with wood pieces and clay streaks ran from 18' to 52'. This site had the dirtiest producing formation of the 4 test holes and the least amount of saturated thickness at 24.22' of water. Also the water quality was not as good as the other sites with a total hardness of 410 ppm, iron of 0.13 ppm with 0.45 ppm of manganese.

Test Well 8-09 (East Site) was drilled at the Test Hole 6-09A site and completed with 20' of screen from 54' to 34'. On October 7, 2009 a 3.5 hour pumping test was completed at this site and KDHE and Servi-Tech samples were collected.

Analysis of Data

The computer analysis (Aquifer Test 3.5) of the three and one-half hour pumping test on test well 8-09 indicates an average transmissivity of 66,655 gallons per foot per day (g/ft/d). Transmissivity is the measure of how much water can move through a unit width of the aquifer. Readings were taken with pressure data loggers as well as manually. Drawdown of 5.34 feet at 94.7 gpm was recorded giving us a specific capacity of 17.73 gallons per foot of drawdown. Static water level was 27.79' which indicates 26.21' of saturated thickness. This is the weakest of the three test well sites. Given the limited saturated thickness and high iron and manganese levels a well located here would produce in the 400 gpm range. We have not received the KDHE radiochemistry results at this site.

The water samples on test well 8-09 were pumped not airlifted as the test holes. Also they were not filtered as the test hole samples. The water hardness was 410 ppm and nitrates increased to 1.60 ppm from test hole 6-09A. The nitrate is still within the 10 ppm KDHE maximum. Manganese remained elevated at 0.46 ppm but the iron increased to 5.4 ppm from less than 0.05 ppm.

Test Well 9-09 was pumped for four hours with a maximum drawdown was 2.63' giving us a specific capacity of 35.85 gallons per foot of drawdown. Static water level was 21.11' with 29.89' of saturated thickness at this site. The hydrology of this site indicates the strongest aquifer of our test wells with average transmissivity of 151,000 g/d/ft. As with the other sites the high iron and manganese will require a well chlorination schedule to maintain this well site.

Larry Wray, Chairman
Page 3
December 17, 2009

The water quality at this site also indicated a large increase in the iron content from 0.07 ppm to 7.6 ppm. We question this. Water hardness was 410 ppm and no nitrates were detected. KDHE radiochemistry analysis is all within the acceptable range.

Conclusion

TW 8-09 (west site) given the limited saturated thickness and high iron and manganese levels a well located here would produce in the 400 gpm range.

The TW 9-09 (east site) is a much stronger aquifer and would support a well producing 500 to 600 gpm

At both sites the iron amount increased to an excessive amount, 5.4 ppm at TW 8-09 and 7.6 ppm at TW 9-09 when the water samples were pumped verses the test hole air lifted. Also the test hole airlifted samples were filtered before they were sent to Servi-Tech and the test well pumped samples were not. Fine sand in the pumped water samples can cause elevated iron content. The engineer may want the test wells resampled to determine the iron content of the sites.

Please advise us if you have comments or questions concerning this letter report.

Best Regards,



Brad Vincent, P.G.
Ground Water Associates, Inc.

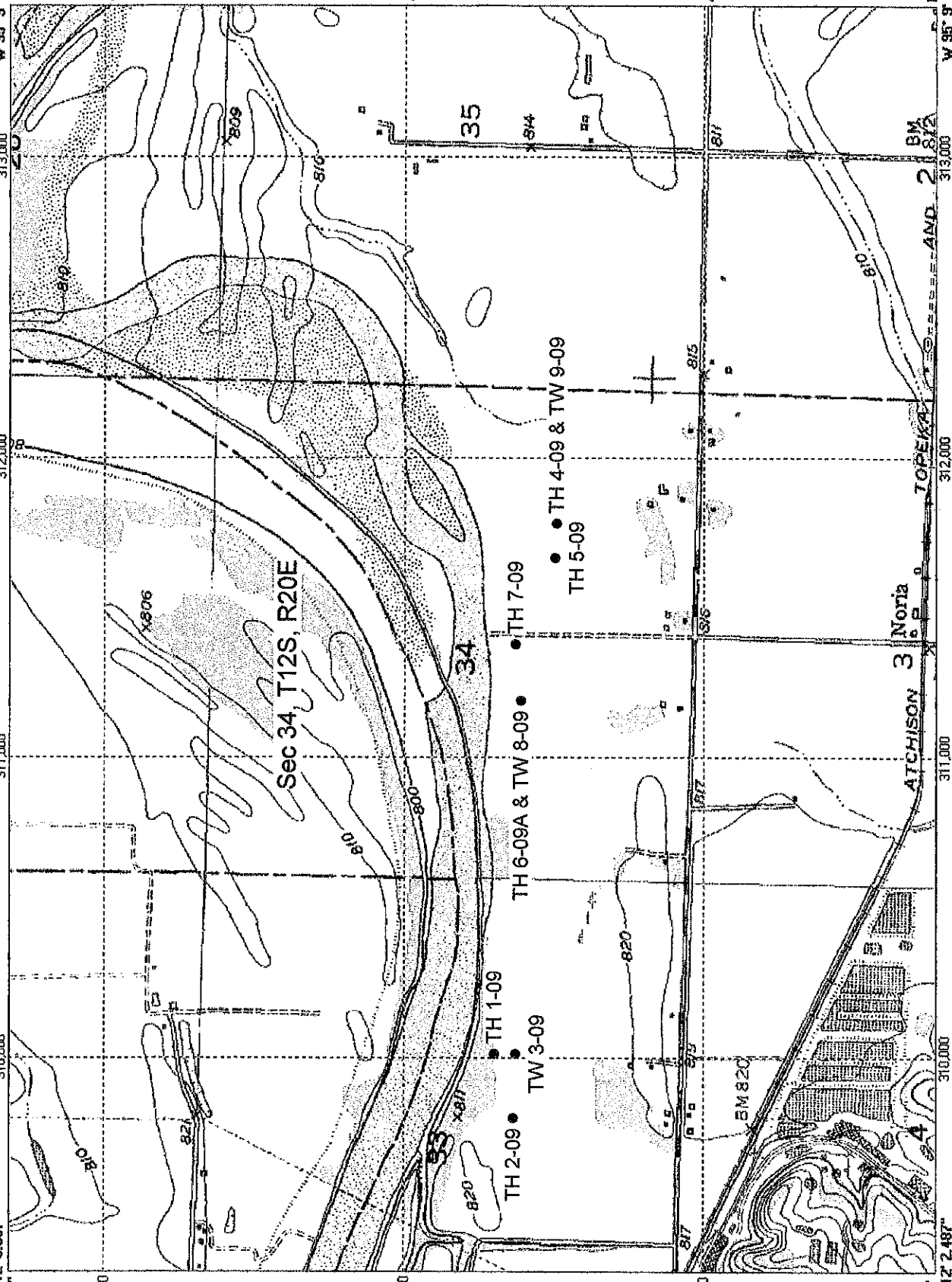
pc: Jeff Shamburg, Project Engineer
Bartlett and West Engineers, Inc. ✓



N 38° 58' 37.035" W 95° 12' 5.587" 310,000 311,000 312,000 313,000 W 95° 9' 10.477" N 38° 58' 40.304"

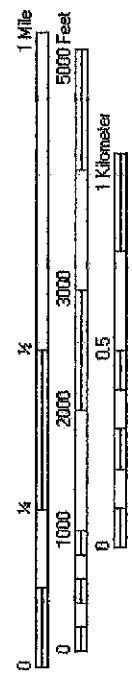
4,316,000 4,315,000 4,314,000

Sec 34, T12S, R20E



N 38° 56' 56.866" W 95° 12' 2.487" 310,000 311,000 312,000 313,000 W 95° 7' 7.444" N 38° 57' 0.132"

1927 North American Datum; 1,000-meter UTM grid zone 15
Generated by BigTopo (www.bigtopo.com)
Map compiled from USGS Quads; Lawrence East, KS



16 Dec 2009

PWWSD #25
Test Holes & Test Wells

Test Hole # /Test Well #	Surface Elevation	Depth to Bedrock	Bedrock Elevation	Static Water Level	Sand Thickness below SWL	Saturated Thickness
TH 1-09	820'	52'	768'	25.95'	25.5'	26.05'
TH 2-09	820	52	768	25.45	25.5	26.55
TW 3-09	820	52	768	25.45	26	26.55
TH 4-09 TW 9-09	813	54	759	24.09	29.9	29.91
TH 5-09	813	53	760	24.70	28.3	28.30
TH 6-09A TW 8-09	813	54	759	27.64	26.4	26.36
TH 7-09	813	52	758.5	27.78	24.2	24.22

2 Dec 2009

PWWSD #25 Water Quality

Test Hole or Well	Date	Total Hardness	Nitrate (NO3-N)	Chloride (Cl)	Iron (Fe)	Manganese (Mn)
TH 1-09 (Air Lift)	20 Jan 09	480	<1	21	<0.05	0.50
TH 2-09 (Air Lift)	21 Jan 09	550	<1	58	<0.05	0.82
TW 3-09 (Air Lift)	21 Jan 09	450	<1	22	0.11	0.38
(Pumped)	29 Jan 09	490	2.2	18	3.5	0.30
(Pumped)	29 Jan 09	510	1.6	12	3.9	0.33
TH 4-09 (Air Lift)	24 Sep 09	380	<0.1	14	0.07	0.47
TH 5-09 (Air Lift)	23 Sep 09	320	0.16	32	0.06	0.50
TH 6-09A (Air Lift)	24 Sep 09	380	0.12	19	<0.05	0.47
TH 7-09 (Air Lift)	25 Sep 09	410	<0.1	15	0.13	0.45
TW 8-09 (TH 6-09A site) (Pumped)	7 Oct 09	410	1.60	16	5.4	0.46
(Pumped)	7 Oct 09	400	1.50	14	6.8	0.47
TW 9-09 (TH 4-09 site) (Pumped)	8 Oct 09	410	ND	12	7.6	0.42
(Pumped)	8 Oct 09	410	0.24	10	8.4	0.44
KDHE Standards		<400	<10	<250	<0.30	<0.05

