

# NOTICE

This scan only represents the application as filed. The information contained herein meets the requirements of K.A.R. 5-3-1 or K.A.R. 5-5-1, and has been found acceptable for filing in the office of the Chief Engineer. The application should not be considered to be a complete application as per K.A.R. 5-3-1b or K.A.R. 5-5-2a.

  
 THE STATE OF KANSAS

**KANSAS DEPARTMENT OF AGRICULTURE**  
Jackie McClaskey, Secretary of Agriculture

**DIVISION OF WATER RESOURCES**  
David W. Barfield, Chief Engineer

File Number 49877  
This item to be completed by the Division of Water Resources.

WATER RESOURCES  
RECEIVED

**APPLICATION FOR PERMIT TO  
APPROPRIATE WATER FOR BENEFICIAL USE**

Filing Fee Must Accompany the Application  
(Please refer to Fee Schedule attached to this application form.)

JUL 21 2017  
10:21  
KS DEPT OF AGRICULTURE

*To the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture,  
1320 Research Park Drive, Manhattan, Kansas 66502:*

1. Name of Applicant (Please Print): City of Mulvane, Kansas  
Address: 211 N. 2nd Avenue  
City: Mulvane State Kansas Zip Code 67110  
Telephone Number: ( 316 ) 777-1143

2. The source of water is:  surface water in \_\_\_\_\_ (stream)  
OR  groundwater in Arkansas River Basin - Arkansas River Alluvial Aquifer (drainage basin)

Certain streams in Kansas have minimum target flows established by law or may be subject to administration when water is released from storage for use by water assurance district members. If your application is subject to these regulations on the date we receive your application, you will be sent the appropriate form to complete and return to the Division of Water Resources.

3. The maximum quantity of water desired is \_\_\_\_\_ acre-feet OR 205.430 Million gallons per calendar year, to be diverted at a maximum rate of 500 gallons per minute OR \_\_\_\_\_ cubic feet per second.

Once your application has been assigned a priority, the requested maximum rate of diversion and maximum requested quantity of water under that priority number can **NOT** be increased. Please be certain your requested maximum rate of diversion and maximum quantity of water are appropriate and reasonable for your proposed project and are in agreement with the Division of Water Resources' requirements.

4. The water is intended to be appropriated for (Check use intended):

(a) <input type="checkbox"/> Artificial Recharge	(b) <input type="checkbox"/> Irrigation	(c) <input type="checkbox"/> Recreational	(d) <input type="checkbox"/> Water Power
(e) <input type="checkbox"/> Industrial	(f) <input checked="" type="checkbox"/> Municipal	(g) <input type="checkbox"/> Stockwatering	(h) <input type="checkbox"/> Sediment Control
(i) <input type="checkbox"/> Domestic	(j) <input type="checkbox"/> Dewatering	(k) <input type="checkbox"/> Hydraulic Dredging	(l) <input type="checkbox"/> Fire Protection
(m) <input type="checkbox"/> Thermal Exchange	(n) <input type="checkbox"/> Contamination Remediation		

YOU **MUST** COMPLETE AND ATTACH ADDITIONAL DIVISION OF WATER RESOURCES FORM(S) PROVIDING INFORMATION TO SUBSTANTIATE YOUR REQUEST FOR THE AMOUNT OF WATER FOR THE INTENDED USE REFERENCED ABOVE.

<b>For Office Use Only:</b>			
F.O. Code <u>2</u>	GMP <u>0</u>	Meets K.A.R. 5-3-1 (YES/NO) <u>YES</u>	Use <u>MUN</u>
Fee \$ <u>960</u>	TR # _____	Source <u>G</u> S County <u>SG</u>	By <u>AW</u> Date <u>7/21/17</u>
		Receipt Date <u>7/21/17</u>	Check # <u>7404</u>

7/25/17 DW

5. The location of the proposed wells, pump sites or other works for diversion of water is:

**Note:** For the application to be accepted, the point of diversion location must be described to at least a 10 acre tract, unless you specifically request a 60 day period of time in which to locate the site within a specifically described, minimal legal quarter section of land.

(A) One in the SW quarter of the SW quarter of the SW quarter of Section 36, more particularly described as being near a point 110 feet North and 4660 feet West of the Southeast corner of said section, in Township 29 South, Range 1E East/West (circle one), Sedgwick County, Kansas.

(B) One in the \_\_\_\_\_ quarter of the \_\_\_\_\_ quarter of the \_\_\_\_\_ quarter of Section \_\_\_\_\_, more particularly described as being near a point \_\_\_\_\_ feet North and \_\_\_\_\_ feet West of the Southeast corner of said section, in Township \_\_\_\_\_ South, Range \_\_\_\_\_ East/West (circle one), \_\_\_\_\_ County, Kansas.

(C) One in the \_\_\_\_\_ quarter of the \_\_\_\_\_ quarter of the \_\_\_\_\_ quarter of Section \_\_\_\_\_, more particularly described as being near a point \_\_\_\_\_ feet North and \_\_\_\_\_ feet West of the Southeast corner of said section, in Township \_\_\_\_\_ South, Range \_\_\_\_\_ East/West (circle one), \_\_\_\_\_ County, Kansas.

(D) One in the \_\_\_\_\_ quarter of the \_\_\_\_\_ quarter of the \_\_\_\_\_ quarter of Section \_\_\_\_\_, more particularly described as being near a point \_\_\_\_\_ feet North and \_\_\_\_\_ feet West of the Southeast corner of said section, in Township \_\_\_\_\_ South, Range \_\_\_\_\_ East/West (circle one), \_\_\_\_\_ County, Kansas.

If the source of supply is groundwater, a separate application shall be filed for each proposed well or battery of wells, except that a single application may include up to four wells within a circle with a quarter (1/4) mile radius in the same local source of supply which do not exceed a maximum diversion rate of 20 gallons per minute per well.

A battery of wells is defined as two or more wells connected to a common pump by a manifold; or not more than four wells in the same local source of supply within a 300 foot radius circle which are being operated by pumps not to exceed a total maximum diversion rate of 800 gallons per minute and which supply water to a common distribution system.

6. The owner of the point of diversion, if other than the applicant is (please print):

\_\_\_\_\_  
(name, address and telephone number)

\_\_\_\_\_  
(name, address and telephone number)

You must provide evidence of legal access to, or control of, the point of diversion from the landowner or the landowner's authorized representative. Provide a copy of a recorded deed, lease, easement or other document with this application. In lieu thereof, you may sign the following sworn statement:

I have legal access to, or control of, the point of diversion described in this application from the landowner or the landowner's authorized representative. I declare under penalty of perjury that the foregoing is true and correct.

Executed on 17 July, 2017. [Signature]  
Applicant's Signature

The applicant must provide the required information or signature irrespective of whether they are the landowner. Failure to complete this portion of the application will cause it to be unacceptable for filing and the application will be returned to the applicant.

7. The proposed project for diversion of water will consist of One well - Existing City of Mulvane Well No. 4  
(number of wells, pumps or dams, etc.)

and (was)(will be) completed (by) \_\_\_\_\_  
1980 (Month/Day/Year - each was or will be completed)

8. The first actual application of water for the proposed beneficial use was or is estimated to be July 1, 2017  
(Mo/Day/Year)

- 9. Will pesticide, fertilizer, or other foreign substance be injected into the water pumped from the diversion works?  
 Yes  No If "yes", a check valve shall be required.

All chemigation safety requirements must be met including a chemigation permit and reporting requirements.

- 10. If you are planning to impound water, please contact the Division of Water Resources for assistance, prior to submitting the application. Please attach a reservoir area capacity table and inform us of the total acres of surface drainage area above the reservoir.

Have you also made an application for a permit for construction of this dam and reservoir with the Division of Water Resources?  Yes  No

- If yes, show the Water Structures permit number here \_\_\_\_\_
- If no, explain here why a Water Structures permit is not required \_\_\_\_\_

- 11. The application must be supplemented by a U.S.G.S. topographic map, aerial photograph or a detailed plat showing the following information. On the topographic map, aerial photograph, or plat, identify the center of the section, the section lines or the section corners and show the appropriate section, township and range numbers. Also, please show the following information:

- (a) The location of the proposed point(s) of diversion (wells, stream-bank installations, dams, or other diversion works) should be plotted as described in Paragraph No. 5 of the application, showing the North-South distance and the East-West distance from a section line or southeast corner of section.
- (b) If the application is for groundwater, please show the location of any existing water wells of any kind within 1/2 mile of the proposed well or wells. Identify each existing well as to its use and furnish the name and mailing address of the property owner or owners. If there are no wells within 1/2 mile, please advise us.
- (c) If the application is for surface water, the names and addresses of the landowner(s) 1/2 mile downstream and 1/2 mile upstream from your property lines must be shown.
- (d) The location of the proposed place of use should be shown by crosshatching on the topographic map, aerial photograph or plat.
- (e) Show the location of the pipelines, canals, reservoirs or other facilities for conveying water from the point of diversion to the place of use.