All results in mg/L
 Servi-Tech Lab
KDHE Lab



23 Sep 2009

PWWSD #25

TH 4-09 1560' N & 1460' E of SE cor. Section 34, T12S, R20E
N 38 57.665' W 95 10.333'

Elevation 813'

SWL 24.09' @GL

0 - 3'	TS
3 - 14	Clay, lt br
14 - 20	Sand br f-m, clay lt br, soft
20 - 33	Sand br f-m, streaks gy clay @ 24', using water
33 - 51	Sand br/gy f-c, so. gravel f, so. clay gy, using water
51 - 54	Gravel f-c br, sand br f-c, so pebbles br/ gy
54 - 55	Cemented sand br/gy
55 - 57	Shale gy, v. hard
57	Limestone wh

Set 2" pvc, screen 55'-35'.

Gravel Pack to 20' and holeplug 20' to 0.

Logged by Brad Vincent, Ground Water Associates
GPS - Garmin hand held using 1927 North American datum



23 Sep 2009

PWWSD #25

TH 5-09 1560' N & 1840' E of SE cor. Section 34, T12S, R20E
N 38 57.666' W 95 10.413'

Elevation 813'

SWL 24.70' @GL

0 - 3'	TS
3 - 16	Clay, lt br, soft
16 - 41	Sand br f-m, using water
41 - 53	Sand br/gy f-m, streaks gravel f-c @ 41', using water
53 - 54	Cemented sand, v. hard
54 - 56	Shale gy, v. hard
55 - 57	Shale gy, v. hard

Set 2" pvc, screen 53'-33'.

Gravel Pack to 20' and holeplug 20' to 0.

Logged by Brad Vincent, Ground Water Associates
GPS - Garmin hand held using 1927 North American datum



24 Sep 2009

PWWSD #25

TH 6-09A 1900' N & 730' W of SE cor. Section 34, T12S, R20E Elevation 813'
N 38 57.721' W 95 10.744'

SWL 27.64' @GL

0 - 4'	TS
4 - 16	Clay, lt br
16 - 31	Sand br f-m
31 - 35.5	Sand br/gy f-c, so. gravel f, clay gy streaks @31', using water
35.5 - 37	Sand br/gy f-c, so. gravel f-c, so. pebbles, using water
37 - 54	Sand br/gy f-c, so. gravel f-c, so. very thin gy clay streaks, using water
54 - 55.5	Cemented sand, v. hard
55.5-56	Shale gy, v. hard

Set 2" pvc, screen 54'-34'.

Gravel Pack to 20' and holeplug 20' to 0.

Logged by Brad Vincent, Ground Water Associates
GPS - Garmin hand held using 1927 North American datum



25 Sep 2009

PWWSD #25

TH 7-09 1958' N & 100' W of SE cor. Section 34, T12S, R20E
N 38 57.733' W 95 10.614'

Elevation 813'

SWL 27.78' @GL

0 - 3'	TS
3 - 18	Clay, lt br, silty
18 -25	Sand br f-c
25 - 30	Sand br/gy f-c, so. gravel f-m, using water
30 - 34	Sand br/gy f-c, gravel f, shale or wood pieces bl
34 - 40	Sand br/gy f-c, gravel f, clay gy streaks
40 - 52	Sand br/gy f-c, wood pieces
52-54.5	Sand br/gy f-c, so. cemented, wood pieces
54.5 - 55	Limestone gy, v. hard

Set 2" pvc, screen 54'-34'.

Gravel Pack to 20' and holeplug 20' to 0.

Logged by Brad Vincent, Ground Water Associates
GPS - Garmin hand held using 1927 North American datum

LARKE WELL & EQUIPMENT, INC.
WELL RECORD

FORMATION TEST ONLY
PLUGGED

289

JOB NUMBER 9883

WELL OWNER PWWSO #25

WELL NO. TW8-09

WELL USE Test Well

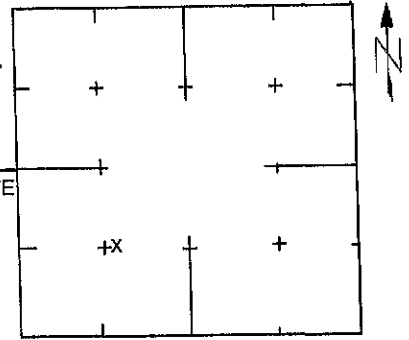
APPR. NO. _____

LEGAL SW 1/4 NE 1/4 SW 1/4 Sect 34 Twp 12 S Rng 20 E Douglas KS
COUNTY STATE

FSL, FEL

GPS - 311194 E 4314616 N Zone 15 NAD 27

West Drill Site _____



Formation Log SIZE HOLE 9 " DIA. Electric Log SWL 27.60' SECTION 34

FROM	TO	FEET	FORMATION / COMMENTS	SAMPLES TAKEN
0	3		Topsoil	
3	16		Clay, light brown, soft, silty	
16	36		Sand, fine to coarse, with gravel, fine and clay streaks, black	
36	37		Clay, light gray, soft	
37	54		Sand, coarse to fine, with gravel, fine to medium, with clay streaks, black, soft	
54	55.6		Cemented sand, soft	
55.6	57		Shale, gray, hard	

Ground Water Associates, Inc.

610 N. MAIN, P.O. BOX 3834 • WICHITA, KANSAS 67201 • 316-262-3322

March 2, 2009

Larry Wray, Chairman
PWWSD # 25
946 E. 650 Rd
Lawrence, Kansas 66047

Subject: Ground Water Investigation

Dear Mr. Wray,

This letter is written to serve as a report concerning the investigation made to locate and evaluate well sites just south of the Kansas River in the SE ¼ Section 33, T12S, R20E Douglas County. We have attached a map showing the drilling sites, drill logs, summary of the partial water analyses, and a multiple well pumping projection.

The Investigation

Two test holes and one test well were drilled January 19, 20, 2009 in the SE ¼ of Section 33 with the bottom sand and gravel formation at 52' on all three holes.

Test hole 1-09 was drilled on the northeast corner of the property. Sand and gravel was present from 13' to 52' with half a foot of clay from 27' to 27.5'. Two inch PVC was set at this location with screen from 32' to 52'. The fifty percent size of the samples collected ran from 0.66 mm (45' to 52') to 1.38 mm (25' to 27'). A water sample was air lifted showing a water quality of 480 ppm (parts per million) hardness and a moderately high reading of 0.50 ppm of manganese. Nitrate, chloride and iron were acceptable at this site. A static water level of 25.95' leaves 26.05' of water at the NE corner of the area of investigation.

Test hole 2-09 was drilled on the southwest corner of the property (705.3' west of TW 3-09) with sand and gravel from 18' to 52'. A layer of clay was located from 41 to 42 feet. Two inch PVC was set with screen from 32' to 52'. These sand and gravel samples range from a fifty percent size of 0.225 mm (42' to 47') to 1.4 mm (50.5' to 52'). The water sample was air lifted January 21, 2009 at this site and hardness was 550 ppm, manganese 0.82 ppm, and nitrate, iron and chloride all in acceptable range. The aquifer has 26.55' of water at this site with a static water level of 25.45'.

Test Well 3-09 was completed on the southeast corner of the property, 238.5' south of TH 1-09. Five inch PVC pipe was set with screen from 52' to 32'. Sand and gravel ran from 13' to 52' with a clay layer from 36' to 36.5'. The sieve analyses ran on the samples indicate a 50 percent size of 0.47 mm (21' to 36') for the finest and 1.25 mm (36.5' to 41')



Larry Wray, Chairman
Page 2
March 2, 2009

as the coarsest. Static water level was 26.48' leaving 25.52' of water at this location. Upon completion of the test well a water sample was lifted with air on 21 January 2009. Total hardness was 450 ppm, manganese 0.38 ppm, iron 0.11 ppm with nitrates less than 1 ppm, and chlorides of 58 ppm. Once again the hardness and manganese were high but the others three were well within acceptable levels.

On January 29 2009 a four hour pumping test was completed on test well 3-09 and readings were taken at all three sites. The test was run at 134.7 gpm with the final four hour reading at the test well indicated a drawdown of 2.49' or a specific capacity of 54.1 gallons per foot of drawdown. Upon completion of this four hour test, one hour recovery of readings were taken at test hole 1-09 and the pumped well (TW 3-09). Test hole 2-09 which is 705.3' west recorded no drawdown on the four hour test so no recovery readings were taken.

Three and one half hours into the pumping test water samples were collected for KDHE (Kansas Department of Health and Environment) and Servi-Tech Laboratories. We use the Servi-Tech analysis as a cross check for the KDHE sample. A summary sheet of the five most problematic items is included with this report. This pumped water sample (from TW 3-09) indicates a water hardness of 490- 510 ppm and nitrates of 1.6 - 2.2 ppm which are slightly higher, while the chlorides and manganese have a small decrease from the air lifted samples taken January 21, 2009. The iron content greatly increased to 3.5 - 3.9 ppm from the January 21 sample of 0.11 ppm, and the pumped sample will be the most nearly correct.

Analysis of Data

The computer analysis (Aquifer Test 4.0) of the four hour pumping test on test well 3-09 indicates an average transmissivity of 80,300 g/ft/d with a storativity value of 0.212. Transmissivity is the measure of how much water can move through a unit width of the aquifer. Storativity or specific yield measures how much water drains from the pore spaces of the unconfined aquifer. This analysis indicates a relatively strong aquifer. Our sieve analyses of the sand and gravel at the three sites indicate a moderate to very fine grain size.

Using the Aquifer Test 4.0 multiple pumping wells program we ran our projection with two wells 700' apart pumping at 775 gpm for 365 days. The 775 gpm per well was arrived at by dividing the application requested amount of 2,500 acre feet of water by 365 days and 1440 minutes. We used the transmissivity and storativity from our averaged analysis of the TW 3-09 pumping test. The results show a greater than 26' of drawdown in the well field from these two wells pumping continuously for one year at 775 gpm. However our program doesn't take in to account any recharge from precipitation or from the surface water due to the close proximity to the Kansas River (TH 1-09 is 270' south of the river), and this amount will be significant. We also ran a projection where only the east well is pumping at 775 gpm for 365 days and then both wells pumping at 387 gpm for 365 days.

Larry Wray, Chairman
Page 3
March 2, 2009

Conclusion


Pumping two production wells within 700 feet at 775 gpm would create excessive drawdown at this site due to the depth of water (twenty-six feet) and the moderate to fine sand formations located in portions of this aquifer. Even though our Aquifer Test 4.0 projection of multiple pumping wells (see attached) does not include recharge from precipitation or the Kansas River we feel this aquifer with a transmissivity of 80,300 g/ft/d would require either greater spacing or reduced pumping rates of the production wells. The basic problem here is the limited saturated thickness of the aquifer.

Using the same aquifer data and pumping the east production well at 775 gpm the projection shows drawdown of 18.48' (71 percent drawdown) at the well site. However if the east and west site are pumped at 387 gpm the drawdown at the wells is just 10.45' or 40 percent. Pumping one well at the east and one well at the west site at a reduced rate (1250 acre feet) would be good alternative at this location. Of course, recharge from the river will not allow the projected drawdowns shown to cross the river.

The quality of water at this site is hard, and the iron and manganese is excessive but we understand that a treatment plant would be used to correct this problem. The wells would have to be regularly chlorinated to prevent plugging of the screens. At the time of this letter we have not received the radiological analysis from KDHE but no problems would be expected in this type of aquifer.

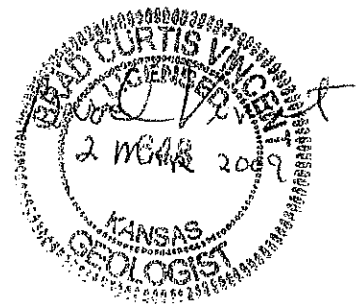
Please advise us if you have comments or questions concerning this letter report.

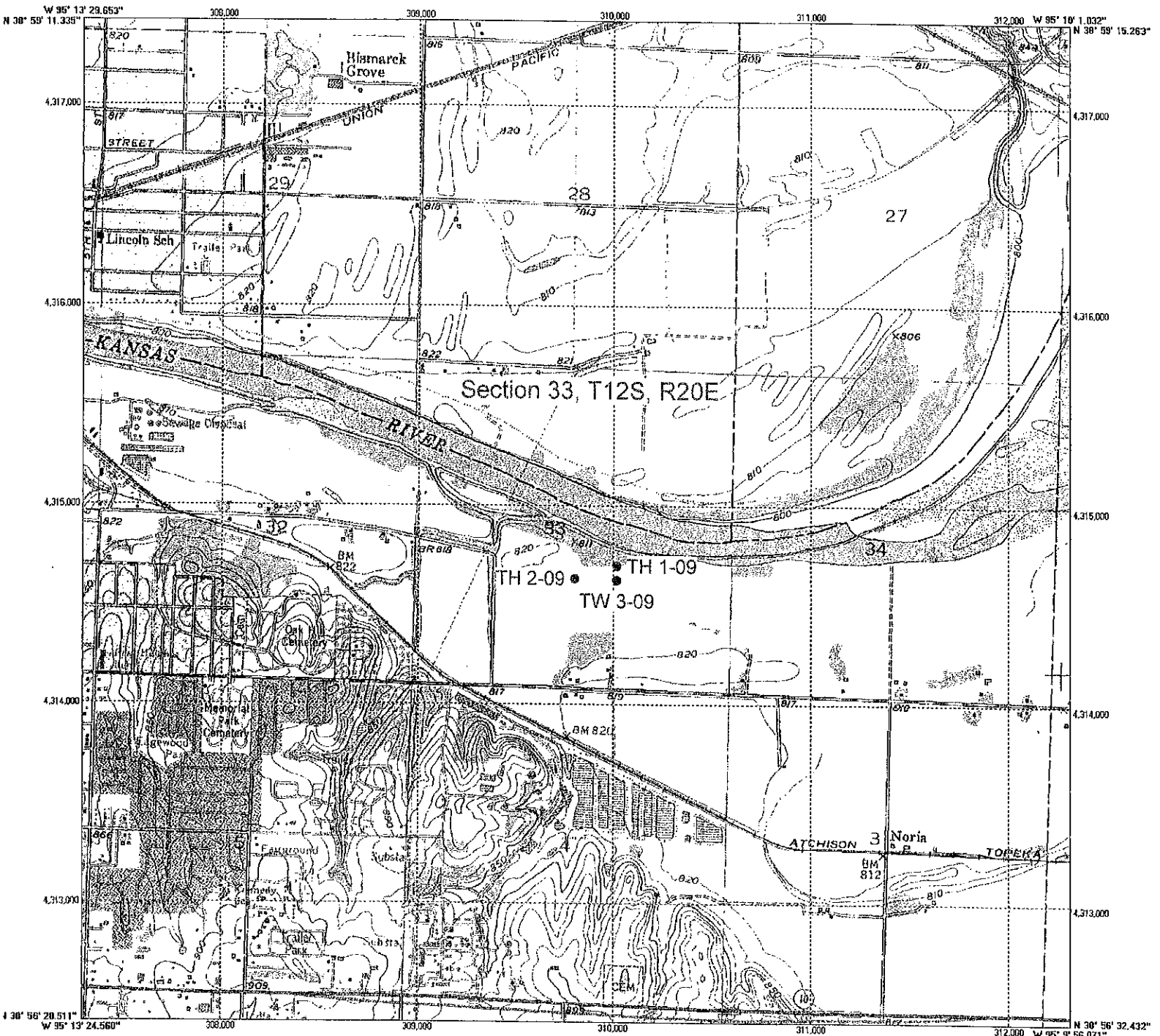
Best Regards,



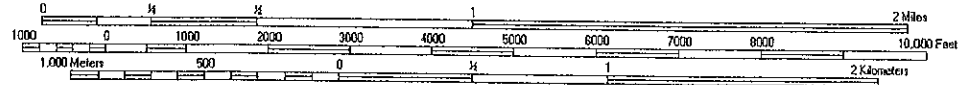
Brad Vincent, P.G.
Ground Water Associates, Inc.

pc: Jeff Shamburg, Project Engineer
Bartlett and West Engineers, Inc.





1927 North American Datum; 1,000-meter UTM grid zone 15
 Generated by BigTop (www.bigtop.com)
 Map compiled from USGS Quads: Lawrence East, KS



20 Feb 2009

PWWSD #25 Water Quality

Test Hole or Well	Date	Total Hardness	Nitrate (NO3-N)	Chloride (Cl)	Iron (Fe)	Manganese (Mn)
TH 1-09 (Air Lift)	20 Jan 09	480	<1	21	<0.05	0.50
TH 2-09 (Air Lift)	21 Jan 09	550	<1	58	<0.05	0.82
TW 3-09 (Air Lift)	21 Jan 09	450	<1	22	0.11	0.38
(Pumped)	29 Jan 09	490	2.2	18	3.5	0.30
(Pumped)	29 Jan 09	510	1.6	12	3.9	0.33
KDHE Standards		<400	<10	<250	<0.30	<0.05

All results in mg/L
Servi-Tech Lab
KDHE Lab



Ground Water Associates
1999 N. Amidon, STE. 218
Wichita, Ks 67203

Pumping Test - Water Level Data

Project: PWWSD #25

Number:

Client:

Location: SE 1/4, Sec 33, T12S, R20E

Pumping Test: Four Hour Pumping Test

Pumping well: TW 3-09

Test conducted by: Clarke Drilling

Test date: 1/29/2009

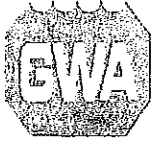
Discharge: variable, average rate 134.7 [U.S. gal/min]