A 7.5 minute U.S.G.S. topographic map may be obtained by providing the section, township and range numbers to: Kansas Geological Survey, 1930 Constant, Campus West, University of Kansas, Lawrence, Kansas 66047.

- 12. List any application, appropriation of water, water right, or vested right file number that covers the same diversion points or any of the same place of use described in this application. Also list any other recent modifications made to existing permits or water rights in conjunction with the filing of this application.

Overlap in point of diversion and place of use with Water Right No. 31869 - City of Mulvane Well No. 4  
This application will be offset by the quantity and rate held by Water Right Nos. 2724, 31869, and SU002  
Water Right Nos. 2724 and SU002 to be placed into inactive status with priority and standing preserved  
An additional offset application will be filed at the location of City of Mulvane Well No. 5, such that  
pumping from Mulvane City Wells No. 4 and 5 will not exceed 205.430 MGY (sum of SU002, 02424, and 31869)

WATER RESOURCES RECEIVED

JUL 21 2017

13. Furnish the following well information if the proposed appropriation is for the use of groundwater. If the well has not been completed, give information obtained from test holes, if available.

Information below is from:     Test holes     Well as completed     Drillers log attached

Well location as shown in paragraph No.	(A)	(B)	(C)	(D)
Date Drilled	_____	_____	_____	_____
Total depth of well	_____	_____	_____	_____
Depth to water bearing formation	_____	_____	_____	_____
Depth to static water level	_____	_____	_____	_____
Depth to bottom of pump intake pipe	_____	_____	_____	_____

14. The relationship of the applicant to the proposed place where the water will be used is that of

Owner

(owner, tenant, agent or otherwise)

15. The owner(s) of the property where the water is used, if other than the applicant, is (please print):

\_\_\_\_\_

(name, address and telephone number)

\_\_\_\_\_

(name, address and telephone number)

16. The undersigned states that the information set forth above is true to the best of his/her knowledge and that this application is submitted in good faith.

Dated at 17 July<sup>88</sup>, Kansas, this 17 day of July, 2017.  
City of Mulvane (month) (year)

(Applicant Signature)

By \_\_\_\_\_

(Agent or Officer Signature)

\_\_\_\_\_

(Agent or Officer - Please Print)

Assisted by \_\_\_\_\_ Date: \_\_\_\_\_

(office/title)





49877

USE TYPEWRITER OR BALL POINT PEN-PRESS FIRMLY, PRINT CLEARLY.

WATER WELL RECORD  
KSA 82a-1201-1215

Kansas Department of Health and Environment-Division of Environment (Water well Contractors) Topeka, Kansas 66620