Observation well: TW 3-09

Static water level [ft]: 26.48

Radial distance to PW [ft]: -

	Time [min]	Water Level [ft]	Drawdown [ft]
1	1	28.24	1.76
2	2	28.60	2.12
3	3	28.65	2.17
4	4	28.67	2.19
5	5	28.67	2.19
6	7	28.69	2.21
7	9	28.69	2.21
8	11	28.70	2.22
9	15	28.71	2.23
10	20	28.71	2.23
11	25	28.75	2.27
12	30	28.77	2.29
13	35	28.79	2.31
14	40	28.79	2.31
15	45	28.81	2.33
16	50	28.82	2.34
17	60	28.84	2.36
18	70	28.86	2.38
19	80	28.87	2.39
20	90	28.88	2.40
21	100	28.88	2.40
22	120	28.89	2.41
23	150	28.94	2.46
24	180	28.95	2.47
25	210	28.96	2.48
26	240	28.97	2.49
27	241	26.84	0.36
28	242	26.82	0.34
29	243	26.78	0.30
30	244	26.82	0.34
31	245	26.73	0.25
32	247	26.75	0.27
33	249	26.71	0.23
34	251	26.70	0.22
35	255	26.63	0.15
36	260	26.63	0.15
37	265	26.61	0.13
38	270	26.61	0.13
39	275	26.59	0.11
40	280	26.59	0.11
41	285	26.58	0.10
42	290	26.57	0.09
43	300	26.56	0.08



Ground Water Associates
1999 N. Amidon, STE. 218
Wichita, Ks 67203

Pumping Test - Water Level Data

Project: PWWSD #25

Number:

Client:

Location: SE 1/4, Sec 33, T12S, R20E

Pumping Test: Four Hour Pumping Test

Pumping well: TW 3-09

Test conducted by: Clarke Drilling

Test date: 1/29/2009

Discharge: variable, average rate 134.7 [U.S. gal/min]

Observation well: TH 1-09

Static water level [ft]: 27.53

Radial distance to PW [ft]: 238.5

	Time [min]	Water Level [ft]	Drawdown [ft]
1	1	27.54	0.01
2	2	27.54	0.01
3	3	27.54	0.01
4	4	27.54	0.01
5	5	27.54	0.01
6	7	27.54	0.01
7	9	27.55	0.02
8	11	27.55	0.02
9	15	27.55	0.02
10	20	27.55	0.02
11	25	27.55	0.02
12	30	27.55	0.02
13	35	27.55	0.02
14	40	27.55	0.02
15	45	27.55	0.02
16	50	27.56	0.03
17	60	27.56	0.03
18	70	27.56	0.03
19	80	27.57	0.04
20	90	27.57	0.04
21	100	27.57	0.04
22	120	27.57	0.04
23	150	27.58	0.05
24	180	27.59	0.06
25	210	27.59	0.06
26	240	27.60	0.07
27	241	27.59	0.06
28	242	27.59	0.06
29	243	27.59	0.06
30	244	27.59	0.06
31	245	27.59	0.06
32	247	27.59	0.06
33	249	27.58	0.05
34	251	27.58	0.05
35	255	27.57	0.04
36	260	27.57	0.04
37	265	27.57	0.04
38	270	27.57	0.04
39	275	27.57	0.04
40	280	27.57	0.04
41	285	27.57	0.04
42	290	27.56	0.03
43	300	27.56	0.02



Ground Water Associates
 1999 N. Amidon, STE. 218
 Wichita, Ks 67203

Pumping Test Analysis Report

Project: PWWSD #25

Number:

Client:

Location: SE 1/4, Sec 33, T12S, R20E

Pumping Test: Four Hour Pumping Test

Pumping well: TW 3-09

Test conducted by: Clarke Drilling

Test date: 1/29/2009

Aquifer Thickness: 25.52 ft

Discharge: variable, average rate 134.7 [U.S. gal/min]

	Analysis Name	Analysis performed by	Date	Method name	Well	T [U.S. gal/d]	FK [U.S. gal/d]	fS
1	Recovery	Brad Vincent	1/30/2009	AGARWAL + Theis	TW 3-09	6.70×10^4	2.63×10^3	5.00×10^{-1}
2	Recovery	Brad Vincent	1/30/2009	AGARWAL + Theis	TH 1-09	9.71×10^4	3.80×10^3	2.39×10^{-2}
3	Theis w Jacob	Brad Vincent	2/4/2009	Theis with Jacob Corr	TW 3-09	7.67×10^4	3.00×10^3	1.12×10^{-1}
4	Theis w Jacob	Brad Vincent	2/26/2009	Theis with Jacob Corr	TH 1-09	1.54×10^5	6.03×10^3	8.29×10^{-2} ← EXCLUDED
Average						9.87×10^4	3.87×10^3	1.80×10^{-1}

$$\begin{array}{r}
 T = 67000 \\
 97100 \\
 76700 \\
 \hline
 \text{Average} \rightarrow 240800/3 = 80267
 \end{array}
 \qquad
 \begin{array}{r}
 S = 0.5 \\
 0.0239 \\
 0.112 \\
 \hline
 0.6359/3 = 0.212
 \end{array}$$



Ground Water Associates
 1999 N. Amidon, STE. 218
 Wichita, Ks 67203

Site Plan

Project: PWWSD # 25 (2,500 AF)

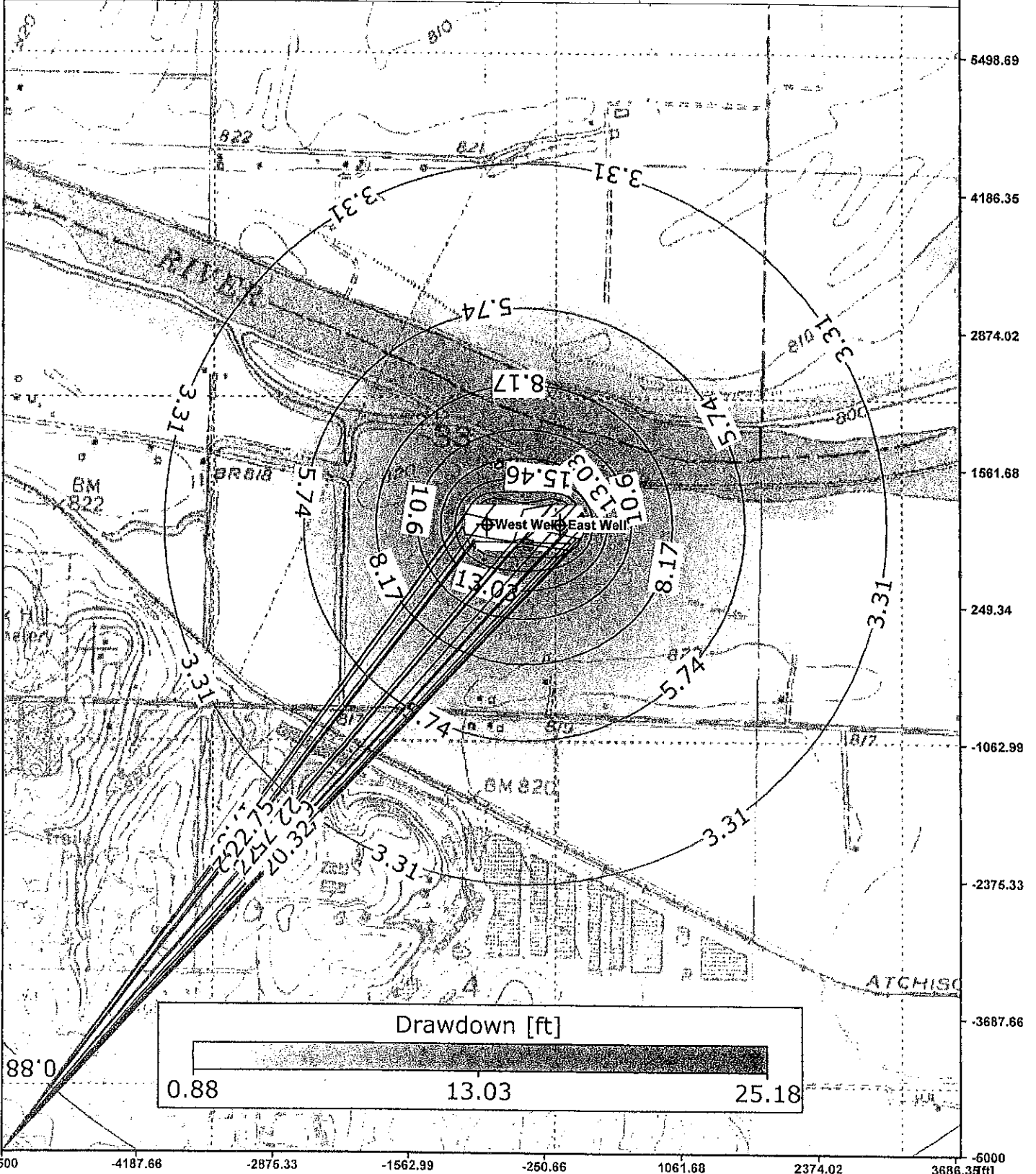
Number: Wells Pumping @ 775 gpm for 365 days (2 wells)

Client: T= 80300 g/ft/d S= 0.212

Location:

Scale 1:16000

Map Origin [ft] X: -5500 Y: -5000



-5500 -4187.66 -2876.33 -1562.99 -250.66 1061.68 2374.02 3686.34 -5000



Ground Water Associates
1999 N. Amidon, STE. 218
Wichita, Ks 67203

Site Plan

Project: PWWSD # 25 (2,500 AF)

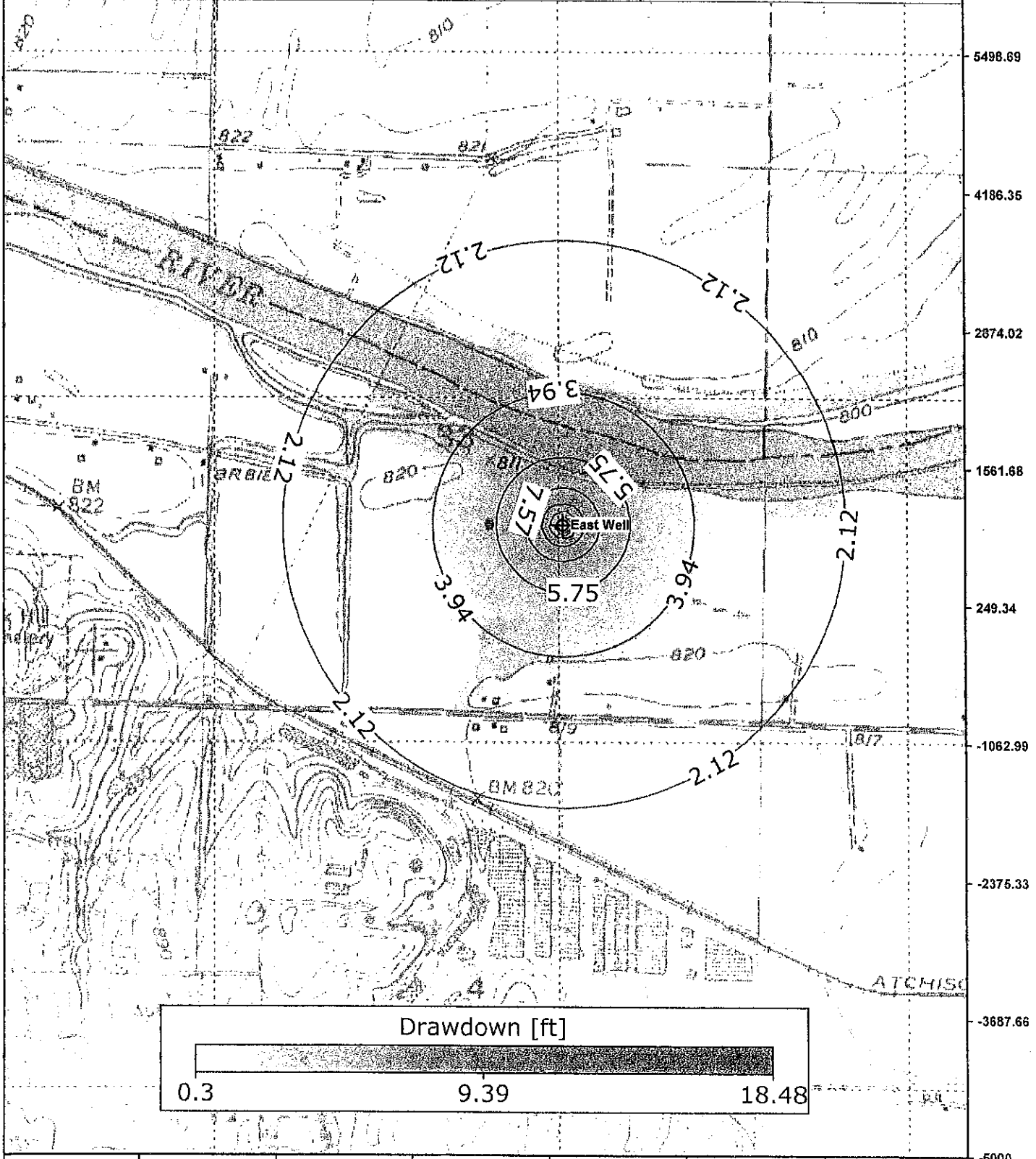
Number: E. Well Pumping @ 775 gpm for 365 days

Client: T= 80300 g/ft/d S= 0.212

Location:

Scale 1:16000

Map Origin [ft] X: -5500 Y: -5000



-5500 -4187.66 -2875.33 -1562.99 -250.66 1081.68 2374.02 3686.34 [ft] -5000



Ground Water Associates
1999 N. Amidon, STE. 218
Wichita, Ks 67203

Site Plan

Project: PWWS D # 25 (2,500 AF)

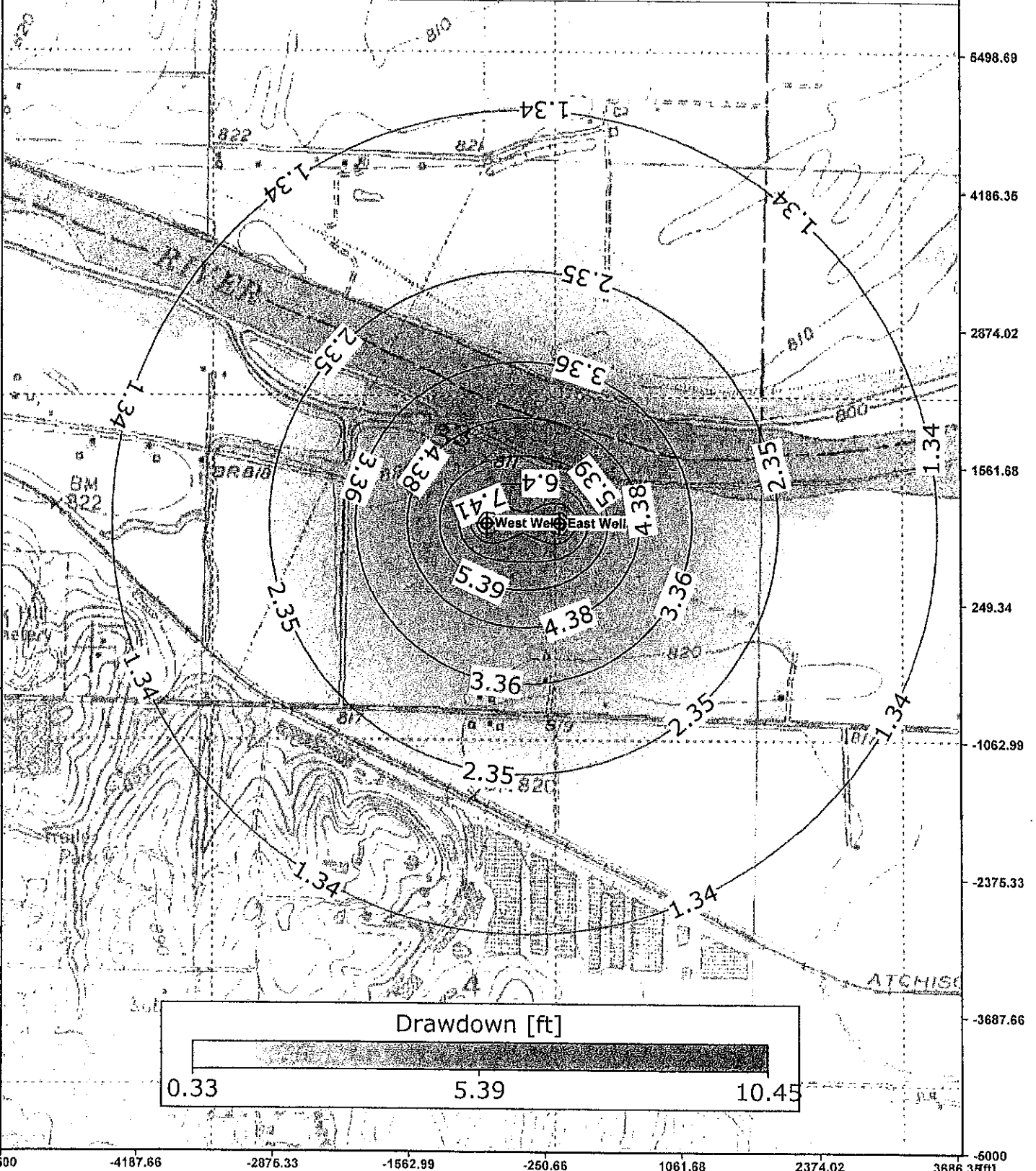
Number: Wells Pumping @ 387 gpm for 365 days

Client: T= 80300 g/ft/d S= 0.212

Location:

Scale 1:16000

Map Origin [ft] X: -5500 Y: -5000



Drawdown [ft]

0.33

5.39

10.45

-5500

-4187.66

-2876.33

-1562.99

-250.66

1061.68

2374.02

3686.35 [ft]

5498.69

4186.35

2874.02

1561.68

249.34

-1062.99

-2376.33

-3687.66

-6000

Project: COLLECTOR WELL #69 FOR WATER PURIFICATION PLANT

Location: WATER PURIFICATION PLANT

A/E Firm: HOWARD R. GREEN COMPANY

Address: 6010 S. MINNESOTA AVENUE, SUITE 102
 City/State/Zip: SIOUX FALLS, SD 57108
 Phone No.: 605.354.4499

Bid Estimate: \$ 1,884,024.00

Budget: \$ 1,233,069.00
 Letting Date: 08/14/08
 Time: 2:15 p.m.