Jo BWS  
4-21-80

1. Location of well:		County <b>Sedgwick</b>	Fraction <b>SW 1/4 SW 1/4 SW 1/4</b>	Section number <b>36</b>	Township number T <b>29</b> S R <b>1</b> E <b>EA</b>	Range number
2. Distance and direction from nearest town or city: <b>1 mile West of Mulvane</b> Street address of well location if in city:				3. Owner of well: <b>City of Mulvane</b> R.R. or street: <b>Mulvane, Kansas 67110</b> City, state, zip code:		
4. Locate with "X" in section below:		Sketch map:		6. Bore hole dia. <u>38</u> in. Completion date <u>4/15/80</u> Well depth <u>53</u> ft.		
		Well No. 4		7. <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input type="checkbox"/> Jetted <input type="checkbox"/> Bored <input checked="" type="checkbox"/> Reverse rotary		
5. Type and color of material				From	To	8. Use: <input type="checkbox"/> Domestic <input checked="" type="checkbox"/> Public supply <input type="checkbox"/> Industry <input type="checkbox"/> Irrigation <input type="checkbox"/> Air conditioning <input type="checkbox"/> Stock <input type="checkbox"/> Lawn <input type="checkbox"/> Oil field water <input type="checkbox"/> Other
Top soil				0	2	9. Casing: Material <u>Steel</u> Height: Above <u>water</u> Threaded <input type="checkbox"/> Welded <input checked="" type="checkbox"/> Surface <u>36</u> in. RMP <u>PVC</u> Weight <u>43.77</u> lbs./ft. Dia. <u>12</u> in. to <u>46</u> ft. depth Wall Thickness: inches or Dia. <u>in.</u> to <u>ft.</u> depth Gauge No. <u>1330</u>
Sandy clay				2	12	10. Screen: Manufacturer's name <u>Mustang</u> Type <u>S.S. Wire Wr</u> Dia. <u>12"</u> Slot/gauze <u>80</u> Length <u>10'</u> Set between <u>43</u> ft. and <u>53</u> ft. ft. and <u>ft.</u> Gravel pack? <u>Yes</u> Size range of material <u>1/8 x 1/2</u> ft.
Fine sand				12	20	11. Static water level: <u>8</u> ft. below land surface Date <u>4/15/80</u> mo./day/yr.
Med. sand & gravel				20	53	12. Pumping level below land surfaces: <u>4</u> ft. after <u>4</u> hrs. pumping <u>600</u> g.p.m. <u>ft.</u> after <u>hrs.</u> pumping <u>g.p.m.</u> Estimated maximum yield <u>1000</u> g.p.m.
Blue clay & shale				53	55	13. Water sample submitted: <u>Yes</u> <input checked="" type="checkbox"/> No <input type="checkbox"/> Date <u>mo./day/yr.</u>
						14. Well head completion: <input type="checkbox"/> Pitless adapter <u>36</u> Inches above grade
						15. Well grouted? <u>Yes</u> <u>0-18</u> <u>18-20</u> With: <input type="checkbox"/> Neat cement <input checked="" type="checkbox"/> Bentonite <input checked="" type="checkbox"/> Concrete Depth: From <u>0</u> ft. to <u>20</u> ft.
						16. Nearest source of possible contamination: <u>1500</u> ft. <u>North</u> Type <u>Farm House</u> Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
						17. Pump: <input checked="" type="checkbox"/> Not installed Manufacturer's name _____ Model number _____ HP _____ Volts _____ Length of drop pipe _____ ft. capacity _____ g.p.m. Type: <input type="checkbox"/> Submersible <input type="checkbox"/> Turbine <input type="checkbox"/> Jet <input type="checkbox"/> Reciprocating <input type="checkbox"/> Centrifugal <input type="checkbox"/> Other
						20. Water well contractor's certification: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. <b>Layne Western Co. 102</b> Business name _____ License No. _____ Address <u>Wichita, Kansas</u> Signed <u>[Signature]</u> Date <u>4/16/80</u> Authorized representative
18. Elevation:		19. Remarks:		20. Water well contractor's certification:		
Topography: <input type="checkbox"/> Hill <input type="checkbox"/> Slope <input type="checkbox"/> Upland <input checked="" type="checkbox"/> Valley						

T 29  
R 1  
E 36  
S 36  
SW 1/4 SW 1/4 SW 1/4

Forward the white, blue and pink copies to the Department of Health and Environment

RECEIVED Farm WWC-5

JUL 21 2017

MI-1023

KS DEPT OF AGRICULTURE



49877



July 11, 2017

David Barfield  
Chief Engineer  
Division of Water Resources  
Kansas Department of Agriculture,  
1320 Research Park Drive  
Manhattan, KS 66502

KS DEPT OF AGRICULTURE  
JUL 12 2017  
RECEIVED  
WATER RESOURCES

Re: City of Mulvane Offset Water Right Applications – Municipal Wells 4 & 5

Dear Mr. Barfield:

The City of Mulvane (City) currently has three wells on the east side of the Arkansas River (Wells 1 through 3 authorized by Water Right Nos 02724 and SU002) and two wells located on the west side of the Arkansas River (Wells 4 and 5 authorized by Water Right No. 41869) directly west of the City. When combined the City has water rights for these wells of 205 Million Gallons per Year. The recent drought and growing municipal demand from domestic, industrial, and commercial users has initiated a supplemental review of existing water resources and infrastructure to ensure systems and water rights are prepared to meet future requirements.