LOWEST RESPONSIVE BIDDER

John Reynolds & Sons,
 Bidder: Inc.
 4520 North State Road
 Address: 37
 City/State/Zip: Orleans, IN 47452
 Phone No.: 812.865.3232

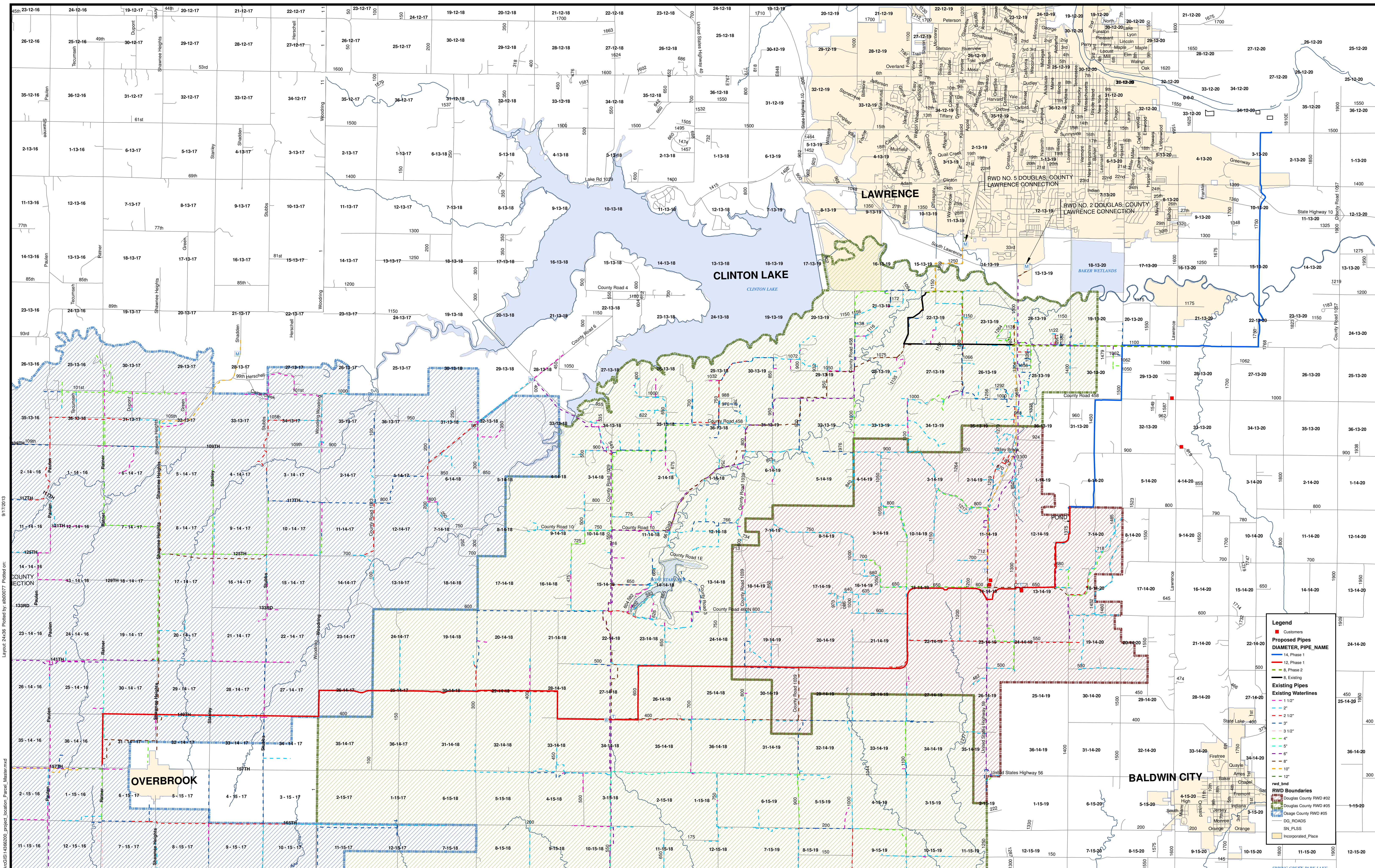
Robinson Mechanical
 Bidder: Contractors, Inc.
 Address: 2411 Walters Lane
 City/State/Zip: Perryville, MO 63775
 Phone No.: 573.547.8397

Item No.	Std. Bid Item No.	Description	Unit	Quantity	Unit Price	Total Price	Unit Price	Total Price
1	9.0010	MOBILIZATION (10%)	LS	1	\$ 190,000.00	\$ 190,000.00	\$ 330,000.00	\$ 330,000.00
2		SPECIAL COLLECTOR WELL SUBMITTAL	LS	1	\$ 55,000.00	\$ 55,000.00	\$ 16,500.00	\$ 16,500.00
3		SPECIAL CAISSON DESIGN AND CONSTRUCTION	LF	48	\$ 9,000.00	\$ 432,000.00	\$ 11,045.00	\$ 530,160.00
4		SPECIAL PORT INSTALLATION	EA	5	\$ 10,000.00	\$ 50,000.00	\$ 5,500.00	\$ 27,500.00
5		SPECIAL INSTALL PROJECTION PIPE	LF	600	\$ 200.00	\$ 120,000.00	\$ 477.00	\$ 286,200.00
6		SPECIAL FURNISH AND INSTALL LATERALS	LF	600	\$ 300.00	\$ 180,000.00	\$ 587.00	\$ 352,200.00
7		SPECIAL REMOVE PROJECTION PIPE	LF	600	\$ 100.00	\$ 60,000.00	\$ 110.00	\$ 66,000.00
8		SPECIAL DEVELOP LATERALS	LF	600	\$ 70.00	\$ 42,000.00	\$ 55.00	\$ 33,000.00
9		SPECIAL STEP TESTING	LS	1	\$ 15,000.00	\$ 15,000.00	\$ 11,000.00	\$ 11,000.00
10		SPECIAL CONSTANT RATE TESTING	LS	1	\$ 30,000.00	\$ 30,000.00	\$ 2,200.00	\$ 2,200.00
11		SPECIAL PLUG 1" OBSERVATION WELL	LF	50	\$ 50.00	\$ 2,500.00	\$ 22.00	\$ 1,100.00
12		SPECIAL DISINFECTION	LS	1	\$ 15,000.00	\$ 15,000.00	\$ 3,850.00	\$ 3,850.00
13	100.0100	CLEARING	LS	1	\$ 3,000.00	\$ 3,000.00	\$ 4,950.00	\$ 4,950.00
14	120.0010	UNCLASSIFIED EXCAVATION	CY	5348	\$ 14.25	\$ 76,209.00	\$ 13.15	\$ 70,326.20
15		SPECIAL STRUCTURAL FILL	CY	50	\$ 16.50	\$ 825.00	\$ 16.00	\$ 800.00
16	260.1010	AGGREGATE BASE COURSE	TN	1150	\$ 16.75	\$ 19,262.50	\$ 15.70	\$ 18,055.00
17	734.0601	SILT FENCE	LF	1000	\$ 5.50	\$ 5,500.00	\$ 5.50	\$ 5,500.00
18	230.0100	STRIP SALVAGE AND REPLACE TOPSOIL	CY	563	\$ 7.00	\$ 3,941.00	\$ 7.50	\$ 4,222.50
19		SPECIAL SEEDING FERTILIZING AND MULCHING	LS	1	\$ 2,500.00	\$ 2,500.00	\$ 2,200.00	\$ 2,200.00
20		SPECIAL YARD PIPING FITTING AND VALVES	LS	1	\$ 15,000.00	\$ 15,000.00	\$ 13,000.00	\$ 13,000.00
21		SPECIAL CONCRETE DIVISION 3	LS	1	\$ 85,000.00	\$ 85,000.00	\$ 198,600.00	\$ 198,600.00
22		SPECIAL METALS DIVISION 5	LS	1	\$ 70,000.00	\$ 70,000.00	\$ 65,950.00	\$ 65,950.00
23		SPECIAL THERMAL AND MOISTURE PROTECTION DIVISION 7	LS	1	\$ 12,500.00	\$ 12,500.00	\$ 9,950.00	\$ 9,950.00
24		SPECIAL DOORS AND WINDOWS DIVISION 8	LS	1	\$ 18,000.00	\$ 18,000.00	\$ 31,870.00	\$ 31,870.00
25		SPECIAL PAINTING 09900	LS	1	\$ 5,000.00	\$ 5,000.00	\$ 5,500.00	\$ 5,500.00
26		SPECIAL VERTICAL TURBINE PUMP 11210	EA	1	\$ 60,000.00	\$ 60,000.00	\$ 70,400.00	\$ 70,400.00
27		SPECIAL INSTRUMENTATION AND CONTROLS 13420 THROUGH 13480	LS	1	\$ 47,000.00	\$ 47,000.00	\$ 46,450.00	\$ 46,450.00
28		SPECIAL VALVES AND OPERATORS 15110 THRU 15120	LS	1	\$ 56,000.00	\$ 56,000.00	\$ 23,425.00	\$ 23,425.00
29		SPECIAL PROCESS PIPING ACCESSORIES AND RELATED ITEMS	LS	1	\$ 27,500.00	\$ 27,500.00	\$ 25,350.00	\$ 25,350.00
30		SPECIAL HVAC	LS	1	\$ 9,000.00	\$ 9,000.00	\$ 8,000.00	\$ 8,000.00
31		SPECIAL ELECTRICAL	LS	1	\$ 101,000.00	\$ 101,000.00	\$ 95,125.00	\$ 95,125.00
32		SPECIAL COMPLETION OF WELL #69	LS	1	\$ 190,982.50	\$ 190,982.50	\$ 5,500.00	\$ 5,500.00

TOTAL GROSS BASE BID

Total Bid	\$ 1,999,720.00	Total Bid	\$ 2,364,883.70
-----------	-----------------	-----------	-----------------

29		SPECIAL ALTERNATE 1: ADD CAISSON HEIGHT	LF	1	\$ 9,000.00	\$ 9,000.00	\$ 1,000.00	\$ 1,000.00
30		SPECIAL ALTERNATE 2: DEDUCT CAISSON HEIGHT	LF	1	\$ (2,500.00)	\$ (2,500.00)	\$ (1,000.00)	\$ (1,000.00)
31	680.2502	ALTERNATE 3: CRUSHED QUARTZITE	TON	50	\$ 22.50	\$ 1,125.00	\$ 20.00	\$ 1,000.00
32		SPECIAL ALTERNATE 4: ADD/DEDUCT ASPHALT MILLINGS	TON	1	\$ 7.50	\$ 7.50	\$ 7.00	\$ 7.00



Legend

- Customers
- Proposed Pipes
 - 14, Phase 1
 - 12, Phase 1
 - 8, Phase 2
 - 8, Existing
- Existing Pipes
- Existing Waterlines
- RWD Boundaries
 - Douglas County RWD #02
 - Douglas County RWD #05
 - Chgoe County RWD #05
 - DQ_ROADS
 - SN_PLS
 - Incorporated Place

#	DATE	DESCRIPTION	BY

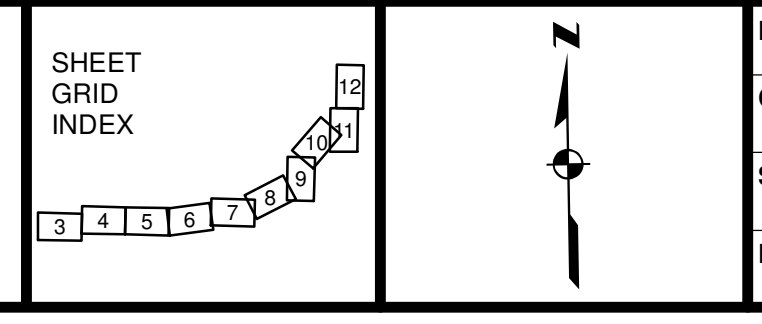
DESIGNED: ALB
 DRAWN BY: ALB
 CHECKED BY: JAR
 PROJECT ENGR: JAR

BARTLETT & WEST

1200 EXECUTIVE DRIVE • TOPEKA, KANSAS 66615.3850
 PHONE 785.272.2252 • FAX 785.272.7349
 WWW.BARTLETTWEST.COM

**PUBLIC WHOLESALE WATER SUPPLY DISTRICT NO. 25
 DOUGLAS COUNTY, KANSAS**

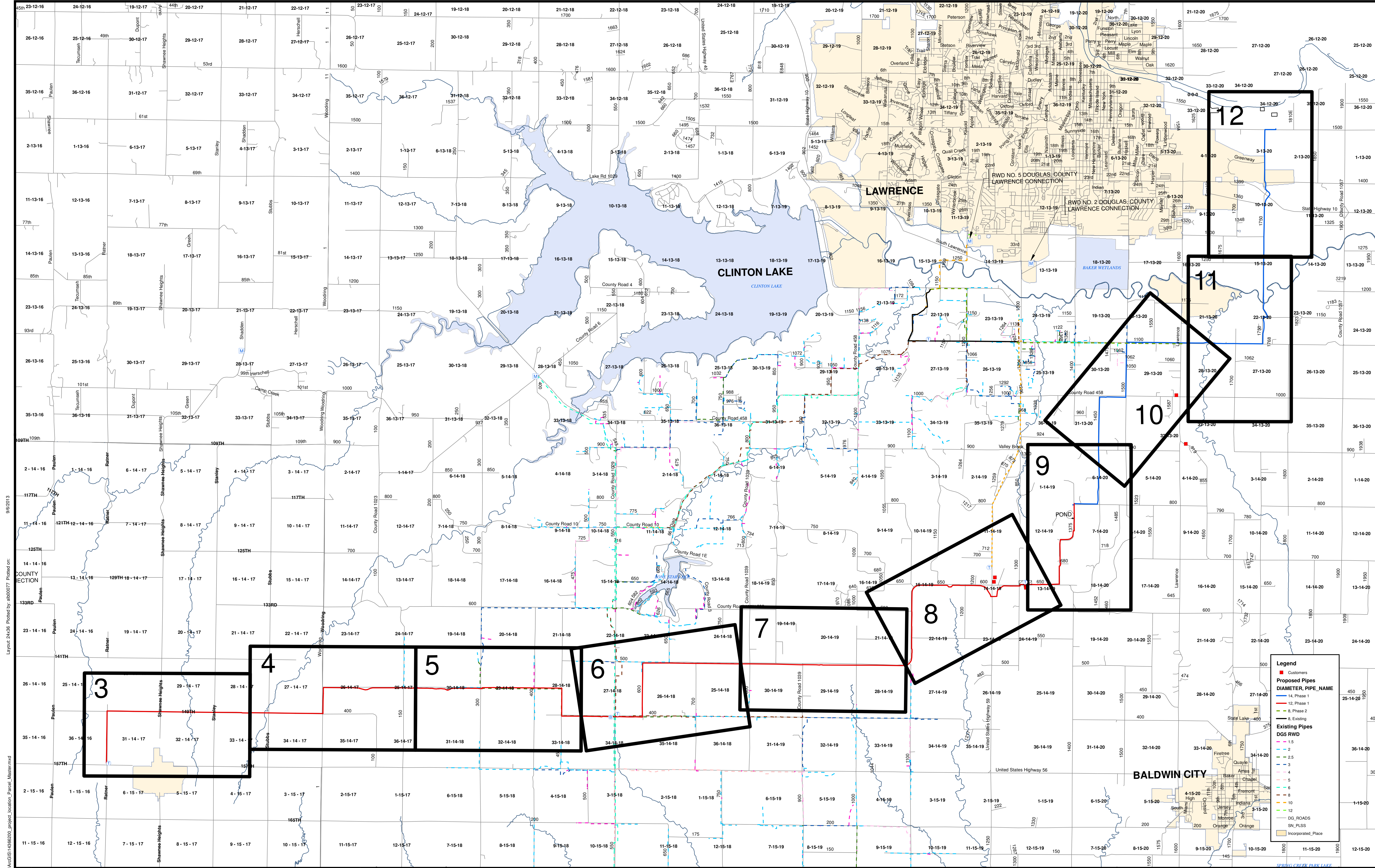
MASTER LAYOUT



PROJ NO: 14366.200
 CONST: _____
 SCALE: 1" = 4000'
 DATE: MAY 2013

DRAWING NO: 2
 SHEET NO: 2 of 12

ALL RIGHTS RESERVED. ALL BARTLETT & WEST ENGINEERS PLANS, SPECIFICATIONS AND DRAWINGS ARE PROTECTED UNDER COPYRIGHT LAW, AND NO PART MAY BE COPIED, REPRODUCED, DISPLAYED PUBLICLY, USED TO CREATE DERIVATIVES, DISTRIBUTED, STORED IN A RETRIEVAL SYSTEM OR TRANSMITTED IN ANY FORM BY ANY MEANS WITHOUT PRIOR WRITTEN PERMISSION OF BARTLETT & WEST ENGINEERS.



9/16/2013
 Layout: 24x36 Plotted by: ab00077 Plotted on:
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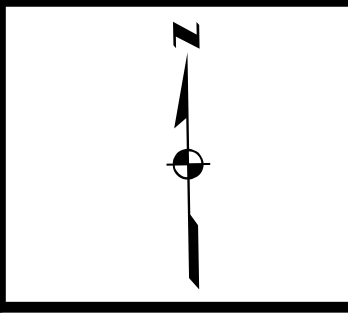
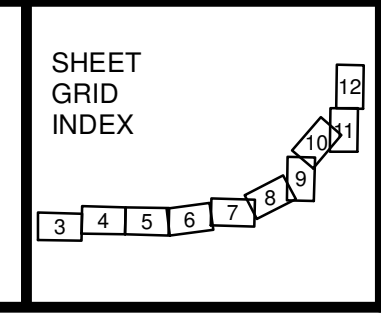
#	DATE	DESCRIPTION	BY

DESIGNED: ALB
 DRAWN BY: ALB
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 PROJECT ENGR: JAR

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 1200 EXECUTIVE DRIVE • TOPEKA, KANSAS 66615.3850
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 WWW.BARTWEST.COM

PUBLIC WHOLESALE WATER SUPPLY DISTRICT NO. 25
DOUGLAS COUNTY, KANSAS

PARCEL MAP
MASTER LAYOUT



PROJ NO:	14366.200	DRAWING NO:	2
CONST	-----	SCALE	1" = 4000'
DATE:	MAY 2013	SHEET NO:	2 of 12

Legend

- Customers
- Proposed Pipes
- 14, Phase 1
- 12, Phase 1
- 8, Phase 2
- 8, Existing
- Existing Pipes
- DGS RWD
- 1.5
- 2
- 2.5
- 3
- 4
- 5
- 6
- 8
- 10
- 12
- DGS ROADS
- SN_PLS
- Incorporated Place

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VOGEL IRENE S TRUSTEE
PO BOX 429
LAWRENCE KS 66044