A review of the existing municipal wells and raw water collection system indicates that the Wells east of the Arkansas River (Wells 1 through 3) would require replacement or rehabilitation to renew their value to the City. In addition, the quality of water produced from Wells 1 through 3 requires advanced treatment, such that a raw water line would need to be extended underneath the Arkansas River to reach the recently constructed Reverse Osmosis Water Treatment Plant (ROWTP). During meetings with the Division of Water Resources (DWR) to discuss alternatives and options to redevelopment of Wells 1 through 3, it was identified that Wells 4 and 5 could potentially be utilized to withdrawal the full 205MGY of existing water rights through filing of a new offset water rights application.

The enclosed offset water rights applications have been filed at the locations of existing City Wells 4 and 5 and are anticipated to have the following conditions:

- The maximum requested quantity of 205.430 MGY can be pumped out of either Well No. 4 or Well No. 5 however combined pumping from Wells 4 and 5 will not exceed 205.430 MGY.
- The quantity of water requested will be offset by not utilizing existing City Wells 1 through 3 authorized by Water Right Nos. 02724 and Sumner County Vested Right Number 2.
- Wells 1 through 3 authorized by Water Right Nos. 02724 and Sumner County Vested Right Number 2 will remain active water rights and in good standing with DWR.

David Barfield  
Kansas Department of Agriculture,  
July 11, 2017  
Page 2

### **Aquifer Pump Testing**

DWR has indicated that supplemental information regarding the aquifer in the area would be useful for examining any expected impacts from long term operation of City Wells 4 and 5. On February 3<sup>rd</sup> 2015 the City initiated a pump test on City Well No. 5 to obtain information on long term projected drawdown and to calculate local aquifer parameters:

- City Well No. 5 was pumped at a constant rate of 500gpm for 25 Hours and was then allowed to fully recover for 26 hours.
- City Well No. 4 is located approximately 500 feet east of Well No. 5 was not pumped during the test to serve as an observation well.
- Depth to water was recorded at both City Well Nos. 4 and 5 during pumping and recovery.
- City Well No. 5 experienced a maximum drawdown value of only five (5) feet exhibiting a very high specific capacity of 100gpm/ft.
- City Well No. 5 reached stabilization within the first 12 hours of operation.
- City Well No. 5 exhibited an unconfined aquifer response to pumping.
- City Well No. 5 recovered to pre-pump test water levels at the end of the recovery period at a depth to water of 15.60 feet.
- City Well No. 4 experienced a maximum drawdown value of only 0.2 feet.
- City Well No. 4 recovered to pre-pump test water levels at the end of the recovery period at a depth to water of 16.0 feet.

Further analysis was completed on the pump test data and on water well completion logs in the area to provide an enhanced estimate of aquifer parameters:

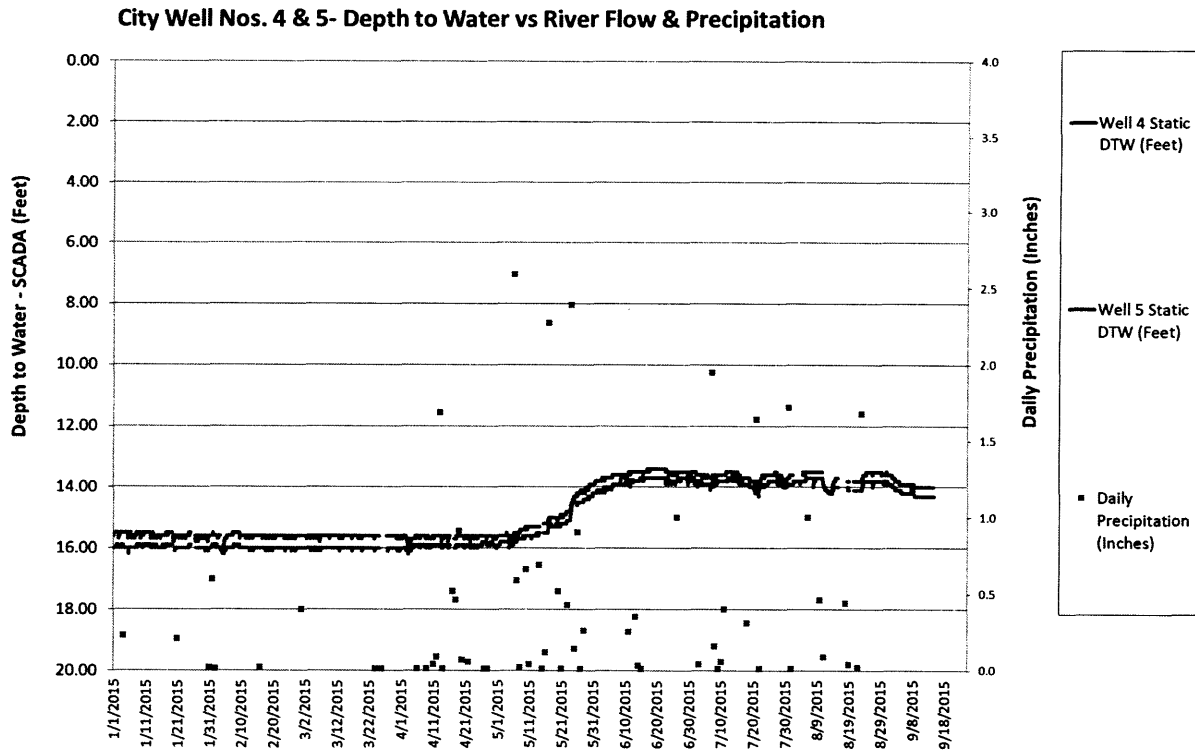
- The aquifer exhibits an approximate saturated thickness of 40 feet (depth to water of 15 feet below ground surface, and 55 feet below ground surface to underlying shale bedrock)
- The hydraulic conductivity (K) of the aquifer is 1,000 to 1,500 feet per day
- The calculated transmissivity (T) of the aquifer is between 40,000 to 60,000 ft<sup>2</sup>/day
- The specific yield of the aquifer (Sy) is 0.14 to 0.20 consistent with the drillers logs of medium to coarse sands and gravels

Utilizing the lowest estimated aquifer parameters (K=1,000 ft/day and Sy=0.14) drawdown can be projected at various distances utilizing a full rate and quantity scenario under the proposed applications (205.430MG or 630.44AF). Based on 285 days of operation at a constant rate of 500gpm the following table estimates the maximum drawdown expected at various distances:

49877



David Barfield  
Kansas Department of Agriculture,  
July 11, 2017  
Page 4



We would be happy to work with your staff to develop any additional information that would assist in processing the enclosed applications, please feel free to contact our office should you have any questions.

Sincerely,

Daniel Clement  
Staff Hydrogeologist  
DWC/dwc

Enclosures

KANSAS DEPT OF AGRICULTURE

JUL 21 2017

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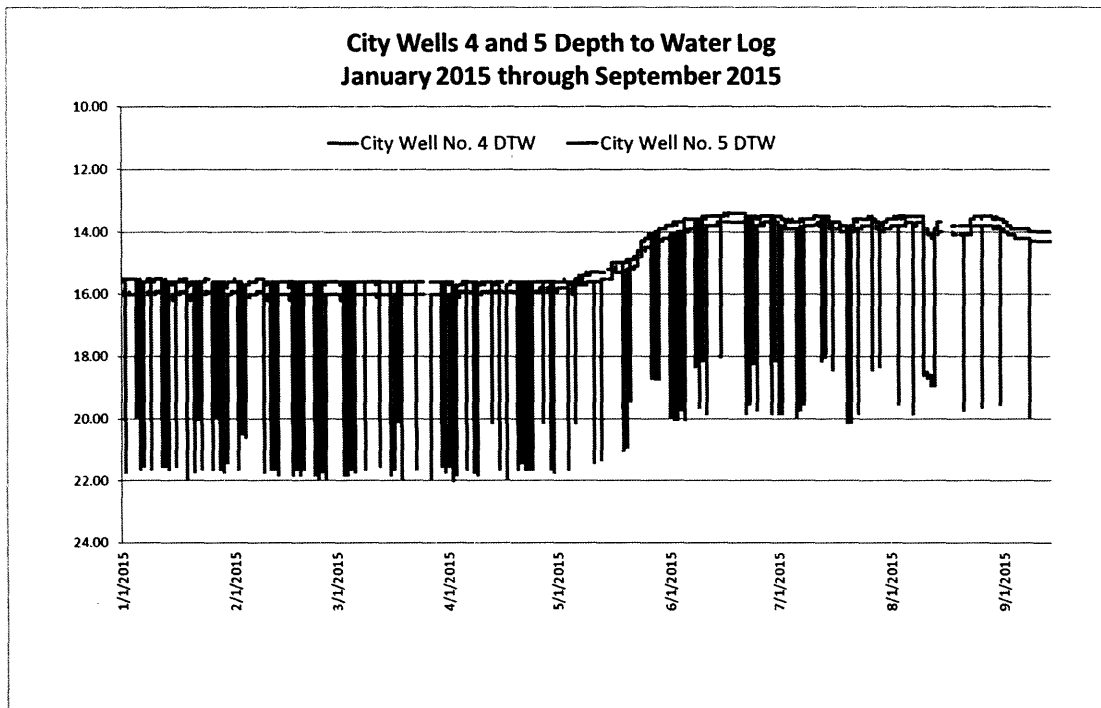
David Barfield  
 Kansas Department of Agriculture,  
 July 11, 2017  
 Page 3