VOGEL IRENE S TRUSTEE
PO BOX 429
LAWRENCE KS 66044

CITY OF LAWRENCE
PO BOX 708
LAWRENCE KS 66044

SCHAAKE LARRY C
643 TENNESSEE ST
LAWRENCE, KS 66044

PENNY DAVID M
643 TENNESSEE ST
LAWRENCE KS 66044

SIMPSON LAWRENCE
1602 N 1550 RD
LAWRENCE KS 66046

30' DRAINAGE EASEMENT

6 ACRES

Tract No. 2
POTENTIAL PRODUCTION WELLS

POTENTIAL PRODUCTION WELL

POTENTIAL PRODUCTION WELL

PUBLIC WHOLESALE WATER SUPPLY DIST NO 21
945 E 650 RD
LAWRENCE KS 66047

250' +/-

700' +/-

POTENTIAL PRODUCTION WELL

PROPOSED WELL SITE

POTENTIAL PRODUCTION WELL

POTENTIAL PRODUCTION WELL

POTENTIAL PRODUCTION WELL

SCHAAKE DOROTHY J TRUSTEE
1527 N 1550 RD
LAWRENCE KS 66046

COYOTE FARMS LLC
4553 TURNBERRY DR
LAWRENCE KS 66047

ULRICH PHYLLIS A TRUSTEE
2354 235TH ST
HAMILTON KS 66853

SCHAAKE LARRY C TRUSTEE
1791 N 1500 RD
LAWRENCE KS 66046

SCHAAKE LARRY C TRUSTEE
1791 N 1500 RD
LAWRENCE KS 66046

SCHAAKE LARRY C TRUSTEE
1791 N 1500 RD
LAWRENCE KS 66046

VAN LLC
3712 QUAIL CREEK CT
LAWRENCE KS 66047

VAN LLC
3712 QUAIL CREEK CT
LAWRENCE KS 66047

VAN LLC
3712 QUAIL CREEK CT
LAWRENCE KS 66047

PROPOSED 26 ACRE PLANT SITE

KEHLI SILVY L
325 ILLINOIS ST
LAWRENCE KS 66044

PERKINS CAROL A TRUSTEE
5000 W 14TH ST
PLAINE MOORE MO 65008

SCHWARTZ NANCY
PO BOX 361
LAWRENCE KS 66044

N1500 RD

545' +/-

E1750 RD

CITY OF LAWRENCE
PO BOX 708
LAWRENCE KS 66044

SCHAAKE DOROTHY J TRUSTEE
1527 N 1550 RD
LAWRENCE KS 66046

KITSMILLER RALPH D TRUSTEE
1341 E 1700 RD
LAWRENCE KS 66046

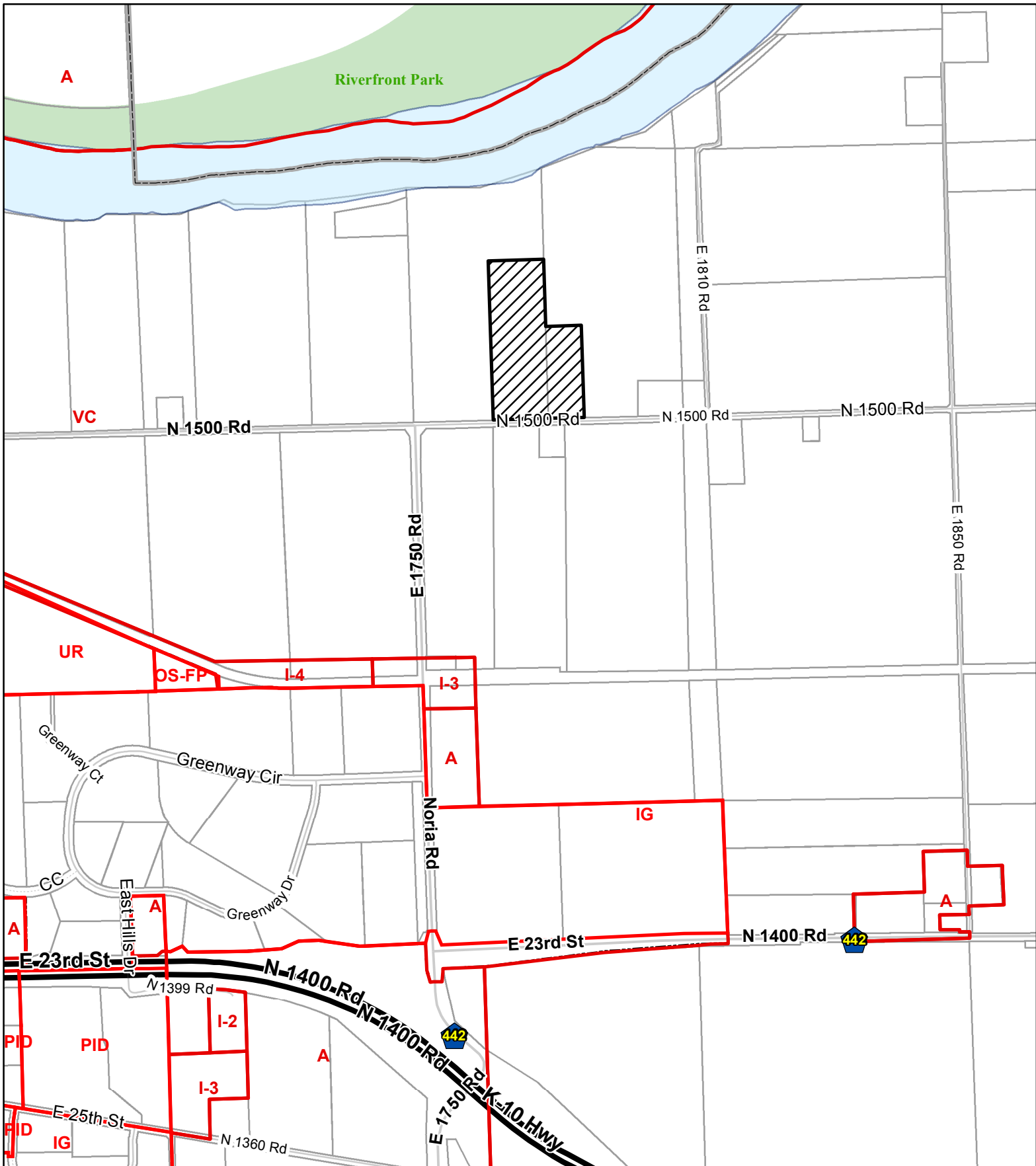
KITSMILLER RALPH D TRUSTEE
1341 E 1700 RD
LAWRENCE KS 66046

BRUNE DANIEL C
242 E CAIRO DR
TEMPE AZ 85282

KNABE LINDA J & RICHARD L TRUSTEES
38460 W 143RD ST
EUROPA KS 66025

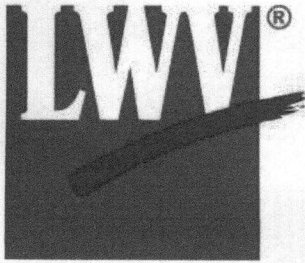
SCHAAKE LARRY C TRUSTEE
1791 N 1500 RD
LAWRENCE KS 66046

HADD TAMELA L
1771 N 1580 RD
LAWRENCE KS 66046



CUP-13-00281: Conditional Use Permit for a water treatment plant site to produce water for Public Wholesale Water Supply District No. 25, located ¼ mile east of the intersection of E 1750 Rd and N 1500 Rd





LEAGUE OF WOMEN VOTERS®
OF LAWRENCE/DOUGLAS COUNTY

RECEIVED

SEP 23 2013

City County Planning Office
Lawrence, Kansas

September 22, 2013

To Mr. Bryan Culver, Chairman and Planning Commissioners
Lawrence-Douglas County Metropolitan Planning Commission

RE: ITEM NO. 3: CONDITIONAL USE PERMIT; WATER TREATMENT
PLANT; ¼ MILE E OF E 1750 RD & N 1500 RD (MKM)

Dear Chairman Culver and Planning Commissioners:

The Lawrence League has many concerns about the development of the proposed water treatment plant and is asking that you study this issue in depth before you recommend approval for a CUP.

Listed below are some of these concerns:

1. The location of the proposed plant is very close to, and in fact, could be within the boundaries of, the Lawrence Urban Growth Area. The water main, or mains, connecting to it would have to pass through what appear to be Lawrence City boundaries. Would there be problems of jurisdiction and maintenance, among other difficulties that its proximity could create?

2. Although the location technically is outside of the 100-year floodplain, it is in a very small area between the floodway and floodplain and appears to be within the Valley Channel District of the County. The likelihood of its flooding seems to us a real possibility in view of the expected increase in frequency and intensity of storms recently attributed by many to climate change.

3. Some predictions, in contrast, are that Lawrence is included in an area that will be facing increasing incidents of drought. Because of the dependence of our local water tables on rain and river flow, we have some questions about the wisdom of encouraging increased use of our groundwater for residential use, even though to some it may seem limitless when its source is located adjacent to the Kansas River. Rather than being beneficial, a major increase in rural water supply could have an adverse effect.

a. The expectation of prospective county residential builders that rural water is limitless will encourage county non-farm residential growth, increasing future water shortages that some predict.

b. This expectation of increased rural water supply could also increase its wasteful use by existing county residents, in contrast to the predicted future need for water conservation.

We ask that you carefully study this request for a CUP by the Wholesale Water Supply District No. 25 and even consider recommending a denial of this permit.

Sincerely yours,

Cille King
Cille King
Co-President

Alan Black
Alan Black, Chairman
Land Use Committee

PO BOX 1072 • LAWRENCE KS 66044-1072

league@sunflower.com • www.lawrenceleague.com
www.facebook.com/lwvldc • www.twitter.com/lwvldc