Distance (ft)	Drawdown (ft)
100	1.8
500	1.2
1000	0.97
1320	0.90
2640	0.60
3960	<0.50

Based on the results of the pump test analysis the expected impacts to the aquifer and surrounding water rights from long term operation of City Wells 4 and 5 will be minimal. Any potential impact to the immediate surrounding aquifer will be further mitigated by the anticipated intermittent operation of both City Wells 4 and 5.

### Groundwater Level Monitoring

The City maintains logs of depth to water in existing City Wells 4 and 5 utilizing the SCADA system integrated within the recently constructed ROWTP. Well operations and depth to water logs for 2015 have been included below as graphs to illustrate the consistency of the pump test results, the high rechargeability of the aquifer, and the negligible impact to surrounding wells from the proposed applications.





1320 Research Park Drive  
Manhattan, Kansas 66502

Jackie McClaskey, Secretary

Phone: (785) 564-6700

Fax: (785) 564-6777

Email: ksag@kda.ks.gov

www.agriculture.ks.gov

Sam Brownback, Governor

July 25, 2017

CITY OF MULVANE  
211 N 2ND AVE  
MULVANE KS 67110

**FILE COPY**

RE: Application  
File No. 49877

Dear Sir or Madam:

Your application for permit to appropriate water in 36-20S-1E in Sedgwick County, was received and has been assigned the file number noted above.

As a matter of record, the Division of Water Resources has on hand a large number of applications awaiting processing. Therefore to be fair to all concerned, and so that we can process those applications on hand in the order they were received, we intend to concentrate on the backlog of applications until the issue is resolved. Once review of your application has begun, we will contact you, if additional information is required.

In accordance with the provisions of the Kansas Water Appropriation Act, a portion of which is included below, the use of water as proposed prior to approval of the application is unlawful. Once approved, compliance with the terms, conditions and limitations of the permit is necessary. Conservation of the water resources of Kansas is required.

**Section 82a-728 of the Kansas Water Appropriation Act, provides (a) except for the appropriation of water for the purpose of domestic use, . . . it shall be unlawful for any person to appropriate or threaten to appropriate water from any source without first applying for and obtaining a permit to appropriate water in accordance with the provisions of the Water Appropriation Act or for any person to violate any condition of a vested right, appropriation right or an approved application for a permit to appropriate water for beneficial use.**

**(b) (1) The violation of any provision of this section by any person is a class C misdemeanor . . .**

**A class C misdemeanor is punishable by a fine not to exceed \$500 and/or a term of confinement not to exceed one month in the county jail. Each day that the violation occurs constitutes a separate offense.**

If you have any questions, please contact me at (785) 564-6645. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

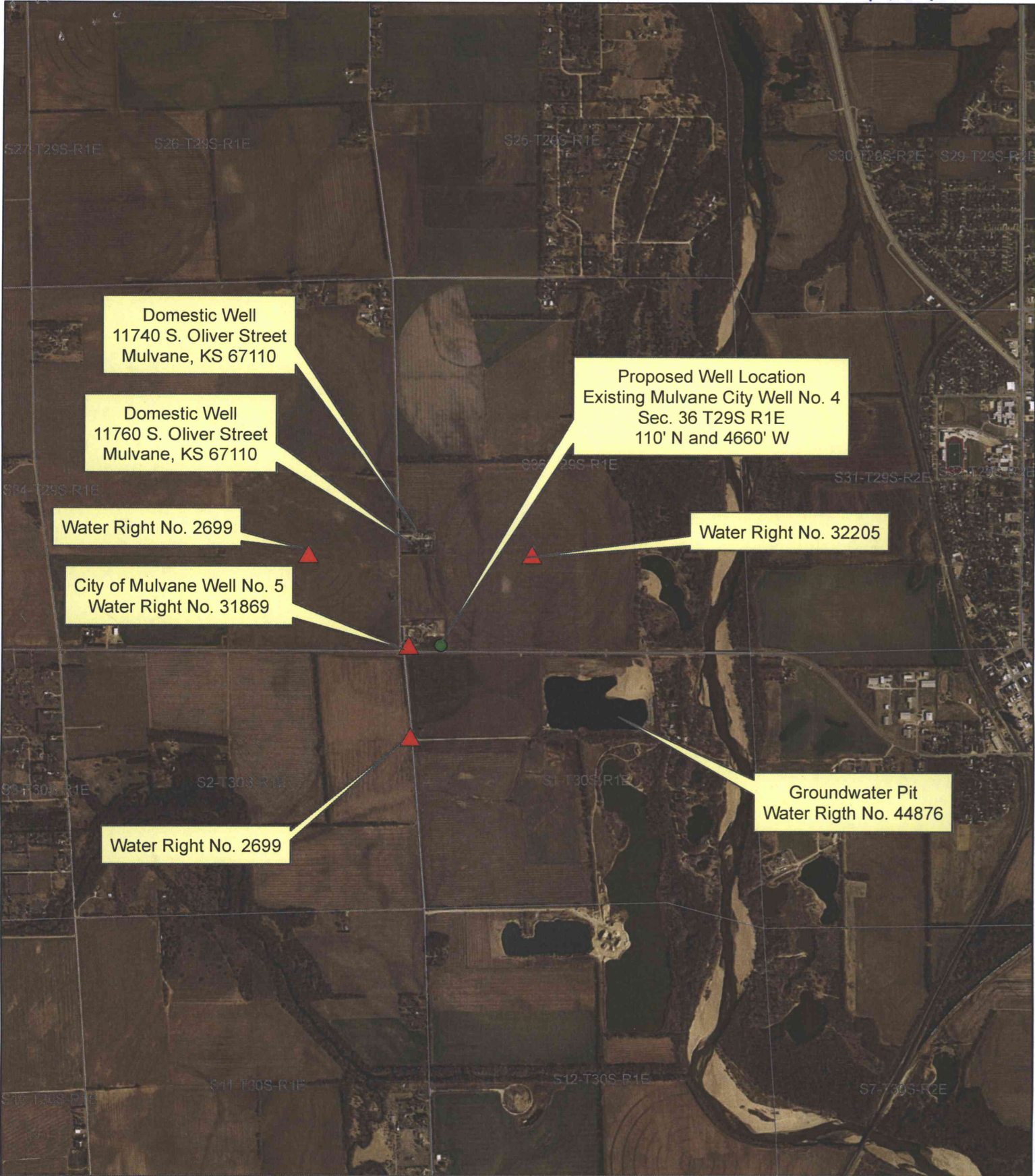
Sincerely,




Kristen A. Baum  
New Applications Unit Supervisor  
Water Appropriation Program

BAT: dlw  
pc: STAFFORD Field Office  
GMD



49871



-  Proposed Point of Diversion
-  Surrounding Groundwater Wells (1/2 Mile)
-  Public Land Survey System (Sections)

N

1:24,000

0 0.125 0.25 0.5  
Miles

**BURNS  
MCDONNELL**

Offset Water Right Application  
 City of Mulvane Well No. 4  
 SW SW SW of  
 Section 36, T29S, R1E  
 110' N and 4,660' West of  
 SE Section Corner

WATER RESOURCES RECEIVED  
 JUL 21 2017  
 KS DEPT OF AGRICULTURE